

The Minneapolis Plan for Sustainable Growth







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# **Executive Summary**

The Minneapolis Plan for Sustainable Growth is the City of Minneapolis' comprehensive plan and provides the vision and framework for the City's urban renaissance and growth as a great city of the future.

# Why Plan?

This is a 2007 snapshot of the type of recognition Minneapolis receives:

- Recognized as the most affordable city in the nation
- Celebrated on the top ten lists of "smart", "cool" and "green" cities
- Ranked as a top business district in the country
- Noted as a design boomtown for its distinct and visionary architecture
- Lauded as a steward of its water resources
- Recognized nationally for its interconnected park systems, including lakes, trails and tree-lined streets
- Cited as the most athletic city in the country

Recognition like this does not happen by chance. It happens through deliberate actions and planning. Since the writing of the first comprehensive plan in 1954, the guide for Minneapolis' growth has been the comprehensive plan.

The *Minneapolis Plan for Sustainable Growth* is a deliberate title for this update to the 2000 comprehensive plan, indicating that as Minneapolis grows, its growth will be achieved in ways that promote our economic development, strengthen the social and cultural fabric of the city, and value our natural environment and livability while creating conditions for economic opportunity for current and future generations.

Minneapolis will achieve and exceed the Metropolitan Council's future growth projections. Growth in the core city is good for the region and the state because doing so contains urban sprawl and the costs associated with sprawl. In addition, it enhances the livability and sustainability of Minnesota for current and future generations.

The goal of this plan is to demonstrate that Minneapolis is, and will, remain the heart of the upper Midwest region in terms of residing and working, and a premiere destination for dynamic urban living. This plan moves the City forward. Indeed the City's motto is En Avant! – Forward!



# What is a Comprehensive Plan?

A comprehensive plan is a statement of community goals and policies that direct the logical and coordinated physical development of a city into the future. The comprehensive plan looks to the future, anticipates change, and provides specific guidance for prospective legislative and administrative actions. It reflects the results of community engagement, technical analysis, and the judgment of decision-makers.

The maps, goals and policies of the plan provide the framework for adoption of regulations, programs, and services that implement the plan. The plan serves as a guideline for designating land uses and infrastructure investments, as well as providing and developing community services.

The typical lifespan for a comprehensive plan is ten years. Cities update their plans to reflect population growth, to capture new opportunities, and to adjust for changes in local or state laws and regulations. In the case of this update, population growth, new opportunities for development and redevelopment resulting from major capital investments like light rail, are the triggers.

#### Who Plans?

State statute provides the enabling power for the City of Minneapolis to plan for future growth and change within a regional context and as a unit of government. The Metropolitan Council provides the framework and context for shaping development of regional infrastructure in coordination with cities and local communities. This coordination ensures that growth occurs efficiently and is supported by investments in regional infrastructure, expanded housing choice within communities, and the conservation, protection and enhancement of natural resources in the region.

State statute also enables cities to establish planning functions. Cities are provided the power to create planning agencies or commissions by ordinance that act in an advisory capacity to the City Council. Duties of the planning commission include: preparation and review of the comprehensive plan in coordination with other units and departments of government, and for providing recommendations to the city council for plan adoption and implementation. The Department of Community Planning and Economic Development is charged with the duties of developing and maintaining the comprehensive plan and its development controls with the advice of the City's Planning, Zoning, Heritage Preservation, and Arts commissions.

In addition, state statute contains the procedures enabling cities to adopt a comprehensive plan. City Council is the ultimate decision maker of planning, and is responsible for initiating plan reviews, considering commission recommendations, and adopting the comprehensive plan. The adoption process includes review by the Metropolitan Council, published notice, public hearing, and a required resolution of a two-thirds vote of all members of the City Council. To implement the plan, City Council subsequently adopts the City's budget, regulations, and programs, then levies taxes and makes the necessary appropriations.



#### What is in This Plan?

This comprehensive plan is designed to be a functional and readable framework for the future growth of Minneapolis and fulfills the city's regional responsibilities for housing, transportation and regional parks and open space. The plan also demonstrates how the city of Minneapolis will meet the population growth projections allocated by the Metropolitan Council. The plan also shows that Minneapolis has the capacity to accommodate more of the region's projected growth, given the health and capacity of its infrastructure systems, essential public services, and land use plans. Minneapolis will grow and this plan is the framework for guiding that growth in an intended, livable and sustainable way.

This plan is organized into these basic components:

- Introduction, including the executive summary, community data profile, and summary of the community engagement process
- Topical chapters which contain policies and implementation steps, as well as a general implementation plan
- Supporting documents, including a series of appendices and a glossary of terms used in the plan

Each chapter features these elements: 1) Goal statement; 2) Context for the subject matter, 3) Policies, and 4) Implementation guidelines for achieving the goals of the chapter and the overall plan.

The Land Use Chapter describes land use designations present in the City of Minneapolis with policies related to protecting, maintaining, revitalizing or developing the city's residential, commercial, industrial and transit station areas, and employment centers. This chapter introduces the future land use map and land use designations used in the map, including the concept of urban neighborhood. This chapter is key to understanding how the city intends to grow, achieving its growth projections as provided by the Metropolitan Council and how and where density is achieved over time.

The *Transportation Chapter* is key to understanding the integration between land use and the city's multi-modal transportation system. The system includes access for pedestrians and bicycles, transit and rail service and automobiles.

The *Housing Chapter* incorporates policies about the mix and diversity of housing types ranging from duplexes and high rise condominiums to supportive housing and life-cycle housing, as well as post-war single-family ramblers and stately mansions.

The *Economic Development Chapter* encourages land use designations and infrastructure investments to support commercial and industrial development, the hospitality industry, workforce readiness, and renewal by directing growth to targeted areas.



The *Public Services and Facilities Chapter* addresses infrastructure needed to serve planned land uses, essential government services, the relationship to other institutions like the public library system, and promoting community health.

The *Environment Chapter* addresses sustainable development practices that project public health and maintain environmental quality.

The *Open Space and Parks Chapter* recaps the recently adopted Minneapolis Park and Recreation Board comprehensive plan and describes how various other types of open space enhance the city.

The Heritage Preservation Chapter considers the protection, conservation and enhancements to the traditional urban character of the city.

The Arts and Culture Chapter discusses cultural events and public art that enhance land use, public spaces and overall community livability.

The *Urban Design Chapter* considers the aesthetics, design and quality of the built environment, including the compatibility between different types of densities and land uses.

Citywide land use policies guide the development and interpretation of this comprehensive plan and the city's zoning code. To fully appreciate this plan's vision and how it will be realized, the Plan should be read as a whole.

## How is the Minneapolis Plan for Sustainable Growth Implemented?

Adopting a comprehensive plan is the first step toward realizing the City's vision. The City's zoning code, along with other City policy documents and adopted plans, implements the comprehensive plan. Its purpose, in part, is to protect the public health, safety, aesthetics, economic viability and general welfare of the city; to protect the character and stability of residential, commercial and industrial areas within the city; and to promote the orderly and beneficial development of those areas.

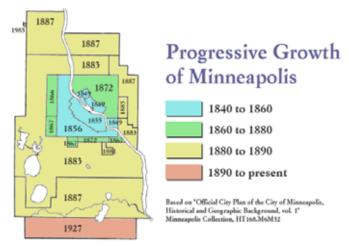
The City of Minneapolis' implementation strategy for the comprehensive plan goes beyond the information required by statute and includes department business plans, funding programs, and planning tools and tactics. In addition to the Capital Improvement Program, for example, implementation of the comprehensive plan also includes the city's Sustainability Initiative, urban design guidelines, and strategies to preserve and enhance the historic and cultural resources of the city.

Updates to the comprehensive plan occur in accordance with state statute. Updates may also be triggered by changes in state law, changes in local conditions, or to address emerging needs and opportunities.



# History of Planning in Minneapolis

The town of Minneapolis, founded in 1856 by the state legislature, became a city in 1866. At the time, the population was 3,000 and the city covered 24 square miles. Commerce centered on the Mississippi River. The first bridge spanning the river opened in 1855. City founders envisioned a gleaming urban mecca; the Paris of the west with wide promenades, stately tree-lined boulevards and streets, and a system of streetcars and water ferries supporting a population of 1 million people.



The progressive growth of the city from 1840 to present is reflected in its street grid and architecture. Source: City of Minneapolis

In 1880, the City was the 38<sup>th</sup> largest in the nation with a population of 46,887. During the late 1880's the Minneapolis Board of Trade created a system of parks and parkways connecting the lakes, creek and river, the genesis of a nationally recognized park system that helps maintain the vitality and sustainability of Minneapolis. Expansion of the national rail system set the stage for the city becoming an important transportation hub.

By 1910, the city's population sprouted to 300,000. Much of that growth was supported by significant investments in infrastructure, most notably the streetcar grid. The city's first zoning code was adopted in 1924. Residential development and neighborhood retail spread along lines traversing the city to the east and west, north and south.





Minneapolis in the early 1950's. Looking west over the Mississippi River. Source: MPL Archives

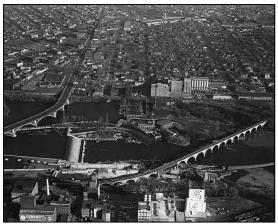
By 1950 the city reached its peak population of 521,718. The choice was: capture and deliberately plan for growth or let growth happen. City leaders chose to plan for growth, adopting the first comprehensive plan in 1954. Adoption of the Official Plan occurred the same year that the first open heart surgery was performed at the University of Minnesota, and the city's streetcars were replaced by buses. The city was facing new opportunities and challenges from increased car traffic and development of the regional freeway system.



Downtown Minneapolis in the early 1960's. Source: MPL Archives

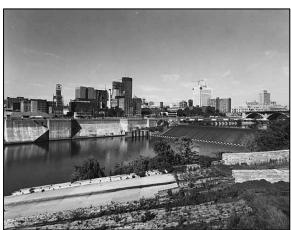
In the early 1960s a sense of urgency captured city and business leaders as businesses and residents chose to move outside of our city boundaries. The population began to decrease. In 1962, the year The Official Plan was updated, the population had dropped to 482,872 and the city was the 25<sup>th</sup> largest in the country. While Minneapolis was still the heart of commerce and industry, many residents chose to commute to jobs in the city and live elsewhere.





Minneapolis looking to the northeast along Central Avenue Source: MPL archives

In 1962, city leaders said that a plan was not only desirable, but necessary in order to:
1) manage demands on increasingly scarce resources and achieve goals efficiently, 2)
make sure social values are considered when allocating resources among competing
uses, 3) provide a framework to coordinate complex private-public decisions, and 4)
draw out majority interests, not just those of small interest groups. The 1962 land use
map showed residential densities, the locations of parks and playgrounds,
institutions, offices, commercial development, industry and warehouses, and
considered the safety of pedestrians, and the flow of traffic along local streets,
collectors and arterials.



The growing skyline of Minneapolis with the IDS Tower as the apex. Source: MPL Archives

By the 1980's, the city had passed through difficult times of decreasing population, weakening tax base and the social unrest of the 1960's and 1970's. Participants in the planning process were confident that the city would grow and be viewed as an exciting and attractive place to be, and a secure place to live and work. At the time that the Plan for the 1980's was written, the city's population was 370,951 and the city's share of the metropolitan area population had dropped from 49 percent in



1960 to 26 percent in 1980. In spite of this, citizens and civic leaders painted a canvass of striking change for the city including:

- New housing along the central riverfront
- Seven community –level commercial centers with medium or high-density housing adjacent to or part of the center
- Rehabilitation of the city's housing stock
- Protection of neighborhoods and historic districts
- Improvements in water quality, especially for Lake Nokomis, and
- New opportunities for entrepreneurs and job training in technical industries and health care.



Minneapolis today, a vibrant city that honors its past as it reaches to the future as the city of water. Source: MPL archives

The most recent update to the comprehensive plan was in 2000. The Minneapolis Plan included a vision for the city's future, eight goals and five core themes:

- Minneapolis is going to be a growing city
- Minneapolis will offer many choices to city residents
- Minneapolis will maintain its excellent quality of life
- Minneapolis will be a safe place to live work, and play
- Minneapolis will be a "people-oriented" city which values and respects its cultural and racial diversity, as well as the histories and traditions related to that diversity.



In 2000, the city's population was 382,000. Since then, the city has made slow and steady gains in population, now 387,500, indicating that the vision and goals set forth in 2000 are valid and working.

The 2008 update to the Minneapolis Plan bolsters that progress with added emphasis on sustainability, commitment to honoring its historic resources and aspirations for dynamic urban living through urban design. This update includes policies, land use maps and the programs and strategies to implement the plan.

# Minneapolis Today

Minneapolis is a world-class city recognized for its commitment to environmental stewardship and civic engagement, as well as for its livable neighborhoods, dynamic downtown, and strong corporate presence.

## **Heart of a Region**

In terms of employment and transportation access, Minneapolis is the center of the upper Midwest and the 7-county metropolitan area. The city is strategically located at the nexus of a complex network of interstate, state and county highways, the first of several planned light rail lines connecting the metropolitan area, and the hub for a sophisticated transit system. By reinforcing its position, the city can concentrate growth in its boundaries, preserve neighborhoods, emphasize access, protect natural environments and critical areas, and provide affordable housing.

According to the Metropolitan Council's Regional Development Framework, Minneapolis is classified as a "Developed Community." This designation applies primarily to communities near the center of the metropolitan region, which have largely been developed. Metropolitan Council investments in regional systems and incentives for the Developed Communities are to maintain current infrastructure; renew and improve infrastructure, buildings and land to provide for additional growth, particularly at centers along transit corridors; and support developments that integrate land uses.

This plan is fully consistent with the Framework's policy direction for this classification, with a focus on:

- Accommodating growth forecasts through reinvestment at appropriate densities and targeting higher density in locations with convenient access to transportation corridors and with adequate sewer capacity.
- Supporting the conversion or reuse of underutilized lands in order to accommodate growth forecasts, ensuring efficient utilization of existing infrastructure investments and meeting community needs.
- Make local transportation, transit, pedestrian and bicycle investments to improve connections between workplaces, residences, retail, services and



entertainment activities.

- Encouraging the preservation of existing neighborhoods and expansion of housing choices within the city.
- Implementing best management practices to control and treat stormwater as redevelopment opportunities arise.

## **Resilient and Diversified Economy**

Over 150,000 people are employed in downtown Minneapolis alone. Through its planning for employment centers and targeted industries the city accommodates and welcomes employment and business growth.

With proximity to institutions of research and higher learning, like the University of Minnesota, renowned for its innovations in health care, Minneapolis is seeing expansions in the health care industry.

The city plans for development and revitalization of commercial corridors through its land use actions and supports that change with strategic investments in infrastructure, business support and through partnerships with the private sector and not-for-profit agencies.

#### **A Vibrant Downtown**

Minneapolis' downtown is distinctive in its successful mix of office towers, stores, restaurants, hotels, and theaters, along with institutions like museums, the central library, educational institutions like St. Thomas University and the McPhail Center for the Arts, as well as the Minneapolis Convention Center. An increasing number of people live downtown where apartment and condominium complexes coalesce into neighborhoods attractive to young professionals and empty-nesters.

# **Neighborhoods with Distinct Character**

Minneapolis is a great place to live. In 2007, over 387,000 people make the city their home. There are a variety of housing types and living environments to choose from, ranging from quiet older neighborhoods to active environments near unique shopping and entertainment experiences. There are also options for senior and assisted living housing for residents who want to stay in Minneapolis as their housing needs change.

### **Literate and Involved People**

Minneapolis is one of the most literate cities in the country and over 40.5% of its residents have college and advanced degrees. Minneapolis residents care about their community and those living there. More Minneapolis residents volunteer their time to worthy causes than any other city in the country.



# Challenges for the Future

Following are some of the challenges facing Minneapolis as it moves to implement this comprehensive plan.

# Achieving Access through Reduced Dependence on Single-Occupancy Vehicles

Expanding access through investments in alternative modes of travel to reduce dependence upon single-occupancy vehicles is consistent with the city's land use and transportation vision. The challenge will be to ensure that these investments are accomplished in ways that maximize access and provide viable and sustainable options for residents, business users and visitors.

# **Housing Affordability and Choices**

Minneapolis has a fascinating mix of housing stock, with single family homes nestled next to duplexes and multi-family structures. The goal is for residences to be within walking distance of city parks and other amenities and to support mixed income housing in poverty impacted areas so that all residents can benefit from stable housing and amenities in their communities.

# **Achieving Downtown's Potential**

In partnership with the Downtown Council, business associations, and downtown neighborhoods, the city will strive to provide an effective foundation to envision, encourage, and guide development that achieves outcomes described in this plan. Together we can realize a downtown that is a destination for shopping, working, recreating and residing.

# **Growth Strategy Outside Downtown**

Minneapolis is a Midwestern city founded in the 19<sup>th</sup>. Century. Its pattern of growth, out from the banks of the Mississippi River near St. Anthony Falls, was strongly influenced by the lakes, river and other natural features of the city. The historic streetcar grid and curvilinear arterials constructed over time promoted development of commercial and neighborhood corridors and nodes. These areas of the city, some more than others, have been affected by economic conditions and consumer demand. By understanding the underlying social and economic factors affecting economic health, and by planning for land use, infrastructure investments and business development, these areas can be revitalized. These areas contribute to the dynamic urbanism that makes Minneapolis a community of choice.

# Maintaining and Improving Neighborhood Livability

Since the streetcar era, Minneapolis has fostered a strong fabric of neighborhoods. Residents are closely tied to the communities they live in. Since 1990, the city's 81 neighborhoods have aligned their activities under the Neighborhood Revitalization Program, an approach for civic engagement and neighborhood mobilization. As



current funding for this program is scheduled to sunset in 2009, the city contemplates refinements to its service delivery, including community engagement, to address this change.

## **Economic Vitality**

Early childhood education and opportunities for lifelong learning are critical to the long-term economic vitality of a community. While the city is home to many institutions of vocational, artistic and higher learning, the public school system struggles to maintain enrollment and graduate students. The strategic direction of the public school system and the viability of that system are critical to the economic vitality of Minneapolis. The vitality of the city is also linked to the metropolitan region. Sprawl threatens vitality as it taxes environmental systems and escalates competition for increasingly scarce fiscal resources.

## **Changing Demographics**

The city has always been a port of entry for immigrants. Minneapolis continues to grow and diversify, due in part to the international trend towards urbanization, and also due to immigration. Another demographic factor is the aging baby-boomer generation. The City needs to refine its services to meet the needs of a demographically changing community.

# Maintaining a High-Quality, Sustainable Urban Environment

Minneapolis is already a leader in environmental stewardship. The challenge is to maintain the balance between growth and environmental protection, while dealing with external developments such as changes to regulations and laws governing environmental protection. In addition, the City will need to step up and set the example on how sustainability can be incorporated into business practices and operations, as well as site and building design and development. Finally, environmental stewardship is a role shared with the Minneapolis Parks and Recreation Board. The Park Board's comprehensive plan should be implemented in tandem with the city's to maximize and leverage investments in facility development and maintenance.

# **Sustaining and Developing Dynamic Culture and Arts**

Minneapolis is recognized nationally as a center for arts and culture. Arts and culture are major components of competitive economies and lure workers to a community. The challenge will be to identify and maintain a stable funding source to grow this sector of our economy and maintain and add to existing public art in the community.

# **Regional Governance**

Minneapolis is the heart of a large and complex metropolitan region. With seven counties, 138 cities and 44 townships and numerous special purpose districts, decision-making is challenging. More work is needed to represent Minneapolis' interests while helping the region make better decisions and focusing needed



infrastructure investments, contain urban sprawl and bolster urban areas where substantial past investments, both public and private, have already been made.

# Minneapolis in 2030

If the Minneapolis Plan for Sustainable Growth is successfully realized, this is a mental image of the city in 2030.

## **Transportation Access**

Minneapolis is a multi-modal center for a regional transportation system that features light rail, rapid transit and superior bus service. The city restores the vision of its founders for a streetcar system. The City promotes healthy living and a healthy environment through a network of bike trails and bike lanes, and by promoting carsharing and carpooling. The City sets the example for others through its business practices, featuring low-emitting fuel efficient cars in its motor vehicle fleet, for example.

## **Housing Affordability and Choice**

Minneapolis preserves its existing housing stock and neighborhood character through context-sensitive design. Housing types are integrated, preserving the rich fabric of housing stock and providing access to housing throughout the city, maximizing choice.

# **Economic Vitality**

Minneapolis boasts a robust economy with a full menu of business types, from sole proprietorships to Fortune 500 corporations. The city is a location of choice for workers in the knowledge and creative classes who enjoy the vibrant neighborhoods, cultural and recreational amenities, and choices that 21<sup>st</sup> century urban living in Minneapolis affords. Minneapolis is globally recognized as an economic powerhouse.

# **Achieving Downtown's Potential**

Downtown is an active and vibrant destination for visitors, businesses, and residents with welcoming green spaces, lively amenities, a vigorous office and commercial core, and retail that serves workers and residents and is also unique and differentiated from other markets.

# **Growth Strategy Outside Downtown**

The City is successfully implementing its commercial corridor strategy so that economic prosperity is shared throughout the community.

# **Livable Neighborhoods**

The city's 81 neighborhoods contain housing at varying densities and price-points and are home to diverse populations. Neighborhoods are distinctive communities with a strong sense of place, strong public participation and transportation choices.



Important priorities include improving public safety, preservation, and equal access to community facilities, such as schools and libraries.

#### Sustainable Urban Environment

Minneapolis retains its position as a leader in sustainability. The City implements and promotes preservation of its historical and cultural resources, and recognizes that adaptive reuse is more fiscally responsible than greenfield development. The City works in partnership to preserve and enhance its natural environment.

## Sustaining and Developing Dynamic Culture and Arts

As a result of the coordinated regional efforts of strong cultural leaders, a public funding mechanism exists to support a flourishing artistic community, including individual artists and small organizations. Minneapolis strategically invests in cultural facilities and public art endeavors that are sustainable and serve the needs of the entire community. The city is a preferred location for film and commercial production and retains its status as a renowned center for the performing arts.

### **Regional Governance**

Minneapolis is part of a cohesive metropolitan region. Minneapolis is recognized as a regional leader and through its influence receives a fair proportion of investment dollars needed to sustain growth. The city helps preserve regional natural resource systems by accepting more population growth at greater densities and by serving as the heart of the regional transportation and economic engine.

The city continues to move forward. En Avant!



# Citizen Participation

The Minneapolis Plan for Sustainable Growth incorporates input from a variety of stakeholders including citizens, neighborhoods, institutions, businesses, and neighboring jurisdictions.

## **Public Process**

In June 2006, the Planning Commission set the tone and direction for the update to the comprehensive plan. The update was based upon the premise that the policies in the previous comprehensive plan as adopted in 2000 were working, but that the concepts of heritage preservation, sustainability and urban design warranted additional attention if Minneapolis was to evolve as a great city of the 21<sup>st</sup> century.

The City of Minneapolis sought input from a variety of sources during the drafting of *The Minneapolis Plan for Sustainable Growth*. Public meetings, focus groups, a website, surveys, and public hearings were used to gather input from stakeholders. The previous comprehensive plan for the City of Minneapolis (*The Minneapolis Plan*) was completed in 2000, and required several years of intensive stakeholder involvement. The current comprehensive plan process was identified early on as an *update* to the 2000 comprehensive plan. Due to relatively recent and extensive involvement from the public in creating *The Minneapolis Plan*, the public participation effort for the plan update was focused on a few key elements which were new in the update. Community outreach and participation was designed in consultation with the city's Community Engagement Coordinator, Multi-cultural Affairs staff, and the city's communications office.

There were six main phases to the public process for the comprehensive plan update:

- 1. Incorporating input from previous public planning processes
- 2. Visioning for direction of plan
- 3. Focus groups on key issues
- 4. Review of draft policy content
- 5. City's approval process of draft to submit to Metropolitan Council
- 6. City's final approval process after Metropolitan Council review (not yet done)

The following is a timeline documenting the major public participation efforts that were utilized in the creation of this document.



### **Previous Planning**

The comprehensive plan is a primary policy document for the City, covering a broad range of topics at a fairly high level. As such, there are many more narrowly focused plans (either based on geography or topic) which are referenced in the comprehensive plan, providing both a basis for its policy and a means for its implementation. Many of these plans have their own public involvement process, so incorporating these plans also incorporates the public comment from their related processes.

One of the first steps of the public involvement process is to acknowledge the public input and planning that has already been received. The comprehensive plan generally affirms the directions provided from recent planning processes, affirming their value to the City. This includes both neighborhood and City level planning efforts. It is not the role of the comprehensive plan to include the full level of detail present in other plans, but rather to provide an overall policy framework.

Examples of these policy and action plan documents include the Minneapolis Park and Recreation Board Comprehensive Plan, The Access Minneapolis Ten Year Transportation Action Plan, The Minneapolis Plan for Arts and Culture, The Industrial Land Use and Employment Policy Plan, Light Rail Station Area Plans, and various Small Area Plans representing many areas of the city.

## **Visioning**

As stated above, this plan did not start from scratch in developing a vision for the City. Rather, it built upon the direction of the 2000 comprehensive plan. However, there were some specific areas where more input was needed regarding general direction. These focused around areas that were not fully developed or articulated in the previous version of the plan. Specifically, these included <u>urban design</u>, <u>sustainability</u>, and <u>heritage preservation</u>.

A series of three open houses were held in April-May 2007 at the Minneapolis Central Library, Midtown YWCA, and Capri Theater. The focus of these meetings was to discuss participants' vision for the three specific areas identified above, in the context of proposed policy for *The Minneapolis Plan for Sustainable Growth*. Comments were recorded at these meetings and can be found in the May 2007 Outreach Report. Over 100 people attended these meetings and provided comments. These were followed by an online survey, wherein the same questions were asked as those at the open house. Over 1,200 individuals participated in the survey.

### **Focus Groups**

Focus groups representing a variety of stakeholders were created to gain insight into specific issues. These were held from June-December 2007. These focus groups included Realtors, environmental advocates, builders, neighborhood groups, architects, heritage preservationists, and NRP staff. One specific group that met a number of times was the Downtown Task Force, which focused on policies for



Downtown. This was important due to the fact that policy for Downtown for the first time in decades is being incorporated fully into the comprehensive plan, rather than existing in a separate document (most recently, Downtown 2010). Updates were also provided to standing boards and commissions with citizen members, including Heritage Preservation Commission, Minneapolis Arts Commission, and the Planning Commission. An additional focus group was held in early 2008 for Hispanic/Latino residents and was conducted entirely in Spanish.

These focus groups provided in-depth insights into specific elements of the plan, again related to the three main themes identified during the visioning phase.

### **Draft Policy Review**

As the public process moved forward, comments and direction were incorporated into the draft document. The first public draft of the policy document was completed in November 2007 and released publicly on December 1. Although the official public comment period lasted from lasted from January 1<sup>st</sup>, 2008 through February 15<sup>th</sup>, 2008, this additional month provided additional time for the public to review and comment on this substantial document – particularly before the next round of open houses were launched in January. Draft chapters of the comprehensive plan were made available online on the plan's official website, and copies (both printed and on CD) were provided to public libraries, neighborhood groups, and surrounding jurisdictions.

The Minnesota chapter of the American Society of Landscape Architects (ASLA) volunteered to pilot a test format for the urban design chapter. They configured an online editing tool called a "wiki" that allowed interested parties to edit the document interactively and discuss changes to the plan through commenting. This process generated numerous comments and edits from participants, and the resulting edited version of the chapter was used as input into the draft document.

As the next part of this phase, a series of five open houses were held at the North Regional Library, Lake Hiawatha Community Center, Martin Luther King Jr. Recreational Center, Mill City Museum, and Eastside Neighborhood Services. These meetings occurred during the 45 day public comment period and afforded community members an opportunity to give one-on-one feedback to city staff regarding the draft content of the plan. Participants also had the opportunity to submit comments in writing.

Approximately 450 people participated in meetings during this phase, and 250 individual comments or surveys were submitted. Since the comments were more specific to plan content, they were compiled and responded to individually.

#### **Plan Approval Process**

The typical path for a planning document in the City's approval process is from Planning Commission to the Council's Zoning and Planning Committee, to full City Council. However, due to the importance and complexity of the comprehensive



plan, this process was expanded, to give commissioners and council members – as well as the public – additional chance to review and comment on the plan's details.

Chapters of the plan relevant to various City Council Committees were taken to public committee meetings to discuss issues and opportunities with moving forward in the comprehensive plan adoption process. In addition, the Heritage Preservation Commission, Board of Adjustment, Minneapolis Arts Commission, and City Planning Commission all reviewed draft documents and commented on the plan. Input from these meetings was again used to review and revise draft content.

Before submitting the draft plan to the Metropolitan Council for approval, the Planning Commission reviewed the draft and made a recommendation for approval to the City Council at a public hearing on June 2, 2008. The plan was subsequently approved for submittal by the City Council on July 11, 2008. For the next twelve months, Metropolitan Council staff worked with City of Minneapolis staff to ensure required elements were accurately, consistently, and adequately addressed throughout the plan.

On July 22, 2009, the Metropolitan Council approved *The Minneapolis Plan for Sustainable Growth*, paving the way for final approval and adoption by the Minneapolis City Council. Several technical amendments were required as conditions of approval, none of which changed the policy content of the plan. The City Council took final action to approve the plan, including the required amendments, on October 2, 2009.

## **Outreach Tools**

Getting the word out about a citywide plan such as the Minneapolis Plan can be challenging. It covers a broad range of topics, and impacts a large and diverse group of stakeholders.

Due to this, the City worked to identify a range of ways to get the word out to the public about the plan and opportunities to comment. While providing information and allowing feedback through the internet has grown increasingly popular and can reach a large number of people, the planning process acknowledged that some people still lack access to or comfort with this technology – and need alternative means to participate. The range of strategies used included:

- Hosting a series of meetings at a wide range of locations and times, as described above
- Maintenance of a regularly-updated comprehensive plan website, as well as announcements on the City's main website
- Interactive online surveys, including the ASLA pilot wiki site



- Emails to City-maintained mailing lists, including those compiled for other planning efforts
- Press releases to regional, city, and neighborhood publications
- Direct mailings to targeted groups
- Flyers posted at and near meeting sites
- Hard copies of draft documents and supporting information at public libraries and neighborhood offices
- Announcements on public access television
- Messages on the City's phone system
- Personal contacts through the City's ongoing work in the community
- Ongoing coordination with City departments and other agencies and jurisdictions
- Logo and branding activities to create recognizable identity for comprehensive plan and related documents and activities
- Radio and newspaper interviews, resulting in several news stories on comprehensive plan

Some of the most important outreach made was not through the City at all, but through neighborhood, community, and professional organizations which reached out to their members and stakeholders to let them know about this opportunity to participate. The City appreciates the role of its active, engaged citizenry in making this happen.

# **Implementation**

Many existing City processes will ensure that effective implementation of the comprehensive plan occurs. The City has identified a number of ways in which the comprehensive plan will be implemented, they include but are not limited to:

- Use public hearing bodies such as the Board of Adjustment, the City Planning Commission, the Minneapolis Arts Commission, and the Heritage Preservation Commission to ensure implementation that is consistent with the goals and policies of this document.
- Identify opportunities in various city departments for implementation of



the goals and policies of this document. For instance, through the Capital Long Range Improvement Committee (CLIC) where recommendations on infrastructure improvements and repairs are made.

- Adopt regulations consistent with the goals and policies of the comprehensive plan in the Minneapolis Code of Ordinances.
- Monitor and solicit continued input from stakeholders throughout and beyond the city in situations where policies are being applied to citywide implementation strategies.
- Adopt new plans that are consistent with the goals and policies of this document by openly involving stakeholders.
- Maintain the impact of plans through neighborhood level and citywide awareness of the importance of the policies and goals of this document and continued advocacy for those goals in all city business lines.



# Community Data Profile

Minneapolis is the largest city in Minnesota and serves as the center for finance, industry, trade and transportation for the Upper Midwest Region of the United States. The City of Minneapolis has a progressive tradition of good government, civic engagement and a vibrant economy for business and industry. City residents embrace their diversity and value their heritage, education, arts and culture. Minneapolis, a developed city, is the "City of Lakes" featuring 22 lakes and 182 city parks; one acre of parkland for every 60 residents. By promoting urban stewardship, active lifestyles and environmentally-sensitive building design, energy and resource use, Minneapolitans promise future generations an even greater, more beautiful city than the one they inherited.

# **Fast Facts**

Location:	Hennepin County, Minneapolis-St. Paul MSA, SE Minnesota
Congressional	5
District	
Legislative	58A; 58B; 59A; 59B; 60A; 60B; 61A; 61B; 62A; 62B; 63A
Districts	
City	Mayor/Council form of government; 12 departments; 8
Government	independent boards and agencies
Websites:	http://www.ci.minneapolis.mn.us
Minneapolis	Dial 311 in city limits, 612/673.3000 outside of the city
311	for non-emergency City information and services
Elevation	950 feet
Time Zone	Central Standard Time (observes Daylight Savings Time)
Area	59 square miles (153 square kilometers)
Population	387,970 (2006 Metro Council); 382,618 (2000 Census);
	368,383 (1990 Census)
Population	7.068 (2006); 6.970 (2000); 6.706 (1990)
density	
Population	1.4% (2000-2006)
Growth	Forecasted: 405,329 (2010); 425,797 (2020) 441,143 (2030)
Transportation	Air service: Minneapolis-St. Paul International Airport: 21
And Transit	passenger carriers); 17 cargo carriers
	Rail service: 5 heavy rail carriers; 1 passenger rail; 1 light rail
	commuter line (6 other lines under development)
	Transit service: Three regional and three national providers
	Major roadways: 3 Interstates; 2 US Highways; 3 State Highways
Unique Assets	Wireless Minneapolis – 59-mile wireless network
	Downtown skyway system – 63 skybridges accessing 72 blocks
	Minneapolis Convention Center – 48,000 square feet of exhibit
	space, 87 meeting rooms, ballroom and theater



# People

# Population and Households

According to the State Demographer, Minnesota is experiencing the most population growth of all the Midwest states. While its Scandinavian and European roots are still strongly evident, the city also has the largest urban population of Native Americans in the country and its largest minority groups are Black/African American at 18.5 percent, and Hispanics at 10 percent of the total population. The population is also growing because of new residents from Mexico and Latin America, Asia and Somalia, Ethiopia, and other African countries. Many of these new residents are children and working age adults.

Minneapolis Demographic Overview

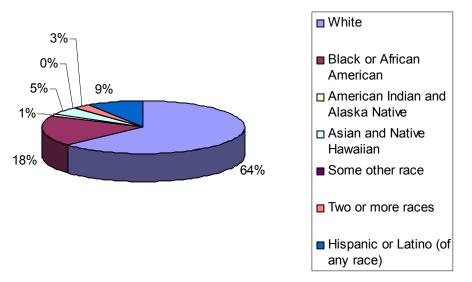
Population and households	City	7-county	State	US
•	•	Metro		
People per household	2.25	2.52	2.46	2.61
Median household income	\$43,369	\$62,223	\$54,023	\$48,451
Average income per capita	\$27,487	\$30,737	\$27,591	\$25,267
Marital status				
Married (15+)	52.3%	68.2%	69.7%	69.5%
Never married	47.7%	31.8%	30.3%	30.5%
Married with children	27.1%	36.9%	35.1%	32.4%
Married no children	37.1%	41.7%	44.9%	42.1%
Single with children	23.1%	13.6%	12.9%	14.5%
Single no children	12.7%	7.9%	7.1%	11.0%
Average Age	33.6	36.1	36.8	36.4

Source: 2000 US Census, State Demographer, 2006 American Community Survey

Minneapolis has seen a steady increase in racial and ethnic diversity since the 1950's, when the city was 1.6% non-white to 2006 when the city was 36% non-white. On average, these new residents are younger than the existing population and have higher birth rates. This diversity is reflected in its households, where over 90 languages are spoken.



#### Minneapolis' Demographic Diversity, 2006



Source: 2006 American Communities Survey

#### **Education**

Minneapolis is home to a well-educated population. The Minneapolis School District is the third largest in the state, with 33,600 students enrolled in its 45 elementary schools, seven middle schools, seven high schools, eight special education schools, eight alternative schools, 19 contract alternative schools and five charter schools. The Minneapolis School District was the first in the state to offer all-day kindergarten classes. The district also offers advanced placement classes, an International Baccalaureate Program, and an Art for Academic Achievement program that provides opportunities to learn through the arts.



In 1874, 2,907 pupils received their educations in six school buildings in the city. Today, over 33,000 attend one of nearly 100 schools and educational facilities.



Educational attainment	City	State	US
High School completed (including equivalency) or	87.1%	90.7%	84.1%
higher			
Associate degree completed	6.5%	9.6%	7.4%
Bachelor degree completed	25.9%	20.8%	17.1%
Graduate or professional degree completed	14.6%	9.6%	9.9%
Source: Census Bureau/2006 American Community	Survey		

Minneapolis offers a variety of opportunities for higher education. The main campus of the University of Minnesota sits on the banks of the Mississippi River, just minutes from downtown. Attainment of four-year and advanced degrees exceed the state and national averages.

#### **Institutions of Learning**

Private Colleges Art Institut	tes International Minnesota
-------------------------------	-----------------------------

Augsburg College Capella University

College of St. Catherine's, Minneapolis Campus

Minneapolis College of Art and Design

North Central University

St. Mary's University – Minneapolis Campus University of St. Thomas, Minneapolis Campus

Walden University

Specialized Education McPhail Center for Music

Technical College Dunwoody College of Technology

Community College Minneapolis Community and Technical College

Public College/University University of Minnesota

Metropolitan State University, Minneapolis Campus

Source: Minneapolis School District, Minnesota Department of Education, City of Minneapolis, Census 2000



The University of St. Thomas Law School and School of Education are located in downtown Minneapolis. The latter is connected to the Opus Magnet School a K-12 school operated by a consortium of Minneapolis-area school districts.



#### Workforce

Minneapolis is part of the Minneapolis/St. Paul Metropolitan Statistical Area (MSA) and draws its workforce from throughout the larger metropolitan area. Employment has fluctuated in recent years resulting from national economic and market conditions largely beyond the city's control, such as globalization, the dot.com bust, and the post 9/11 national recession. In 2006, the city gained jobs as a faster rate than the metropolitan area or the state. Recent Metropolitan Council forecasts suggest that the city is entering a growth phase where employment is projected to increase to 317,000 jobs by 2010 and 346,000 jobs by 2030.

Recent data also suggests that the city is keeping pace with regional and national trends, expanding its labor force and tracking below the national unemployment rate. This may be due in part to gains in health care, management and professional services. In 2006, 15 percent of jobs in the city were in the health care and social assistance sector, the largest and fastest growing economic sector in the city.

#### 2006 Labor Market Profile

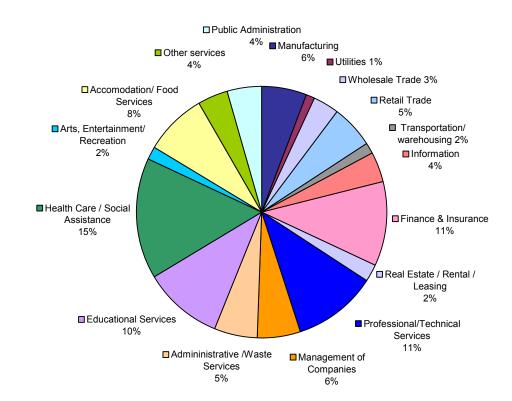
		7-County		
Employment	City	Metro	State	US
		Area		
Labor Force Participation	73.5%	73.3%	73.6%	66.2%
Rate				
Labor Force	217,970	1,614,952	2,953,334	153,493,000
Total Employment	209,711	1,556,662	2,828,993	146,406,000
Unemployment Rate	3.8%	3.6%	4.0%	4.6%

Source: MN DEED LAUS, 2006 Annual Averages; CPED Research Oct 2007

Of the nearly 295,000 jobs in the 2006 Minneapolis workforce, the largest job sectors in the city were health care and social assistance at 15 percent of the city's labor market, followed by professional/technical services and finance/insurance at 11 percent each, and educational services at 10 percent. The life sciences industries, a category that includes pharmaceuticals, medical instruments, manufacturing laboratories, research and development and hospital jobs, is a sector of the economy that city leadership wishes to cultivate and grow. The arts and entertainment are part of the creative industries, a growing sector in the city that includes visual and media arts, communications and technology, film, music, performance, fashion and design, architecture, and engineering.



#### Distribution of Jobs within Minneapolis, 2006



Source: MN DEED

#### **Workforce Readiness**

Workforce readiness combines the basics of academic learning; reading, writing; mathematics, with critical workplace skills, such as creative and analytical thinking, the ability to collaborate and work as teams, and communications. One pathway towards workforce readiness is the Minneapolis Employment and Training Program (METP). METP provides employment programs in Minneapolis that specialize in job training and placement services that lead to economic self-sufficiency. Programs are designed specifically for adult workers, youth ages 14 to 21, welfare to work recipients and dislocated workers. The METP provider system is community based through a host of non-profit agencies. Workforce readiness is also promoted at area institutions of learning. The Dunwoody College of Technology, for example, works with area employers to provide customized training programs to fill workforce and organizational needs.



#### Volunteerism

Minneapolis is well known for its concerned and active citizenry which has engaged in partnerships with government and business to improve neighborhoods, create economic opportunities, and serve the city's youth and disadvantaged populations. According to the Corporation for National & Community Service, the volunteer rate for Minneapolis-St. Paul in 2006 is 39.5 percent, the highest of 50 major metropolitan areas in the country, and 12.8 percent above the national average.

# **Economy**

As the major city within the larger metropolitan area, Minneapolis enjoys a strong and highly diverse business foundation of companies. Seven Fortune 1000 companies have headquarters within the city. Top private-sector employers in Minneapolis include the Target Corporation, Ameriprise Financial, the Star Tribune, IBM and several brokerage firms including Piper Jaffray, RBC Dain Rauscher and ING Group. The city is also home to several major financial institutions, including the Federal Reserve Bank of Minneapolis, US Bank, and the regional headquarters of Wells Fargo Bank. In addition, with seven hospitals and the University of Minnesota's medical school, Minneapolis is a nationally known medical hub with specialty practices that draw patients from throughout the county, and numerous spin-off companies which produce many high technology medical products.



Children's Hospital in south Minneapolis is an anchor of the Life Sciences Corridor, an area of the city targeted for growth and expansion of health care industries.



# **Major Employers**

# Statewide employment totals for major Minneapolis-based employers\*

1 /		, 1	1 /
Employer	NAIC	Business Line	Metro Employment
University of Minnesota	6113	Colleges, Universities, & Professional Schools	30,000
Target Corporation	4529	Other General Merchandise Stores	25,734
Allina Health System	621498	All Other Outpatient Care Centers	22,105
Wells Fargo Bank MN	522110	Commercial Banking	20,175
Fairview Health Services	621498	All Other Outpatient Care Centers	18,500
Hennepin County	921190	Other General Government Support	12,171
U.S. Bankcorp	522110	Commercial Banking	9,500
Ameriprise Financial Inc.	523999	Misc. Financial Investment Activities	6,000
Xcel Energy Inc.	2211	Electric Power Generation, Transmission & Distribution	5,057
United Parcel Service	4911	Postal Service	5,400
Honeywell ACS	541330	Engineering Services	5,000
Qwest	237130	Power & Communications Line & Related Structures Construction	4,390
Children's Hospitals and Clinics	622110	General Medical & Surgical Hospitals	4,233
City of Minneapolis	921190	Other General Government Support	3,945

<sup>\*</sup>Source: <u>Twin Cities Business Journal</u> Book of Lists, 2007: company representatives, Web Sites and <u>Business Journal's</u> Fact Book Online



# Real Estate

## Housing



The housing stock in Minneapolis is typical of a city founded in the late 1800's, with the median age of homes being 64 years. New construction and residential conversions from other uses, particularly in various downtown neighborhoods, and decreasing levels of demolitions are primary reasons why the housing stock is increasing; the city added more than 9,200 housing units since 2001. As of January, 2007, the City Assessor estimated the total number of housing units in the city at 175,695.

The City emphasizes rehabilitation and restoration of historic residences, and offers a variety of programs and information to help homeowners maintain and improve their property, and assistance to landlords to ensure that rental properties comply with city code. Information on these programs is available through Minneapolis 311 and the City's website, <a href="www.ci.minneapolis.mn.us">www.ci.minneapolis.mn.us</a>. In addition, the City encourages development of housing that is environmentally sustainable, supports higher densities and housing that is combined with other uses such as office and commercial development in areas well-connected by transit.



Main Street Court (photo courtesy of GMHC Housing, Inc), pictured on the left, is a development in NE Minneapolis that features green courtyards and walkways between energy efficient detached townhouses. The picture on the right is an example of a mixed-use development with commercial on the ground floor and housing on the upper levels.



#### Snapshot of city housing statistics, 2006

City	State	US
\$230,300	\$208,200	\$185,200
64 years	32 years	27 years
1.5%	4.5%	9.6%
48.7%	68.3%	59.4%
41.4%	21.2%	28.9%
9.9%	10.5%	11.6%
	\$230,300 64 years 1.5% 48.7% 41.4%	\$230,300 \$208,200 64 years 32 years 1.5% 4.5% 48.7% 68.3% 41.4% 21.2%

Single family units: 52.8%

Other units: Duplexes: 12,4; Triplexes: 0.5%; Multi-family units: 34.3%

Number new homes since 2001: 9,254

Number of residential building permits in 2006: 1,757 Value of residential building permits in 2006: \$288,707,385

Source: City of Minneapolis, Assessor and Regulatory Services departments; U.S.

Census Bureau, 2006 American Community Survey

### Development

Commercial businesses are distributed along the commercial corridors, neighborhood nodes, activity, growth and retail centers. Businesses range from sole proprietorships to major national retailers. From 2000 to 2005 the estimated market value for the city increased by 61 percent, with 3.3 percent of that growth in commercial development. The public sector, through construction contracts, also supports the construction and building trades through development of public buildings, such as libraries, community centers and other facilities.

# Commercial and public building activity in 2006 for all permits valued over \$50,000

Number of commercial and public building permits: 615 Total value of all commercial and public building permits: \$379,874,060

Source: City of Minneapolis Department of Regulatory Services





Minneapolis is the hub for Metro Transit, one of the largest public transit agencies in the country.

# **Transportation**

Historically, the city of Minneapolis was connected by a system of streetcars and steamboats operated by Twin City Rapid Transit from the 1890's until 1954. That system followed routes used by Native Americans, early European explorers and settlers. In 1954, the streetcars were replaced with buses, and development of an interstate highway system began in earnest. Today, we see the reemergence of early uses. Abandoned rail lines now serve as bicycle trails. Restoring streetcar services is a priority for city leadership. The Mississippi River, once an important corridor for barges hauling grain and other products, is criss-crossed by bridges carrying people and freight.

Transportation serves residential, commercial and industrial uses. Minneapolis is at the center of an elaborate network of interstates, state highways, county roads, rail lines, transit services and bicycle and pedestrian trails. The city maintains 194 bridges and owns and maintains 961.5 miles of roadway. The city is served by the 12<sup>th</sup> largest international airport in the country. That airport is connected to downtown Minneapolis by the Hiawatha Line, the first of several rail transit and bus rapid transit lines that will serve the city. The bottom-line is that Minneapolis is accessible for residents, businesses and visitors. This is an important consideration not just for living and commuting, but also in terms of global competitiveness. These statistics are factors in assessing the status of world class cities in a global economy.



<b>7</b>	. • 1	1		•	2006
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	City	7-County Metro	Chicago	US
Commute Time (minutes, one	21.8	NA	33.4	25.0
way)	12.20/	4.60/	25 40/	4.007
Public Transportation Users	13.2%	4.6%	25.4%	4.8%
Drive alone	62.6%	78.6%	52.6%	76.0%
Commute by carpool	9.3%	8.5%	9.34%	10.7%
Work at Home	4.5%	4.4%	3.35%	3.91%
Bike to work	2.5%	0.7%	0.9%	0.5%
Commute by other means (taxi,	0.9%	0.8%	2.42%	1.68%
motorcycle, others)				
Walk To Work	7.1%	2.4%	3.6%	3.9%

Commuter Services: Hour-Car, Car Sharing for the Twin Cities; Metro Transit Ride to Rewards and Guaranteed Ride Home programs

Source: American Community Survey; City of Minneapolis Chamber of Commerce; Metro Transit

Minneapolis promotes sustainability and community health through its bikeways and walkways. The city encourages non-motorized travel in a variety of ways, including providing bike racks at key locations around the city, and working with transit partners who provide bike mounts on buses and light rail cars.



More Minneapolis residents per capita bike for recreation and transportation than other major cities in the country. The city promotes biker safety with its infrastructure, including fencing as public art and well-marked crosswalks.



## Government

The City is a municipal corporation governed by a Mayor-Council form of government. The Mayor and City Council Members are elected to four-year terms, without limit on the number of terms that may be served. Council members represent the thirteen wards in the city.

The Mayor is responsible for a variety of leadership duties, including: appointing representatives to a variety of agencies and commissions, nominating department head candidates for Executive Committee and Council approval, proposing the annual operating and capital budgets, and reviewing, approving, or vetoing all Council actions.

As provided in the City Charter, the City Council governs Minneapolis through its legislative, administrative, and financial power over City functions. The Council levies taxes, enacts ordinances and resolutions, licenses businesses, and exercises budgetary and policy control over City departments.

City departments provide a broad range of services including: police; fire; health and family support services; assessment of property; attorney services; civil rights; planning and economic development; regulatory services; management support services, and public works. Public Works manages the city's utilities, including surface water and sewers, and water treatment and distribution. In addition, the City of Minneapolis considers trees an essential infrastructure, recognized for the role the tree canopy plays in air quality management, and that roots systems provide for stormwater management and erosion control.

#### Water Service

Surface Water System managed by City

Source: Surface

Storage Capacity: 160,000,000 gal.
Treatment Capacity: 125,000 gal/min
Average Demand: 66,000,000 gal/day
Peak Demand: 170,000,000 gal/day
Total Water Hardness: 88 ppm

Industrial Water Rate: \$2.62/100 cubic ft

Source: City of Minneapolis, Public Works Department, Metro Environmental

Services

#### **Wastewater Treatment**

Wastewater treatment provided by Metro Environmental Services, a regional system

Treatment Type: Mechanical Plant

Treatment Capacity: 251,000,000 gal/day Average Demand: 185,000,000 gal/day Peak Demand: 339,000,000 gal/day Usage Charge: \$1,543.67/million gallons

Minneapolis Development Review is a citywide effort to streamline and improve access to information, zoning and permitting to make it easier for residents, businesses and developers to renovate, build and remodel in the city. Since initiated in 2005, Minneapolis 311 has served as a portal for development projects in the city.



Three separately governed boards linked to the City Council and Mayor through the annual budget cycle: Minneapolis Public Schools, Minneapolis Park and Recreation Board, and the Unified Library System.

The approximate total annual budget for the City of Minneapolis is \$1.3 billion in 2007. The latest bond ratings for the city are: AAA—Standard & Poor's; Aa1—Moody's; AAA—Fitch IBCA. The City's Fire Insurance Rating is 10.



Mirror image of City Hall with the Hennepin County reflecting pool in the foreground.

# **Attractions**

The Twin Cities is second only to New York in per capita attendance at theater and arts events. Minneapolis has more than 30 theaters. The Guthrie Theater and the Children's Theatre Company are recognized as two of the country's best. The City also boasts two world-class art museums, the Minneapolis Institute of Art and the Walker Art Center, and is home to the internationally acclaimed Minnesota Orchestra. Neighborhood arts activities – festivals, galleries and events – play a growing role in resident art participation.



Three major league teams host home games in downtown Minneapolis. At the Hubert H. Humphrey Metrodome, up to 55,000 fans can watch Major League Baseball's Minnesota Twins in action. In the spring of 2006, the state legislature approved a plan for a \$522 million Twins stadium to be located in the Warehouse District of Downtown Minneapolis, with construction scheduled to be completed in 2010. When the National Football League's Minnesota Vikings are in town, the Metrodome can seat 64,000 football enthusiasts. In 1990, the Target Center was constructed downtown for the Minnesota Timberwolves of the National Basketball Association.



The idea for a domed stadium in downtown Minneapolis began in the 1960's. The Hubert H. Humphrey Metrodome opened in 1982. A second, open-air baseball stadium is scheduled to open in 2010 and will be the home for the Minnesota Twins reinforcing Minneapolis as a destination for spectator sports.

Minneapolis residents not only watch sports, they participate as well. In 2005, Men's Fitness magazine named Minneapolis "The Most Athletic City." There are 396 sports fields in the city where people gather for softball, football, soccer and lacrosse.

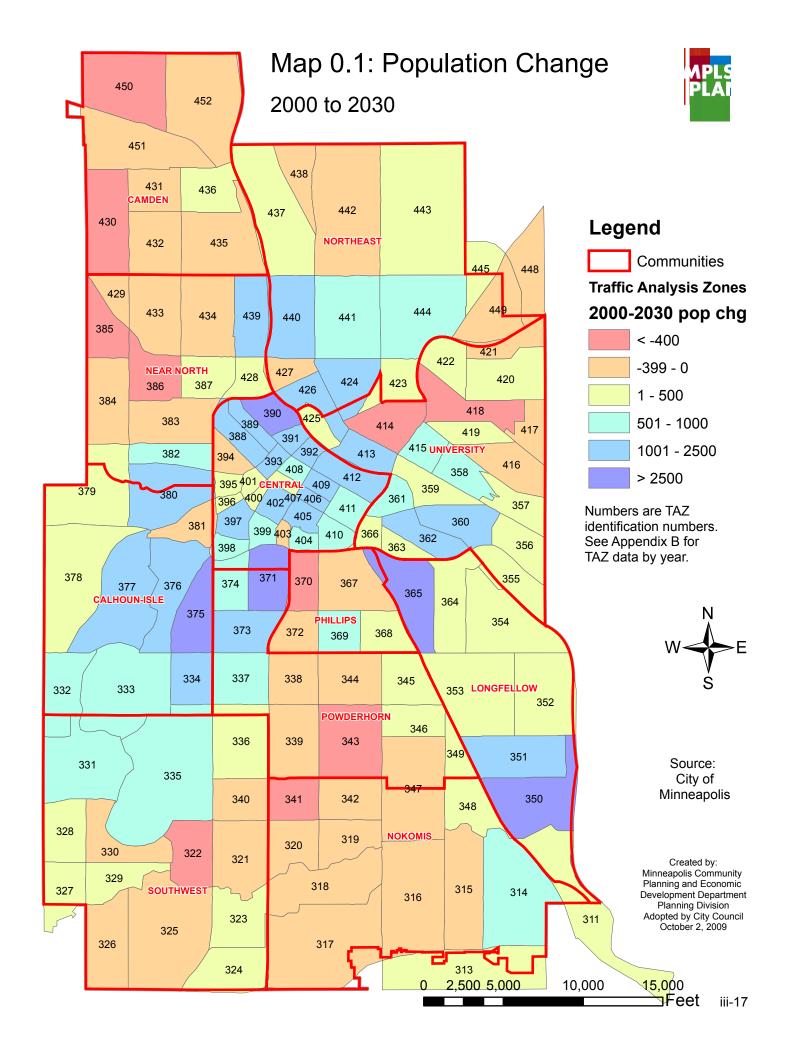
Golf enthusiasts enjoy six courses across the city, while tennis players utilize the city's tennis courts. Young and old swim and frolic at supervised beaches. Sailboats, canoes, kayaks and windsurfers dot the city's lakes in summer while residents can be seen fishing from one of several piers. Other favorite pastimes are biking, jogging, and rollerblading along paths maintained by the Minneapolis Park and Recreation Board. In winter residents ice fish, cross-country ski or play hockey at outdoor ice rinks scattered across the city.

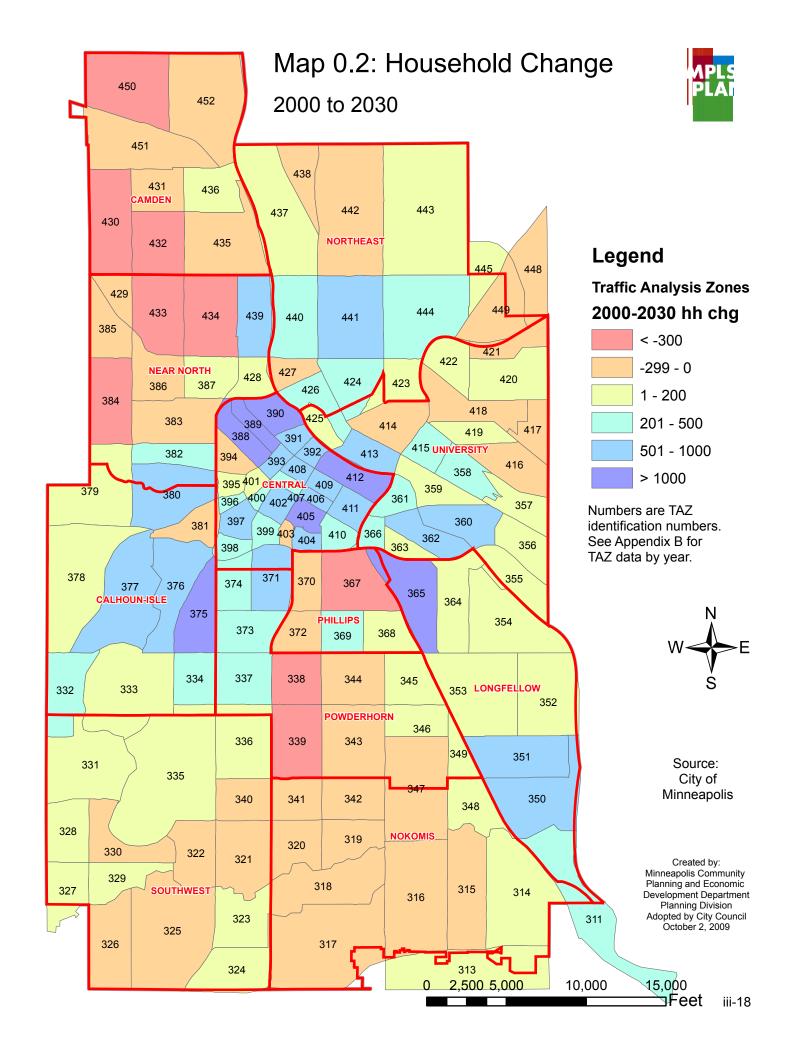


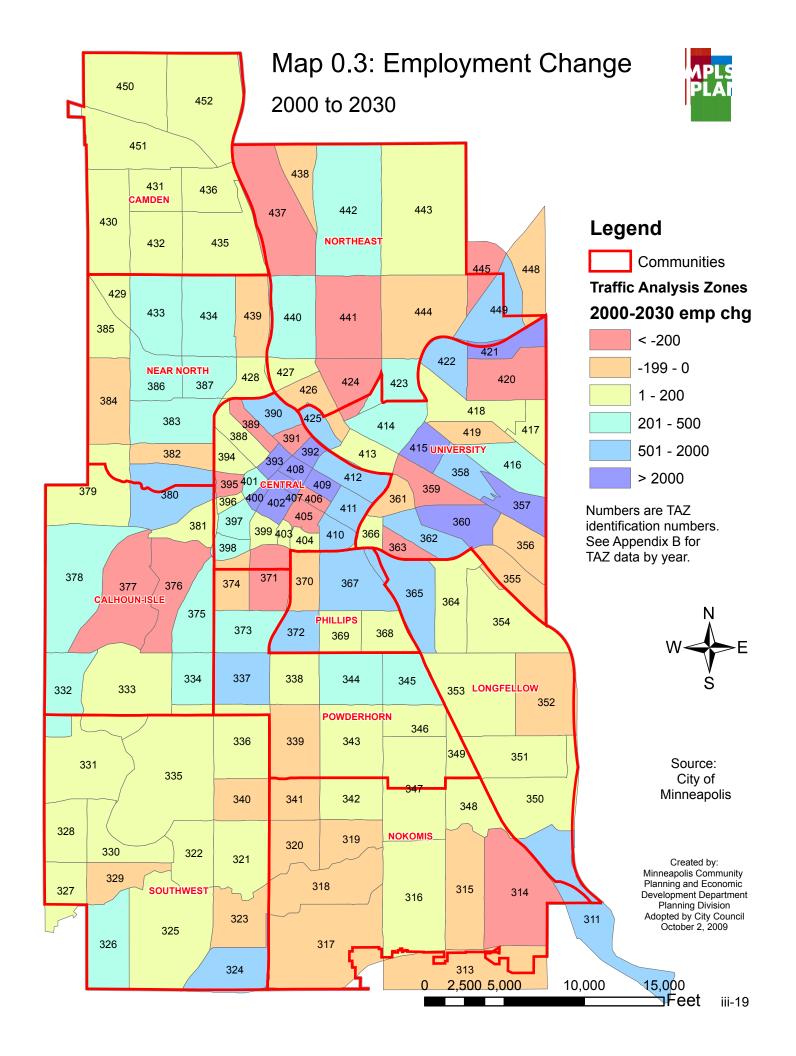


The legacy of the city founders, who secured land around the City's lakes, creeks and the Mississippi River, provides year-round recreational opportunities.

Early in Minneapolis' development, the land around five large lakes, along the Minnehaha Creek and the banks of the Mississippi River was dedicated to the public as parkland. It is estimated that a city park is located no more than six to eight blocks from every home. In 2004, the City adopted an urban forest policy out of recognition that trees provide important ecological and aesthetic functions. The city's green environment enhances the quality of life for residents, and makes it an attractive place for visitors and habitat for urban wildlife.











# Acknowledgements

### Mayor

R.T. Rybak

## **City Council**

Barbara Johnson, President

Paul Ostrow

Cam Gordon

Diane Hofstede

Don Samuels

Robert Lilligren

Lisa Goodman

Elizabeth Glidden

Gary Schiff

Ralph Remington

Scott Benson

Sandra Colvin Roy

Betsy Hodges

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Steven Ristuben, City Clerk

Cora McCorvey, Minneapolis Public Housing Authority, Executive Director

Timothy Dolan, Police Chief

Patrick Todd, City Assessor

Steve Kotke, Public Works Director and City Engineer

Michael Jordan, Civil Rights Director

## **Public Agencies**

Minneapolis Public Schools, Special School District #1 Minneapolis Board of Education Minneapolis Park and Recreation Board and staff Hennepin County Library Hennepin County Library Board Minneapolis Heritage Preservation Commission

Minneapolis Public Housing Authority

Neighborhood Revitalization Program (NRP) staff

Metropolitan Council staff

Minneapolis Arts Commission

# **Members of The Minneapolis Plan Working Groups**

Downtown Task Force
Land Use
Transportation
Housing
Economic Development
Public Services and Facilities
Environment
Open Space and Parks
Heritage Preservation
Arts and Culture

Urban Design

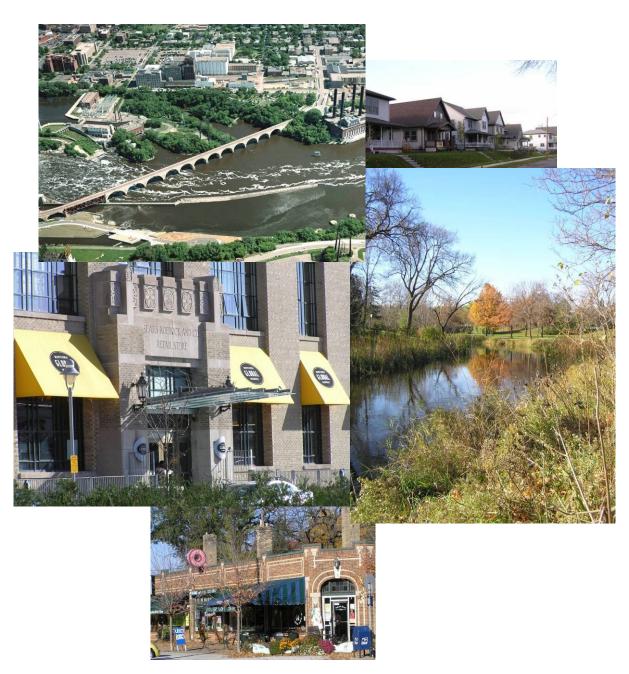


Attendees of The Minneapolis Plan workshops, open houses and citywide meetings: too numerous to list but whose contributions of time, talent and thought form the basis of so much in this plan and so much of our optimism about Minneapolis' future.



# 1. Land Use

Minneapolis will develop and maintain a land use pattern that strengthens the vitality, quality and urban character of its downtown core, commercial corridors, industrial areas, and neighborhoods while protecting natural systems and developing a sustainable pattern for future growth.



Chapter 1: Land Use



Since the City of Minneapolis was founded in the mid-19<sup>th</sup> century, its development patterns have been influenced by its natural systems – creeks, lakes, wetlands, and river. The city was strategically located on the banks of the Mississippi River in order to take advantage of St. Anthony Falls' power generating capability.

Urban growth was patterned along a grid system of streets that spread out from the city center along regular blocks. At first, that grid system was used by horse-drawn carriages, later streetcars, and then motor cars. A park system was started, showcasing the lakes, river, and creeks with tree-lined boulevards. Residential areas developed along the streetcar grid and parkway system. Over time, these residential areas emerged as neighborhoods, each with distinctive character and mix of uses and densities. The city's grid efficiently brought residents from their homes to

Chapter 1: Land Use



Early Minneapolis development spread out along streetcar lines (Lake & 26th, c. 1925)

shopping in neighborhood centers or the downtown core. Later, the grid system was intersected and banded with an interstate highway system. The increased mobility offered additional location choices to residents and businesses. Some streets retained their character as commercial corridors, while others served residential areas. The addition of a major airport enhanced the delivery of goods and access to national and international markets.

While the city's downtown remained the center for business and commerce in the Upper Midwest region, some neighborhoods were stressed by declines in residential population and community-based retail. Most recently, light rail has created redevelopment opportunities in areas once predominantly industrial. Working in partnership with the private and nonprofit sectors and other units of government, the City works to meet the challenges and opportunities of change.

This pattern of land uses and development combined with characteristics of buildings, neighborhoods and public spaces constitutes traditional urban form, the physical attributes of an urban city. Traditional urban form is the overarching policy that will drive the design of new developments, streets and public realm in the City of Minneapolis. Acknowledgement of traditional urban form is a driving force for creation of a new land use designation in the city: urban neighborhood.

This chapter provides policy guidance for land use decisions in the city, including the location, intensity, and mix of uses, and managing the interactions between them. It describes land use designations present in the City of Minneapolis with policies related to protecting, maintaining, revitalizing or developing the city's residential,



commercial, industrial, transit station areas and employment centers. These policies guide the development and interpretation of City land use regulations.

The chapter is divided into three main sections:

- General land use policy describes land use categories identified on the maps and policies that apply to all development, with specific guidance for commercial and residential areas.
- Land use mapping contains existing and future land use maps, with supporting narrative which demonstrates how and where the city will accommodate future growth and density.
- Land use features describes and provides policy guidance for identified land use features where the city is focusing its future growth.

# General Land Use Policy

Cities regulate land use so that they can accommodate new growth and respond to change while maintaining aspects of the community that are valued by its residents, workers and businesses. General land use policies are a balancing act: encouraging quality new development while moderating impacts on existing areas.

The City uses land use features – including nodes, corridors, and centers – to direct the location and intensity of various land uses. These are mentioned throughout this chapter, and described in detail in the Land Use Features section.

Policy 1.1: Establish land use regulations to achieve the highest possible development standards, enhance the environment, protect public health, support a vital mix of land uses, and promote flexible approaches to carry out the comprehensive plan.

- 1.1.1 Ensure that the <u>City's zoning code</u> is consistent with The Minneapolis Plan and provides clear, understandable guidance that can readily be administered.
- 1.1.2 Further integrate visual quality and design considerations into review of capital improvement projects.
- 1.1.3 Encourage the use of flexible regulatory options that promote high quality development, such as the Planned Unit Development (PUD) tool.
- 1.1.4 Support context-sensitive regulations for development and land use, such as overlay districts, in order to promote additional land use objectives.
- 1.1.5 Ensure that land use regulations continue to promote development that is compatible with nearby properties, neighborhood character, and natural features; minimizes pedestrian and vehicular conflict; promotes street life and



- activity; reinforces public spaces; and visually enhances development.
- 1.1.6 Develop small area plans for designated land use features, particularly Activity Centers, Growth Centers, and Major Retail Centers, in consultation with neighborhood associations, residents, and other stakeholders.
- 1.1.7 Invest in targeted place-making strategies to build upon and enhance existing community assets and encourage private sector development.

# Policy 1.2: Ensure appropriate transitions between uses with different size, scale, and intensity.

- 1.2.1 Promote quality design in new development, as well as building orientation, scale, massing, buffering, and setbacks that are appropriate with the context of the surrounding area.
- 1.2.2 Ensure that lighting and signage associated with non-residential uses do not create negative impacts for residential properties.



The character and quality of residential areas are aspects of traditional urban form. Protecting this character and quality enhances community livability.

1.2.3 Lessen the negative impacts of non-residential uses on residential areas through controls on noise, odors, and hours open to the public.

# Policy 1.3: Ensure that development plans incorporate appropriate transportation access and facilities, particularly for bicycle, pedestrian, and transit.

- 1.3.1 Require safe, convenient, and direct pedestrian connections between principal building entrances and the public right-of-way in all new development and, where practical, in conjunction with renovation and expansion of existing buildings.
- 1.3.2 Ensure the provision of high quality transit, bicycle, and pedestrian access to and within designated land use features.

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1.3.3 Encourage above-ground structured parking facilities to incorporate development that provides active uses on the ground floor.



#### General Commercial

The city's population supports a broad range of commercial areas that in recent years have been affected by major demographic and market shifts. Shifts in income, household composition, and buying preferences, as well as significant immigration, have impacted the city's population, while market fluctuations and increasing competition have shaped the business climate. Commercial areas in the city have

responded to these dynamics and continue to provide a unique and accessible shopping experience for residents, employees and visitors.

City policy strongly supports traditional urban form and scale in commercial development. It also acknowledges that some commercial areas do not fit the traditional pattern.



Commercial storefronts on West Broadway Avenue show traditional urban form and how it has adapted to modern uses.

While much progress has been made in developing viable business models for use in traditional urban areas, the City will need to balance a variety of considerations when deciding the best approach to integrating unique uses into the urban fabric.

In order to strengthen commercial districts and to minimize negative impacts, the City supports directing new commercial activity and redevelopment to designated land use features while allowing flexibility for market conditions and economic feasibility of proposed projects.

# Policy 1.4: Develop and maintain strong and successful commercial and mixed use areas with a wide range of character and functions to serve the needs of current and future users.

- 1.4.1 Support a variety of commercial districts and corridors of varying size, intensity of development, mix of uses, and market served.
- 1.4.2 Promote standards that help make commercial districts and corridors desirable, viable, and distinctly urban, including: diversity of activity, safety for pedestrians, access to desirable goods and amenities, attractive streetscape elements, density and variety of uses to encourage walking, and architectural elements to add interest at the pedestrian level.
- 1.4.3 Continue to implement land use controls applicable to all uses and structures located in commercial districts and corridors, including but not limited to maximum occupancy standards, hours open to the public, truck parking,



provisions for increasing the maximum height of structures, lot dimension requirements, density bonuses, yard requirements, and enclosed building requirements.

1.4.4 Continue to encourage principles of traditional urban design including site layout that screens off-street parking and loading, buildings that reinforce the street wall, principal entrances that face the public sidewalks, and windows that provide "eyes on the street".

# Policy 1.5: Promote growth and encourage overall city vitality by directing new commercial and mixed use development to designated corridors and districts.

- 1.5.1 Support an appropriate mix of uses within a district or corridor with attention to surrounding uses, community needs and preferences, and availability of public facilities.
- 1.5.2 Facilitate the redevelopment of underutilized commercial areas by evaluating possible land use changes against potential impacts on the surrounding neighborhood.



Commercial corridors are appropriate locations for mixed use development, such as this building on Central Avenue.

1.5.3 Promote the preservation of traditional commercial storefronts wherever feasible.

Policy 1.6: Recognize that market conditions and neighborhood traditions significantly influence the viability of businesses in areas of the city not designated as commercial corridors and districts.

1.6.1 Allow for retention of existing commercial uses and zoning districts in designated Urban Neighborhood areas, to the extent



Auto-oriented uses may be sited along commercial corridors, such this one on East Lake Street.

they are consistent with other city goals and do not adversely impact



surrounding areas.

1.6.2 In parts of the city outside of designated corridors, nodes, and centers, limit territorial expansions of commercial uses and districts.

# Policy 1.7: Limit new and expanded auto-oriented uses in the city so impacts on the form and character of commercial areas and neighborhoods can be minimized.

- 1.7.1 Discourage new and expanded high traffic, auto-oriented uses in neighborhood commercial nodes.
- 1.7.2 Direct auto-oriented uses to locations on Commercial Corridors that are not at the intersection of two designated corridors, where more traditional urban form would be appropriate.
- 1.7.3 Auto-oriented uses should be designed with aspects of traditional urban form, to minimize the impact on the pedestrian realm.

#### **General Residential and Other Uses**

The many residential neighborhoods of Minneapolis – with their access to many urban amenities and tree-lined streets, sidewalks, and front yards that contribute to traditional urban form – are an attractive and valuable community asset. Like the rest of the city, these residential areas must sometimes change to accommodate shifts in market demand and increases in population. Change may include not only new residential development, but various public and semi-public uses that support this development. These policies intend to guide the balancing of two values: maintaining the character of these residential areas while allowing for their growth and change.

# Policy 1.8: Preserve the stability and diversity of the city's neighborhoods while allowing for increased density in order to attract and retain long-term residents and businesses.

- 1.8.1 Promote a range of housing types and residential densities, with highest density development concentrated in and along appropriate land use features.
- 1.8.2 Advance land use regulations that retain and strengthen neighborhood character, including direction for neighborhood-serving commercial uses,



Many neighborhoods, such as this one in southwest Minneapolis, include a range of residential densities.



open space and parks, and campus and institutional uses.

1.8.3 Direct uses that serve as neighborhood focal points, such as libraries, schools, and cultural institutions, to designated land use features.

# Land Use Maps

This section displays the existing and future land use maps for the City and describes their features. These maps are graphic depictions of the growth and development in the City of Minneapolis.

Map 1.1, the existing land use map, shows city land use patterns at the parcel level, using 2007 as a frame of reference. The residential density categories shown here are comparable to those used in policy for future land use, as discussed later in this section.

Map 1.2, the future land use map, is the official policy map of The Minneapolis Plan for Sustainable Growth. The intent is to show how the City will provide for a range of housing types and commercial and industrial uses in order to accommodate a diverse range of families and individuals, income groups and businesses. The future land use map also provides guidance for the regulatory structure that implements the plan, including the City's zoning ordinance.

There are seven main categories shown on the future land use map:

- Urban Neighborhood (UN)— Predominantly residential area with a range of densities, with highest densities generally to be concentrated around identified nodes and corridors. May include undesignated nodes and some other small-scale uses, including neighborhood-serving commercial and institutional and semi-public uses (for example, schools, community centers, religious institutions, public safety facilities, etc.) scattered throughout. More intensive non-residential uses may be located in neighborhoods closer to Downtown and around Growth Centers. Not generally intended to accommodate significant new growth, other than replacement of existing buildings with those of similar density.
- General Commercial (CO)— Includes a broad range of commercial uses.
   This designation is reserved for areas that are less suited for mixed use development that includes residential.
- Mixed Use (MU)—Allows for mixed use development, including mixed use with residential. Mixed use may include either a mix of retail, office or residential uses within a building or within a district. There is no requirement that every building be mixed use.
- Public and Institutional (PI)—Accommodates public and semi-public uses,



including museums, hospitals, civic uses, stadiums, airport related uses, and college and university campuses. Note that some smaller uses (including schools, libraries, and emergency services) may be incorporated into Urban Neighborhood, where they are generally allowed.

- Open Space and Parks (OP)—Applies to land or water areas generally free from development. Primarily used for park and recreation purposes, natural resource conservation, or historic or scenic purposes. This designation does not capture privately-owned and operated open spaces and plazas, such as Crystal Court in the IDS Center.
- Industrial (IN)—Includes areas suited for industrial development and limited supporting commercial uses. Generally found within Industrial Employment Districts, with a high level of policy protection and an emphasis on job retention and creation. Industrial uses have primacy over other uses.
- Transitional Industrial (TI)—Industrial areas located outside of Industrial Employment Districts will be labeled "transitional" since they may eventually evolve to other uses compatible with surrounding development. Although they may remain industrial for some time, they will not have the same level of policy protection as areas within industrial districts.

Transportation, communication, and utility uses include roads, rail lines, communications towers, energy production, and similar facilities. While these are important to the city, they are not specified on the map. Most are generally allowed in a range of districts, and specific regulations govern their location and appearance.

In addition to this general future land use map, the comprehensive plan incorporates by reference land use recommendations from a number of small area plans that cover various sub-sectors of the city. These plans should be consulted for applicable areas when making development decisions, as they provide more detailed guidance. Additional information, including a summary of recent small area plans, is provided in Appendix B.

While the future land use map does not have residential density categories, guidance for these is included in the policies for land use features (below). The existing land use map does show how these densities are currently distributed throughout the city. The densities specified below are not meant to be precise, but rather to provide guidance to the appropriate range for each category.

- Low-density residential Primarily single family and two family residential, with less than 20 dwelling units/acre
- Medium-density residential Primarily smaller scale multi-family residential, with 20-50 units/acre



- High-density residential Primarily higher intensity multi-family housing, with 50-120 units/acre
- Very-high density residential Primarily very high intensity multi-family, with more than 120 units/acre

The future land use map also includes land use features that guide and direct future growth and density. These are described below.

In Appendix B, there are maps and tables which further illustrate the plan for future land use and where density and growth will be accommodated throughout the city. While these are not intended to specifically guide parcel-level land use decisions, they demonstrate that the city is able to accommodate planned development consistent with stated goals and policies. The chart below shows the general relationship between the land use features and the density levels. Actual densities within these features may vary depending on a variety of conditions, including site size and orientation, surrounding neighborhood character, unit mix, and other factors.

Land Use Feature	Description	Density Range (est.)
Urban neighborhood	Predominantly residential area with a range of densities. May include other small-scale uses, including neighborhood-serving commercial, and institutional and semi-public uses (for example, schools, community centers, religious institutions, public safety facilities, etc.) scattered throughout. More intensive non-residential uses may be located in neighborhoods closer to Downtown and around Growth Centers.	Varies, but predominantly low density (8-20 du/acre); not intended to accommodate significant new growth or density
Community corridor	Primarily residential with intermittent commercial uses clustered at intersections in nodes. Commercial uses, generally small-scale retail sales and services, serving the immediate	Medium density (20-50 du/acre), transitioning to low density in surrounding areas



	neighborhood	
Neighborhood commercial node	Generally provide retail or service uses on at least three corners of an intersection. Serve the surrounding neighborhood, with a limited number of businesses serving a larger area. Mix of uses occurs within and among structures	High density (50-120 du/acre), transitioning down to medium density in surrounding areas
Commercial corridor	Historically have been prominent destinations. Mix of uses, with commercial uses dominating	High density (50-120 du/acre), transitioning down to medium density in surrounding areas
Activity centers and growth centers	Mix of uses with citywide and regional draw. High intensity of uses, including employment, commercial, office, and residential uses.	High density (50-120 du/acre) and very high density (120-200 du/acre), dependent on context
General commercial	Includes a broad range of commercial uses. This designation is reserved for areas that are less suited for mixed use development that includes residential. Typically located within other land use features.	Residential generally not appropriate for these areas.
Public and institutional	Accommodates public and semi-public uses, including museums, hospitals, civic uses, stadiums, airport related uses, and college and university campuses. Note that some smaller uses (including schools,	Residential generally not appropriate for these areas.



	libraries, and emergency services) may be incorporated into Urban Neighborhood, where they are generally allowed.	
Open space and parks	Applies to land or water areas generally free from development. Primarily used for park and recreation purposes, natural resource conservation, or historic or scenic purposes. This does not capture privately-owned and operated open spaces and plazas.	Residential generally not appropriate for these areas.
Industrial/transitional industrial	Includes areas suited for industrial development and limited supporting commercial uses. Transitional industrial districts may transfer to another use over time, while industrial districts are preserved for industrial use.	Residential generally not appropriate for these areas.

## Land Use Features

The City designates a series of land use features that indicate where certain types and intensities of development are most appropriate. Each type of land use feature is described below, along with designation criteria and policy guidance. A list of all designated features is found later in the chapter. The land use features are also shown on Map 1.3.

# **Community Corridors**

In Minneapolis, streetcar routes and the traditional urban corridors they created serve as principal travel routes. The rhythm of development in community corridors contributes to the dynamic nature of city living and is a source of pride and identity



for residents and workers. Many of these streets are designated here as Community Corridors because they serve distinct residential neighborhoods and contain limited

commercial and mixed uses.

Community Corridors support new residential development from low- to high-density in specified areas, as well as increased housing diversity in neighborhoods.

Community Corridors support limited commercial uses that are frequently concentrated in Neighborhood Commercial Nodes.



Community corridors, such as Hennepin Avenue, accommodate a range of housing densities and types.

Proposed commercial uses are evaluated according to their impacts on residential character.

Design and development along Community Corridors is oriented towards the pedestrian experience and residential quality of life. These streets carry moderate volumes of traffic. These streets are important travel routes for both neighborhood residents and through traffic. In many cases, they are part of the Primary Transit Network that provides frequent, high quality transit service citywide.

#### **Criteria for designating Community Corridors**

- Connect more than two neighborhoods
- Generally minor arterials, with some exceptions
- Part of the City's planned Primary Transit Network, with some exceptions
- Carry moderate traffic volumes, and may be principal travel routes for parts of the city
- Primarily residential with intermittent commercial uses clustered at intersections in nodes
- Traditional commercial and residential form and massing
- Commercial uses, generally small-scale retail sales and services, serving the immediate neighborhood



# Policy 1.9: Through attention to the mix and intensity of land uses and transit service, the City will support development along Community Corridors that enhances residential livability and pedestrian access.

- 1.9.1 Support the continued presence of existing small-scale retail sales and commercial services along Community Corridors.
- 1.9.2 Support new small-scale retail sales and services, commercial services, and mixed uses where Community Corridors intersect with Neighborhood Commercial Nodes.
- 1.9.3 Discourage uses that diminish the transit and pedestrian oriented character of Community Corridors, such as automobile services and drive-through facilities.
- 1.9.4 Discourage the conversion of existing residential uses to commercial uses outside of Neighborhood Commercial Nodes.
- 1.9.5 Encourage the development of low- to medium-density housing on Community Corridors to serve as a transition to surrounding low-density residential areas.
- 1.9.6 Promote more intensive residential development along Community Corridors near intersections with Neighborhood Commercial Nodes and other locations where it is compatible with existing character.

#### **Commercial Corridors**

Traditional Commercial Corridors in the city serve as boundaries connecting a number of neighborhoods and serve as focal points for activity. Development and revitalization of these corridors helps to strengthen surrounding urban neighborhoods.

Commercial Corridors can accommodate intensive commercial uses and high levels of traffic. The corridors support all types of commercial uses, with some light industrial and high density residential uses as well.

While the character of these streets is mainly commercial, residential areas are nearby and impacts from commercial uses must be mitigated as appropriate. Additionally, the City encourages new

# Criteria for designating Commercial Corridors

- Historically have been prominent destinations in the City
- High traffic volumes
- Mix of uses, with commercial uses dominating
- Residential uses tend to be medium- to high-density



medium- to high-density residential development along Commercial Corridors, particularly as part of mixed use development. These corridors frequently carry large traffic volumes and must balance significant vehicular through-traffic capacity with automobile and pedestrian access to commercial property.

Policy 1.10: Support development along Commercial Corridors that enhances the street's character, fosters pedestrian movement, expands the range of goods and services available, and improves the ability to accommodate automobile traffic.

- 1.10.1 Support a mix of uses such as retail sales, office, institutional, high-density residential and clean low-impact light industrial where compatible with the existing and desired character.
- 1.10.2 Encourage commercial development, including active uses on the ground floor, where Commercial Corridors intersect with other designated corridors.



Redevelopment along Washington Avenue, a downtown commercial corridor, emphasizes active uses on the ground floor and traditional urban form for buildings.

- 1.10.3 Discourage uses that diminish the transit and pedestrian character of Commercial Corridors, such as some automobile services and drive-through facilities, where Commercial Corridors intersect other designated corridors.
- 1.10.4 Encourage a height of at least two stories for new buildings along Commercial Corridors, in keeping with neighborhood character.
- 1.10.5 Encourage the development of high-density housing on Commercial Corridors.
- 1.10.6 Encourage the development of medium-density housing on properties adjacent to properties on Commercial Corridors.

### **Neighborhood Commercial Nodes**

Minneapolis' Neighborhood Commercial Nodes are typically comprised of a handful of small- and medium-sized businesses focused around one intersection. These nodes primarily serve the needs of the immediate surrounding area, although they may also contain specialty stores that serve a regional client base. Neighborhood business prosperity varies throughout the city and is affected by a variety of factors, including the buying power in the surrounding locality and competition from other



commercial areas.

### **Criteria for designating Neighborhood Commercial Nodes**

- Generally provide retail or service uses on at least three corners of an intersection
- Oriented to pedestrian traffic, with few automobile-oriented uses
- Generally serve the needs of the surrounding neighborhood, with a limited number of businesses serving a larger area
- Generally located at the intersections of community corridors
- Commercial uses are typically focused close to a single intersection, though may be more dispersed
- Generally have a historical commercial function and form
- Mix of uses occurs within and among structures

The character of Neighborhood Commercial Nodes is defined by the limited scale of businesses operating in these locations. Related to the city's historical growth pattern, these nodes generally consist of traditional commercial storefront buildings. They maintain a building typology and pedestrian orientation that is appropriate for the surrounding residential neighborhoods.

# Policy 1.11: Preserve and enhance a system of Neighborhood Commercial Nodes that includes a mix of housing, neighborhood-serving retail, and community uses.

- 1.11.1 Discourage the commercial territorial expansion of Neighborhood Commercial Nodes, except to adjacent corners of the node's main intersection.
- 1.11.2 Support the continued presence of small-scale, neighborhood-serving retail and commercial services in Neighborhood



13th & University NE neighborhood commercial node shows a cluster of small-scale commercial uses around an intersection



Commercial Nodes.

- 1.11.3 Discourage new or expanded uses that diminish the transit and pedestrian character of Neighborhood Commercial Nodes, such as some automobile services and drive-through facilities.
- 1.11.4 Encourage a height of at least two stories for new buildings in Neighborhood Commercial Nodes, in keeping with neighborhood character.
- 1.11.5 Encourage the development of medium- to high-density housing where appropriate within the boundaries of Neighborhood Commercial Nodes, preferably in mixed use buildings with commercial uses on the ground floor.
- 1.11.6 Encourage the development of medium-density housing immediately adjacent to Neighborhood Commercial Nodes to serve as a transition to surrounding low-density residential areas.
- 1.11.7 Encourage the redevelopment of vacant commercial buildings and direct City services to these areas.

### **Activity Centers**

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As the result of the city's historical development pattern, certain districts have functioned as hubs of activity and movement for decades. Other areas are experiencing a renaissance of business and development interest as unique destinations. Activity Centers are the places that shape Minneapolis' urban identity. They attract residents, workers, and visitors from throughout the city and region.

Activity Centers support a wide range of commercial, office, and residential uses. They typically have a busy street life with activity throughout the day and into the evening. They are heavily oriented towards pedestrians, and maintain a traditional urban form and scale. Activity Centers are also well-served by transit.

An important consideration is the balance between the benefits Activity Centers bring to the city as a whole and the need to mitigate undesirable impacts ranging from overflow parking and traffic impacts on neighborhood streets to a need for increased city services such as trash removal or street cleaning.



### **Criteria for designating Activity Centers**

- Diversity of uses with a city-wide and regional draw
- Do not typically support automobile uses.
- Complemented by medium- and high-density residential uses
- Accommodate retail and commercial services, entertainment uses, educational campuses, or other large-scale cultural or public facilities
- Traditional urban form regarding building siting and massing
- Significant pedestrian and transit orientation
- Uses that are active all day long and into the evening
- Mix of uses occurs within and among structures
- Unique urban character distinguishes them from other commercial areas because
  of the mix and complementary type of uses, as well as the traffic generated

# Policy 1.12: Support Activity Centers by preserving the mix and intensity of land uses and by enhancing the design features that give each center its unique urban character.

- 1.12.1 Encourage a variety of commercial and residential uses that generate activity all day long and into the evening.
- 1.12.2 Encourage mixed use buildings, with commercial uses located on the ground floor and secure entrances for residential uses.



Activity Centers, such as Uptown, have a mix of uses that encourage pedestrian activity.

- 1.12.3 Encourage active uses on the ground floor of buildings in Activity Centers.
- 1.12.4 Discourage uses that diminish the transit and pedestrian character of Activity Centers, such as automobile services, surface parking lots, and drive-through facilities.

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- 1.12.5 Encourage a height of at least two stories for new buildings in Activity Centers, in keeping with neighborhood character.
- 1.12.6 Encourage the development of high- to very-high density housing within the boundaries of Activity Centers.
- 1.12.7 Encourage the development of medium- to high-density housing immediately adjacent to Activity Centers to serve as a transition to surrounding residential areas.
- 1.12.8 Support district parking strategies in Activity Centers, including shared parking facilities with uniform signage, and other strategies.
- 1.12.9 Encourage architectural design, building massing and site plans to create or improve public and semi-public spaces in Activity Centers.
- 1.12.10 Encourage developments to incorporate climate sensitive site and building design practices.

#### **Transit Station Areas**

The Metropolitan Council anticipates 1 million new residents in the metropolitan area by 2030. Planning for improved public transportation is one strategy for accommodating and encouraging that growth. Minneapolis plays a strategic role in improving accessibility and providing alternatives to traffic congestion, as six of the nine regional transitway projects under development originate in Downtown Minneapolis. Transitway developments, as well as improvements to the bus transit system and transit station areas represent significant planning tasks for the city.



2030 transitway system map (Metropolitan Council)

Transit Station Area (TSA) is a land use policy feature arising from regional investment in dedicated, fixed-route transit lines, referred to as "transitways" in the Metropolitan Council's 2030 Transportation Policy Plan (e.g., light rail transit (LRT), commuter rail, and busway). These station areas represent unique opportunities and challenges that require special policy consideration. As such, TSAs call for tools that



maximize potential community development benefits of transit while also strengthening and protecting the surrounding neighborhoods.

The transitway system, and its accompanying TSAs, is a component of the city's and region's Primary Transit Network (PTN). TSAs are generally located on regional transitway corridors, which have faster service with less frequent stops than other PTN routes. Public investment per station is typically fairly high. Local PTN routes, often located along commercial and community corridors, also provide high quality service – but tend to have more frequent stops and therefore less investment per station area.

The following general characteristics should be used to guide policy application and implementation steps in these areas:



Plan for 38th Street Transit Station Area along the Hiawatha LRT shows a mix of uses and higher densities around the station

- TSAs will be the subject of established master plans that identify and/or prioritize areas for change and preservation, with specific goals and objectives for redevelopment, public infrastructure, density and urban design.
- TSAs are located within an approximate ½ mile radius from transit stations, reflecting an understanding that most walking trips to and from transit stations are ten minutes or less in duration. Density, human-scale urban design, and public infrastructure are especially critical in these areas. The actual size of TSAs is influenced by directness of routes, physical barriers, and the potential for those barriers to be lessened or bridged.
- Potential TSA densities and/or redevelopment opportunities are generally highest within ¼ mile of the transit station, but are also dependent upon



factors such as existing neighborhood character, and the availability and cost of land.

- TSA development is designed with the pedestrian, bicyclist, and/or transit user in mind.
- TSA development serves individuals who are more likely to use transit (e.g., residents of higher density housing and office and retail workers).
- TSA development includes small-scale retail services that are neighborhood in scale and from which pedestrians, bicyclists, and/or transit riders are likely to benefit (e.g., coffee shop, day care, dry cleaners, small-scale grocery, flower shop).

### **Criteria for designating Transit Station Areas**

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- Area within ½ mile radius of a fixed-route transit station, including light rail, commuter rail, or busway
- The Minneapolis Plan does not delineate the precise geographic extent of these policy areas

# Policy 1.13: Support high density development near transit stations in ways that encourage transit use and contribute to interesting and vibrant places.

- 1.13.1 Encourage pedestrian-oriented services and retail uses as part of higher density development near transit stations.
- 1.13.2 Pursue opportunities to integrate existing and new development with transit stations through joint development.
- 1.13.3 Discourage uses that diminish the transit and pedestrian character of areas around transit stations, such as automobile services, surface parking lots, and drive-through facilities.
- 1.13.4 Encourage architectural design, building massing and site plans to create or improve public and semi-public spaces near the station.
- 1.13.5 Concentrate highest densities and mixed use development adjacent to the transit station and along connecting corridors served by bus.
- 1.13.6 Encourage investment and place making around transit stations through infrastructure changes and the planning and installation of streetscape, public art, and other public amenities.



### **Industrial Employment Districts**

Ensuring that future employment growth can be directed in such a way that it supports a long-term goal of economic prosperity is an important aspect of the City's economic development strategy. As the city grows, its departments and agencies have a responsibility to make sure that it grows intelligently. The Minneapolis Plan calls for industrial districts to continue their employment and economic growth, acting as magnets for new investment.

The City's <u>Industrial Land Use and Employment Policy Plan</u> identifies Industrial Employment Districts with the objective to protect prime industrial space and to provide an opportunity for the City to support targeted industries and business clusters and to redevelop underutilized sites for economic development purposes.

#### Criteria for designating Industrial Employment Districts

- Protected areas intended for industrial growth and expansion without residential uses in their boundaries
- Designated in the Industrial Land Use and Employment Policy Plan

# Policy 1.14: Maintain Industrial Employment Districts to provide appropriate locations for industrial land uses.

- 1.14.1 Develop regulations for the Industrial Employment Districts that promote compatible industrial development and the efficient use of land.
- 1.14.2 Allow industrial uses outside of Industrial Employment Districts to transition over time to other uses.
- 1.14.3 Restrict the development and expansion of non-industrial uses within



SEMI industrial employment district provides an opportunity for industrial growth within the city

designated Industrial Employment Districts, limiting non-industrial uses to the types of uses and locations designated in the Industrial Land Use and Employment Plan.

1-22



- 1.14.4 Strongly discourage new residential uses in Industrial Employment Districts.
- 1.14.5 Encourage and implement buffering through the site plan review process to mitigate potential conflicts between industrial uses and adjacent other uses.

#### **Growth Centers**

Growth Centers are busy, interesting and attractive places characterized by a concentration of business and employment activity and a wide range of complementary activities taking place throughout the day into the evening. These activities include residential, office, retail, entertainment and recreational uses.

#### **Criteria for designating Growth Centers**

- Contain a significant concentration of employment activity.
- Employment complemented by a wide range of activities, including residential, office, retail, entertainment and recreational uses.

The concentration of employment-generating development in Growth Centers brings a critical mass of private and public sector firms, services, complementary retail and entertainment uses as well as a daily stream of employees to and from each site. Transit service to these centers is among the best in the metropolitan area. As unique job opportunity centers, they attract some of the area's most skilled workers and provide many of the highest paying jobs in the region.



Downtown Minneapolis represents the largest Growth Center in the city and is the heart of the 7-county metropolitan region

There are currently four designated Growth Centers. Each is described briefly below:

Downtown Minneapolis.

This Growth
Center
encompasses the
area within the
Downtown
freeway loop. As
the physical and
economic center of
the city,

Downtown is a logical place for a concentration of employment, housing, and other complementary uses. The employment base is largely office, although retail, education, and health care also play important roles. The land use pattern strengthens the concentrated office core with surrounding entertainment, cultural, and residential development. High intensity uses are



encouraged to make the best use of the premium location and to strengthen the city's core. Chapter 4 Economic Development provides additional guidance regarding commercial development in Downtown, as do several recently adopted small area plans (see Appendix B).

- University of Minnesota. After Downtown, the University area is home to one of the largest concentrations of employment in the city. The University is the state's land grant university and an asset to the city and surrounding metropolitan area. The University is a major presence in the city, with significant land use, economic, transportation, housing and cultural impacts on the city and region. While the University functions as a semi-autonomous body, it is part of an urban fabric that requires working in partnership with the City to weigh and balance diverse issues, interests and priorities. The area around the University includes significant residential densities, in part due to the large student population. However, surrounding neighborhoods, some of the oldest in the city, are concerned about spillover impacts of the University on their residential character. Consideration needs to be given to limiting negative impacts on these areas. In addition to the University itself, the SEMI area is an industrial employment center, with ongoing public investment in infrastructure to encourage additional industrial growth. The intensity of human activity and the scale of development and investment behoove a positive and productive working relationship with the University, the surrounding neighborhoods and business community.
- Bassett Creek Valley. Bassett Creek Valley is a designated Growth Center just outside of Downtown Minneapolis that is anticipated to experience intensive office and residential development. Guided by the approved Bassett Creek Valley Master Plan, and with large tracts of City-owned land that are available for development, the area is proposed to include a large new park along Bassett Creek, a neighborhood retail node at Glenwood Avenue and Van White Memorial Boulevard, and high-rise office and residential development along Interstate 394. Redevelopment priorities include ensuring affordable housing, creating living wage jobs, and promoting good design. The City is partnering with public and private entities to assist in this major redevelopment project.
- Wells Fargo/Hospitals area. This area, located just south of Downtown, is home to several large institutional campuses including Wells Fargo Home Mortgage, Abbott Northwestern Hospital, and Children's Hospital. Although these are not contiguous, together they form a large concentration of employment and a cluster of supporting uses such as various other medical clinics and offices. The surrounding area includes a mix of residential densities, typical of neighborhoods close to the Downtown core. The character and scale of the surrounding area should be factored into any planned expansions of the institutional campuses or other

Chapter 1: Land Use



complementary high intensity development.

# Policy 1.15: Support development of Growth Centers as locations for concentration of jobs and housing, and supporting services.

- 1.15.1 Support development of Growth Centers through planning efforts to guide decisions and prioritize investments in these areas.
- 1.15.2 Support the intensification of jobs in Growth Centers through employment-generating development.
- 1.15.3 Encourage the development of high- to very high-density housing within Growth Centers.
- 1.15.4 Promote the integration of major public and private institutional campuses located in Growth Centers, including health care and educational services, with the function and character of surrounding areas.

#### **Major Retail Centers**

As a developed urban center, Minneapolis has relatively few locations that can accommodate commercial centers featuring a variety of small, medium and large sized stores. Typically, the marketing formula for large-scale retail calls for new construction at an extremely low-density, onestory scale. Yet, as described in the Urban Design chapter of this plan, this type of development can be accommodated in an urban setting if it is properly located and designed.



Plans for West Broadway Avenue near Lyndale Avenue reinforce its role as a major retail center.

Major Retail Centers are unique locations that can accommodate large-scale retail uses. These locations are characterized by their immediate and easy connections to regional road networks. Although these sites may be more oriented to the automobile, they can be designed for pedestrians and other modes of transportation to increase their compatibility with urban form and character. In addition, while traditional urban design for new buildings may not always be possible, it should be implemented where feasible. Decisions to locate such large-scale commercial uses in designated Major Retail Centers will be evaluated against their impacts on the



surrounding area and the City's goals for sustainable, people-oriented development.

#### **Criteria for designating Major Retail Centers**

- Large concentration of retail floor space, and have at least one major chain of grocery or household goods retail, with significant public parking.
- Convenient and direct access to a major road or highway, which is directly connected to the regional road network.

# Policy 1.16: Support a limited number of Major Retail Centers, while promoting their compatibility with the surrounding area and their accessibility to transit, bicycle and foot traffic

- 1.16.1 Encourage the development of mixed residential, office, institutional and, where appropriate, small-scale retail sales and services to serve as transitions between Major Retail Centers and neighboring residential areas.
- 1.16.2 Incorporate principles of traditional urban design in new and phased development, including buildings that reinforce the street wall, have windows that provide "eyes on the street", and principal entrances that face the public sidewalks.
- 1.16.3 Encourage and implement buffering to lessen potential conflicts between uses in Major Retail Centers and surrounding areas.
- 1.16.4 Ensure the provision of high quality transit, bicycle and pedestrian access to Major Retail Centers.
- 1.16.5 Support district parking strategies in Major Retail Centers, including shared parking facilities, uniform signage for parking facilities, and other strategies.



Table 1a: Commercial Corridors

Corridor	Designated Area
Cedar Ave S / Minnehaha Ave	Hiawatha Ave to Washington Ave S
Central Ave (northern)	18 <sup>th</sup> Ave NE to 31 <sup>st</sup> Ave NE
Central Ave (southern)	University Ave SE to 7 <sup>th</sup> St NE
Chicago Ave	2 <sup>nd</sup> St S to Franklin Ave E
Excelsior Blvd	32 <sup>nd</sup> St W to Lake St W
Franklin Ave	Nicollet Ave to 30 <sup>th</sup> Ave S
Glenwood Ave N	12 <sup>th</sup> St N to Cedar Lake Rd N
Hennepin Ave	Mississippi River to 31st St W
Hennepin Ave E	Mississippi River to 6 <sup>th</sup> St SE
Lagoon Ave	Dupont Ave S to Humboldt Ave S
Lake St	Mississippi River to Abbott Ave S
Lyndale Ave S	Dunwoody Ave to 31st St W
Nicollet Ave (northern)	Washington Ave to 32 <sup>nd</sup> St W
Nicollet Ave (southern)	58 <sup>th</sup> St to city boundary
Riverside Ave / 4 <sup>th</sup> St S	15 <sup>th</sup> Ave S to Franklin Ave E
University Ave SE	Washington Ave SE to Emerald St
West Broadway Ave	Mississippi River to 26 <sup>th</sup> Ave N
Washington Ave S	Cedar Ave S to 10 <sup>th</sup> Ave N

Table 1b: Community Corridors

Corridor	Designated Area
15 <sup>th</sup> Ave SE / Como Ave SE	University Ave SE to 29 <sup>th</sup> Ave SE
2 <sup>nd</sup> St NE	Lowry Ave NE to Hennepin Ave
34 <sup>th</sup> Ave S	49 <sup>th</sup> St E to Hwy 62
38 <sup>th</sup> St	43 <sup>rd</sup> Ave S to Bryant Ave S
44 <sup>th</sup> Ave N	Webber Pkwy to Osseo Rd
44 <sup>th</sup> St W	City boundary to Upton Ave S
4 <sup>th</sup> St SE	1 <sup>st</sup> Ave NE to 15 <sup>th</sup> Ave SE
50 <sup>th</sup> St W	City boundary to Lyndale Ave S
Bloomington Ave	Franklin Ave to 54 <sup>th</sup> St E
Broadway Ave NE	Mississippi River to I-35W



Bryant Ave S	Lake St to 50 <sup>th</sup> St W
Cedar Ave	Hiawatha Ave to 48 <sup>th</sup> St E
Central Ave NE (northern)	31st Ave NE to city boundary
Central Ave NE (southern)	18 <sup>th</sup> Ave NE to Mississippi River
Chicago Ave	Franklin Ave to 57 <sup>th</sup> St E
Dunwoody Ave	Van White Blvd to Hennepin Ave
Emerson Ave N	33 <sup>rd</sup> Ave N to 7 <sup>th</sup> St N
France Ave S	Glendale Terrace to 54 <sup>th</sup> St W
Franklin Ave	Nicollet Ave to Hennepin Ave
Fremont Ave N	7 <sup>th</sup> St N to 44 <sup>th</sup> Ave N
Glenwood Ave N	Cedar Lake Rd N to Penn Ave N
Hennepin Ave	31st St W to 36th St W
Hennepin Ave E	6 <sup>th</sup> St SE to 29 <sup>th</sup> Ave SE
Johnson St NE	29 <sup>th</sup> Ave NE to I-35W
Lake St W	Abbott Ave S to city boundary
Lowry Ave N	City boundary to Mississippi River
Lowry Ave NE	Mississippi River to Stinson Pkwy
Lyndale Ave N	42 <sup>nd</sup> Ave N to Plymouth Ave N
Lyndale Ave S (northern)	31 <sup>st</sup> St W to 41 <sup>st</sup> St W
Lyndale Ave S (southern)	Minnehaha Creek to city boundary
Marshall St NE	Lowry Ave NE to 8th Ave NE
Minnehaha Ave (northern)	Lake St to Nawadaha Blvd
Minnehaha Ave (southern)	Minnehaha Creek to 54 <sup>th</sup> St E
Nicollet Ave	32 <sup>nd</sup> St W to 58 <sup>th</sup> St
Penn Ave N	44 <sup>th</sup> Ave N to Cedar Lake Rd
Penn Ave S	50 <sup>th</sup> St W to city boundary
Plymouth Ave N	I-94 to Sheridan Ave N
University Ave NE	27 <sup>th</sup> Ave NE to Washington Ave SE
Van White Memorial Blvd	7 <sup>th</sup> St N to Dunwoody Ave
Webber Pkwy	44 <sup>th</sup> Ave N to Lyndale Ave N
West Broadway Ave	26 <sup>th</sup> Ave N to city boundary



Table 1c: Neighborhood Commercial Nodes

16	u.
13 <sup>th</sup> Ave NE & University Ave NE	48 <sup>th</sup> St & Nicollet Ave
22 <sup>nd</sup> Ave NE & Johnson St NE	48 <sup>th</sup> St E & Chicago Ave S
25 <sup>th</sup> St E & Bloomington Ave	50 <sup>th</sup> St E & 34 <sup>th</sup> Ave S
29 <sup>th</sup> Ave NE & Johnson St NE	50 <sup>th</sup> St E & Hiawatha Ave
35 <sup>th</sup> St E & Bloomington Ave	50 <sup>th</sup> St W & Bryant Ave S
36 <sup>th</sup> St W & Bryant Ave S	50 <sup>th</sup> St W & Penn Ave S
36 <sup>th</sup> St W & Lyndale Ave S	50 <sup>th</sup> St W & Xerxes Ave S
37 <sup>th</sup> Ave NE & Central Ave NE	52 <sup>nd</sup> St E & Bloomington Ave
38 <sup>th</sup> St & Nicollet Ave	54 <sup>th</sup> St E & 34 <sup>th</sup> Ave S
38 <sup>th</sup> St E & 4 <sup>th</sup> Ave S	54 <sup>th</sup> St E & 43 <sup>rd</sup> Ave S
38 <sup>th</sup> St E & 23 <sup>rd</sup> Ave S	54 <sup>th</sup> St E & Chicago Ave
38 <sup>th</sup> St E & 28 <sup>th</sup> Ave S	54 <sup>th</sup> St E & Minnehaha Ave
38 <sup>th</sup> St E & 42 <sup>nd</sup> Ave S	54 <sup>th</sup> St W & Lyndale Ave S
38 <sup>th</sup> St E & Bloomington Ave	54 <sup>th</sup> St W & Penn Ave S
38 <sup>th</sup> St E & Cedar Ave S	56 <sup>th</sup> St E & Chicago Ave
38 <sup>th</sup> St E & Chicago Ave S	58 <sup>th</sup> St W & Lyndale Ave S
38 <sup>th</sup> St E & Minnehaha Ave S	60 <sup>th</sup> St E & Nicollet Ave
38 <sup>th</sup> St W & Grand Ave S	60 <sup>th</sup> St E & Portland Ave
40 <sup>th</sup> St W & Lyndale Ave S	60 <sup>th</sup> St W & Penn Ave S
42 <sup>nd</sup> Ave N & Fremont Ave N	Cedar Ave S & Minnehaha Pkwy E
42 <sup>nd</sup> Ave N & Lyndale Ave N (Camden)	Como Ave SE & 16 <sup>th</sup> Ave SE
42 <sup>nd</sup> Ave N & Thomas Ave N	Diamond Lake Rd & Nicollet Ave
42 <sup>nd</sup> St E & 28 <sup>th</sup> Ave S	Glenwood Ave & Van White Blvd
42 <sup>nd</sup> St E & Bloomington Ave	Lowry Ave N & Emerson Ave N
42 <sup>nd</sup> St E & Cedar Ave S	Lowry Ave N & Penn Ave N
43 <sup>rd</sup> St & Nicollet Ave	Lowry Ave NE & Marshall St NE
43 <sup>rd</sup> St W & Sheridan Ave S (Linden Hills)	Lowry Ave NE & University Ave NE
44 <sup>th</sup> Ave N & Penn Ave N	Penn Ave S & Cedar Lake Rd S
44 <sup>th</sup> St W & France Ave S (Morningside)	Plymouth Ave & Penn/Oliver Ave N
45 <sup>th</sup> Ave N & Lyndale Ave N	University Ave SE & Bedford St SE
46 <sup>th</sup> St & Nicollet Ave	W Broadway Ave & Penn Ave N
46 <sup>th</sup> St E & Bloomington Ave S	
46 <sup>th</sup> St W & Bryant Ave S	



Table 1d: Activity Centers

38 <sup>th</sup> Street LRT Station  46 <sup>th</sup> Street LRT Station  50 <sup>th</sup> & France  Cedar Riverside (includes 7 Corners)  Central & Lowry  Chicago & Lake  Dinkytown  East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn–Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown  Warehouse District		
Cedar Riverside (includes 7 Corners)  Central & Lowry  Chicago & Lake  Dinkytown  East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	38 <sup>th</sup> Street LRT Station	
Cedar Riverside (includes 7 Corners)  Central & Lowry  Chicago & Lake  Dinkytown  East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	46 <sup>th</sup> Street LRT Station	
Central & Lowry  Chicago & Lake  Dinkytown  East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	50 <sup>th</sup> & France	
Chicago & Lake  Dinkytown  East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	Cedar Riverside (includes 7 Corners)	
Dinkytown  East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	Central & Lowry	
East Hennepin  Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	Chicago & Lake	
Eat Street (26 <sup>th</sup> St & Nicollet Ave)  Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn–Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	Dinkytown	
Franklin Ave LRT Station  Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	East Hennepin	
Grain Belt Complex (Broadway & Marshall)  Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	Eat Street (26 <sup>th</sup> St & Nicollet Ave)	
Lake Street LRT Station  Lyn-Lake  Mill District  Nicollet & Lake  Stadium Village  Uptown	Franklin Ave LRT Station	
Lyn-Lake Mill District Nicollet & Lake Stadium Village Uptown	Grain Belt Complex (Broadway & Marshall)	
Mill District Nicollet & Lake Stadium Village Uptown	Lake Street LRT Station	
Nicollet & Lake Stadium Village Uptown	Lyn-Lake	
Stadium Village Uptown	Mill District	
Uptown	Nicollet & Lake	
·	Stadium Village	
Warehouse District	Uptown	
	Warehouse District	



Table 1e: Transit Station Areas

Hiawatha LRT
Cedar Riverside
Franklin Avenue
Lake Street/Midtown
■ 38 <sup>th</sup> Street
■ 46 <sup>th</sup> Street
■ 50 <sup>th</sup> Street/Minnehaha Park
VA Medical Center
Central Corridor LRT
West Bank
East Bank
Stadium Village
■ Prospect Park/29 <sup>th</sup> Avenue
Multiple Lines
Target Field
Warehouse District/Hennepin Avenue
Nicollet Mall
Government Plaza
Downtown East/Metrodome

Table 1f: Industrial Employment Districts

Humboldt
Mid-City
North Washington Jobs Park
SEMI
Seward/Hiawatha
Shoreham Yards
Upper River

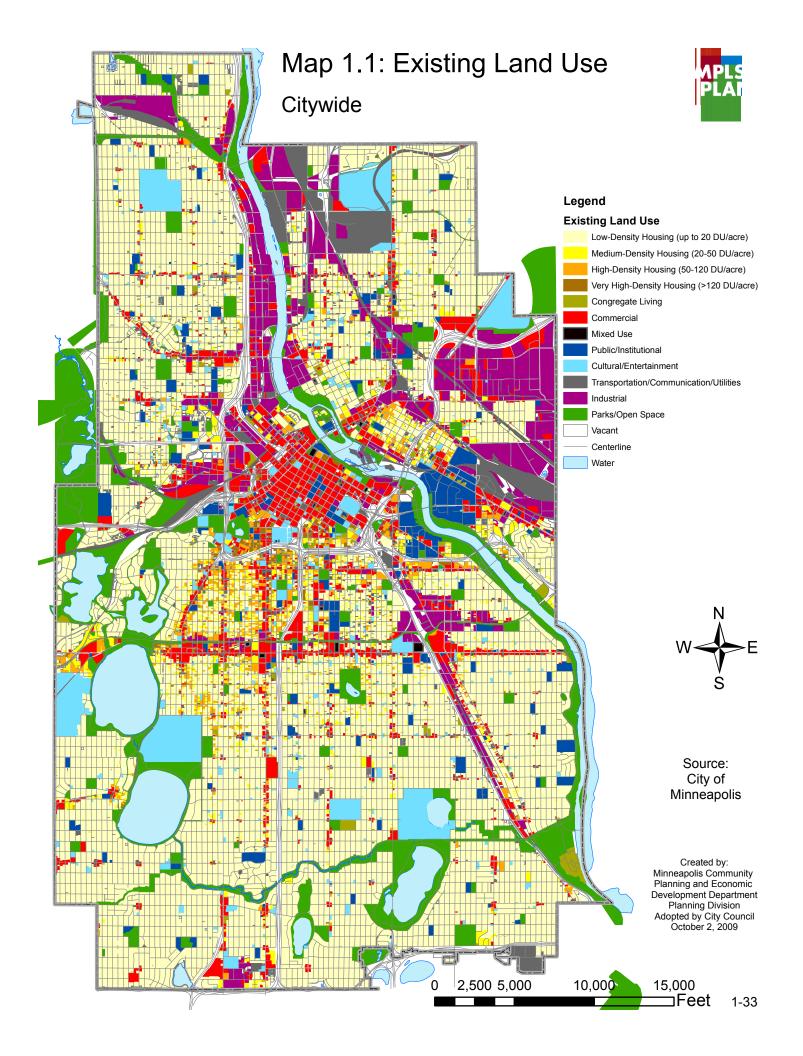


#### Table 1g: Growth Centers

Bassett Creek Valley	
Downtown	
University of Minnesota/SEMI	
Wells Fargo/Hospitals	

Table 1h: Major Retail Centers

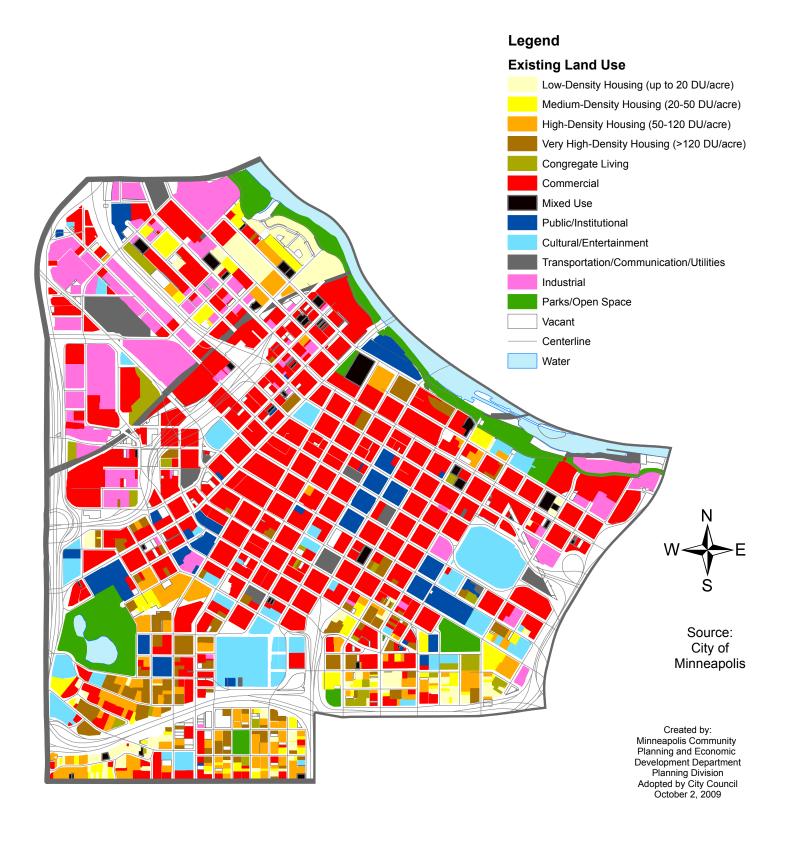
60 <sup>th</sup> & Lyndale
60 <sup>th</sup> & Nicollet
Calhoun & Excelsior
Hiawatha & Lake
Nicollet & Lake
Nicollet Mall
Quarry Center Dr & 35W
West Broadway & Lyndale



### Map 1.1a: Existing Land Use

#### **Downtown Sector**

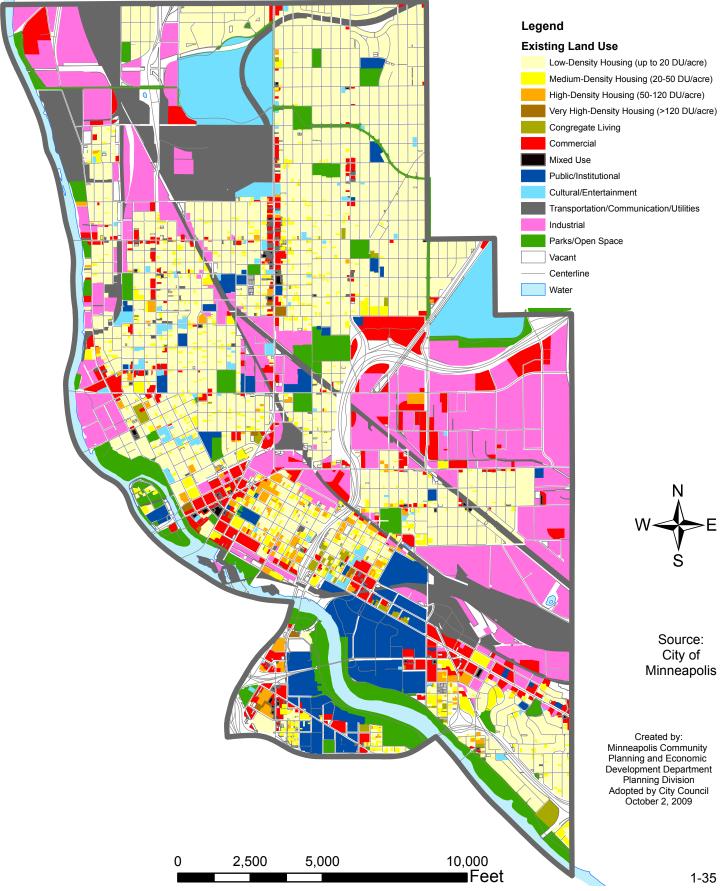




### Map 1.1b: Existing Land Use



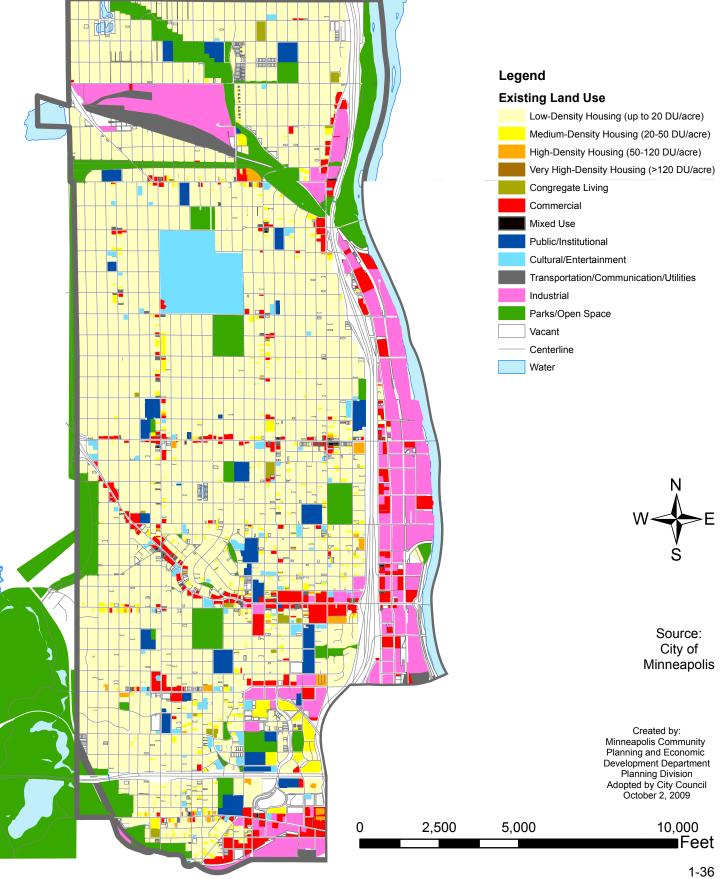




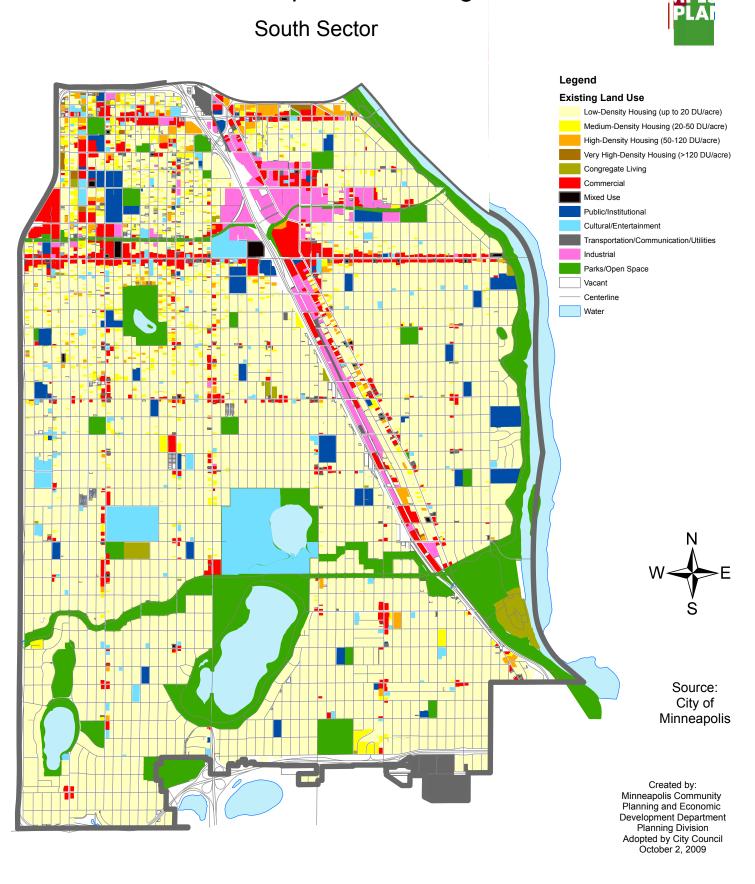
### Map 1.1c: Existing Land Use



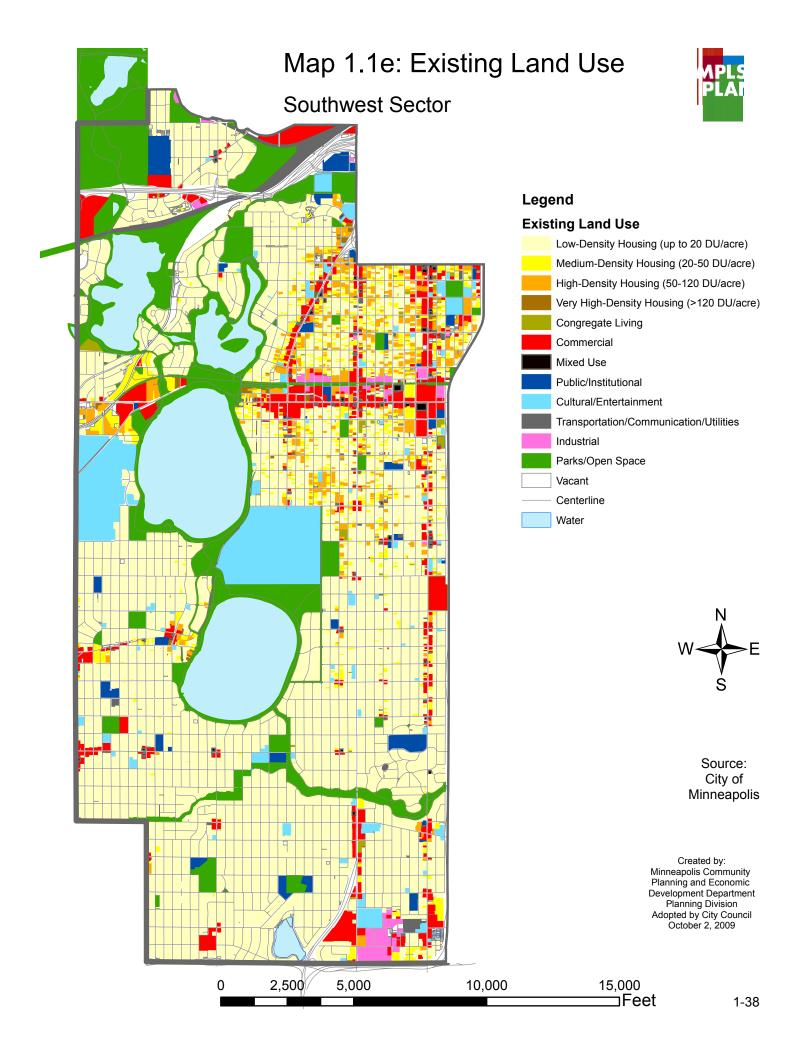
### North Sector

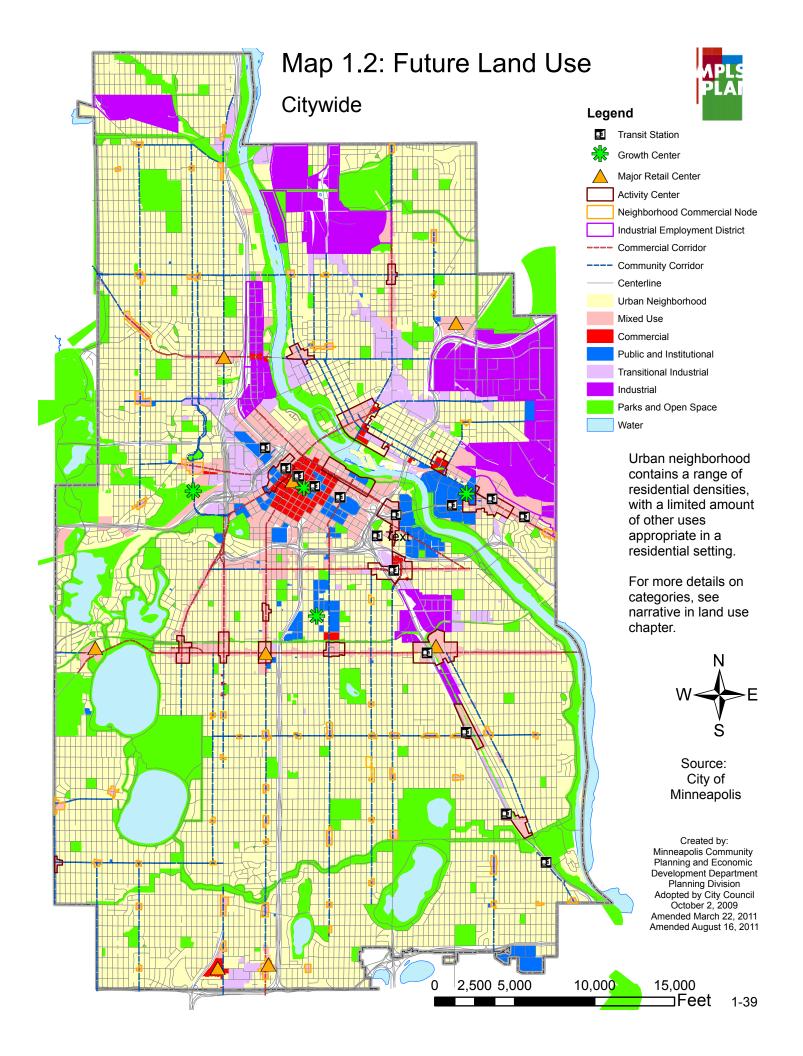


### Map 1.1d: Existing Land Use





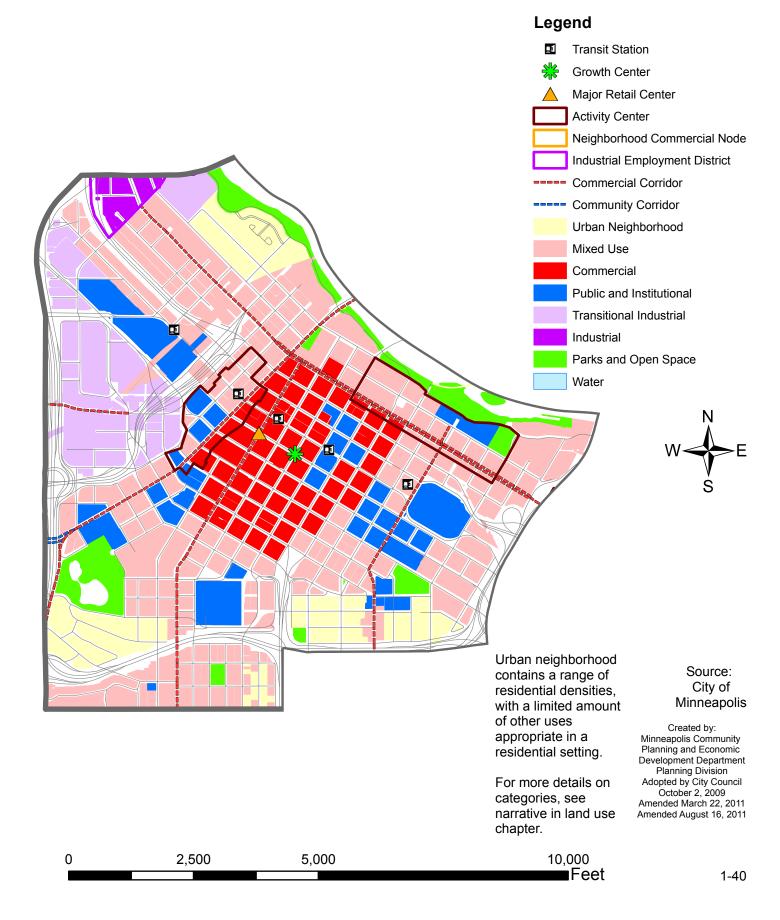




### Map 1.2a: Future Land Use



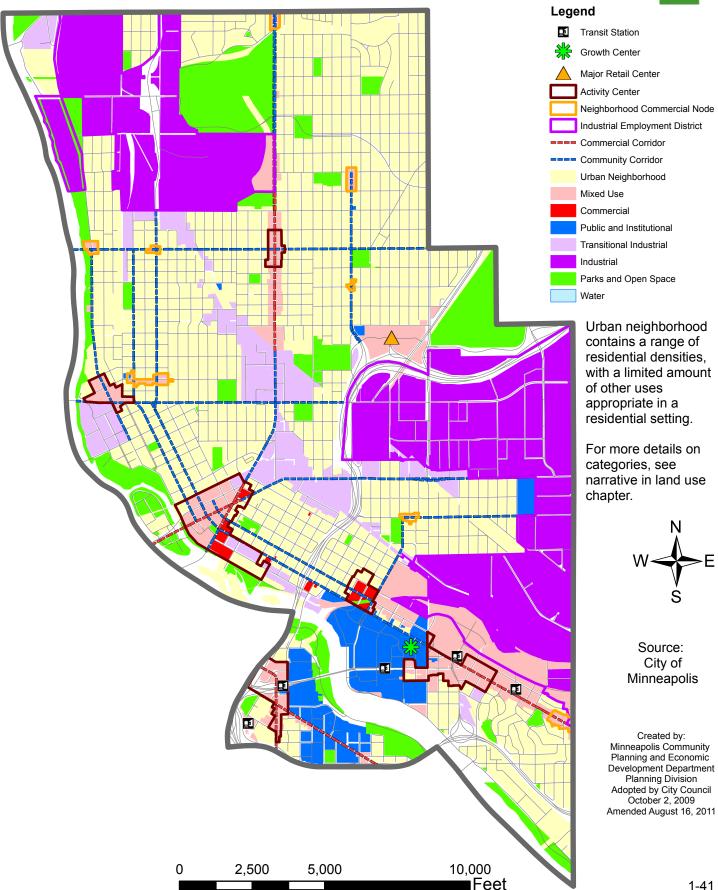




### Map 1.2b: Future Land Use

**East Sector** 

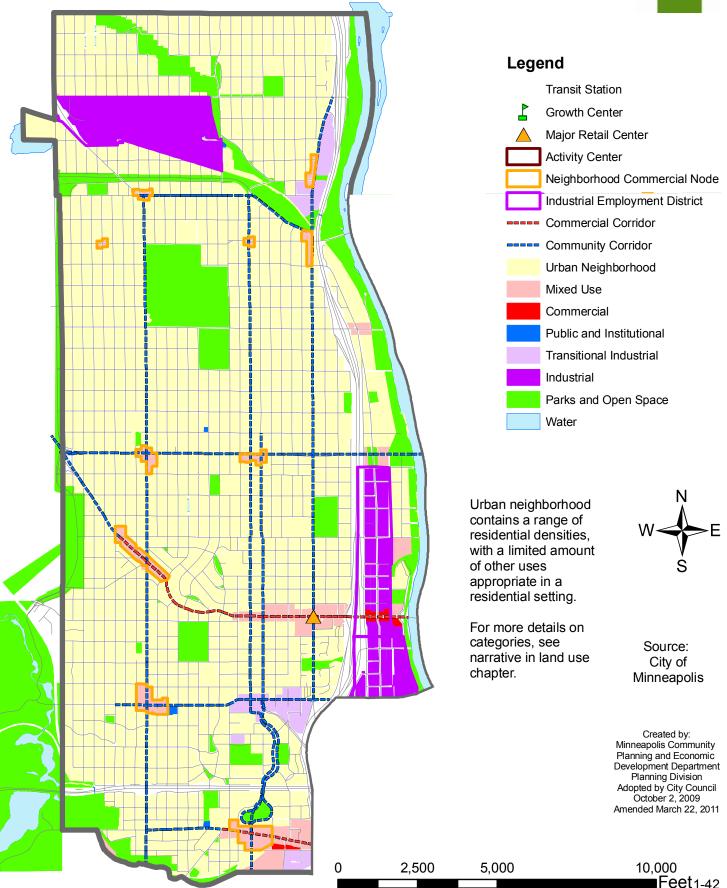




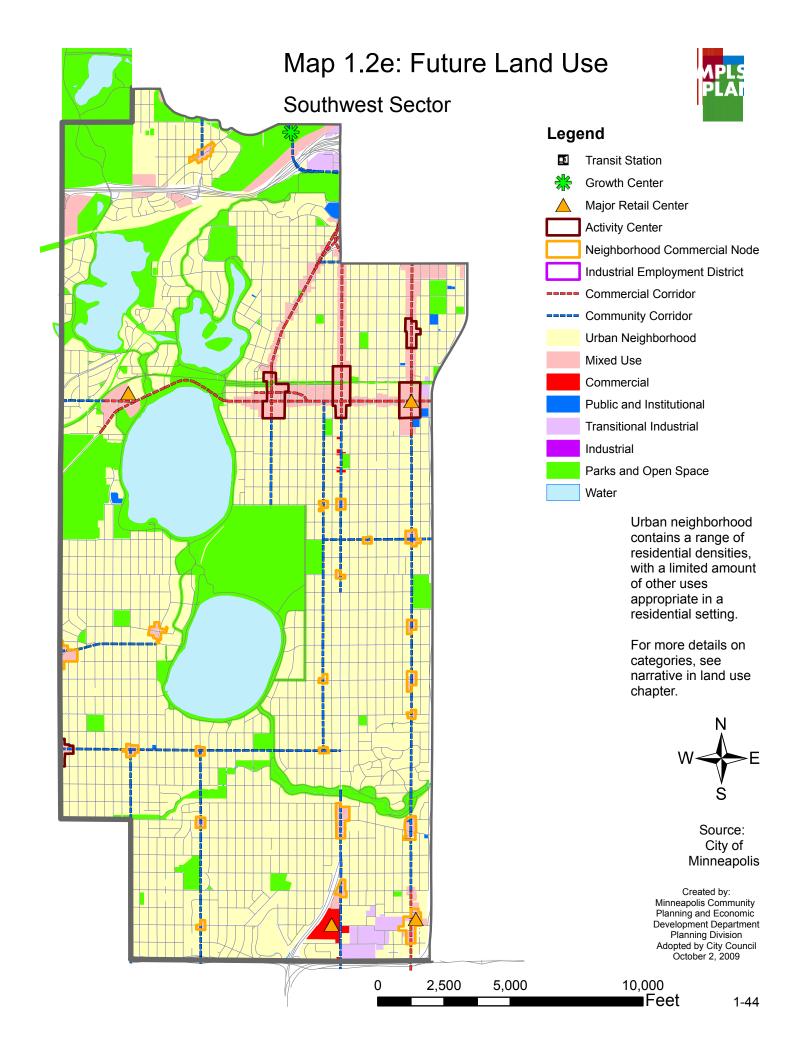
### Map 1.2c: Future Land Use

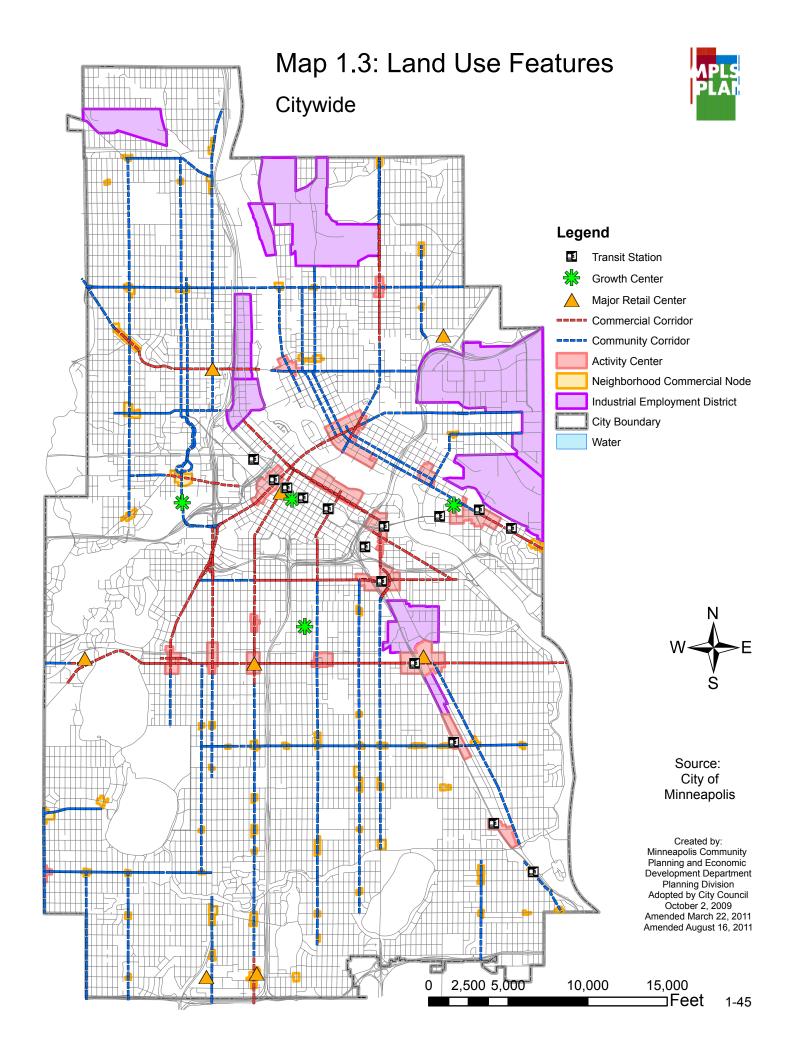


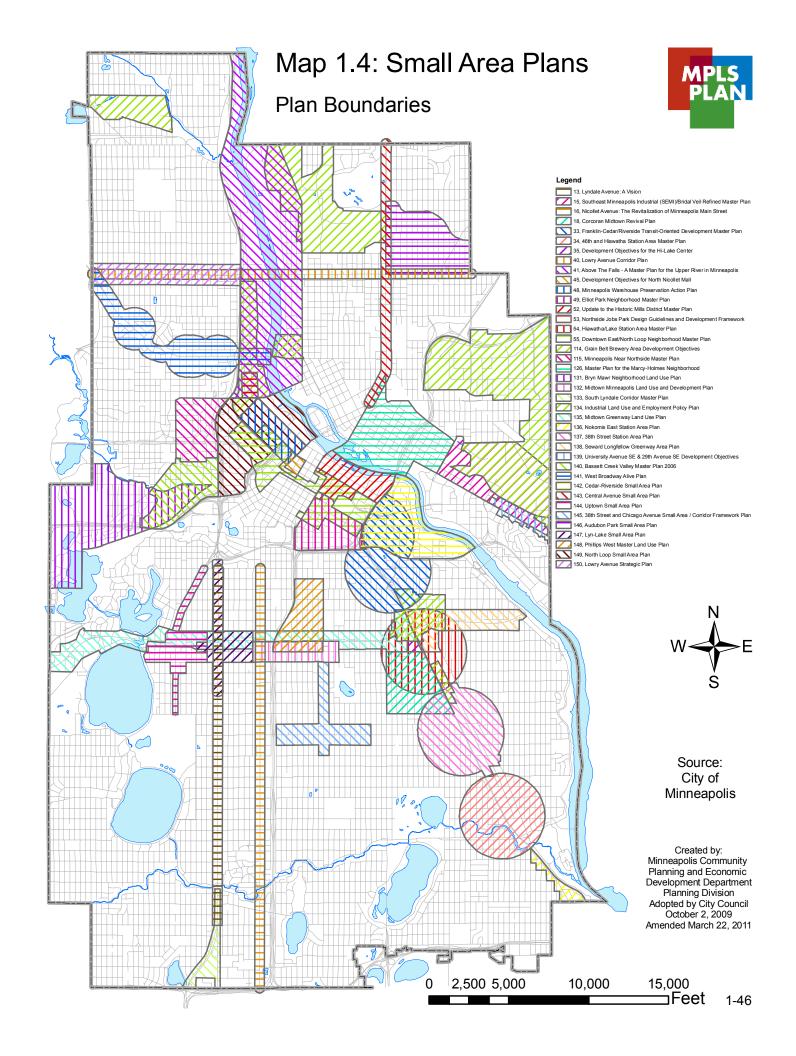














### 2. Transportation

Minneapolis will build, maintain and enhance access to multi-modal transportation options for residents and businesses through a balanced system of transportation modes that supports the City's land use vision, reduces adverse transportation impacts, decreases the overall dependency on automobiles, and reflects the city's pivotal role as the center of the regional transportation network.



#### Building the City Through Multi-modalism

Transportation is vital to the city's social, economic and environmental health. The City recognizes the key role of transportation in meeting the City's sustainability goals for reducing carbon dioxide emissions and improving air quality, and strives to help meet them through this plan. The concept of a multi-modal system is one that integrates a wide range of transportation choices into a functioning, flexible network. The City continues to encourage investment in an interconnected multi-modal transportation system that supports sustainable growth.

Minneapolis seeks to develop transportation strategies that adapt and expand to address emerging needs, opportunities and priorities. The City is in a strategic position to promote access to multi-modal transportation options that serve residents, businesses and recreational services as the city and metropolitan region



gain population.

The principal means to efficiently meet the needs of the traveling public is through enhanced transit services. This requires ongoing investment and development of corridors served by light rail, commuter rail, streetcars, and buses. Key features of an effective system, one that ensures continued growth along major transportation corridors and in Growth Centers like Downtown and the University of Minnesota, are reliability and



People walking, driving, bicycling, and riding transit during rush hour illustrate components of a dynamic multi-modal system.

frequency of service. The City will take measures to support reliable levels of service for all transportation choices, including automobile, mass transit, bicycle, and pedestrian modes. By closely linking transportation planning with land use planning, urban design, and economic development strategies, the City will promote coordinated implementation of a consistent transportation vision.

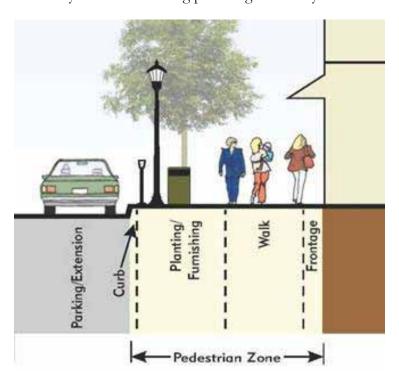
# Policy 2.1: Encourage growth and reinvestment by sustaining the development of a multi-modal transportation system.

- 2.1.1 Continue addressing the needs of all modes of transportation, emphasizing the development of a more effective transit network.
- 2.1.2 Coordinate land use planning and economic development strategies with transportation planning.
- 2.1.3 Ensure continued growth and investment through strategic transportation investments and partnerships.
- 2.1.4 Preserve the existing transportation grid through right-of-way preservation and acquisition.



#### Modal Priorities and Neighborhood Context

Planning for a multi-modal transportation system involves establishing priorities at the system or network level as well as the level of an individual street. Transportation throughout the city occurs within public rights-of-way that accommodate a range of users, including those that drive, ride, bike or walk. Minneapolis' transportation system is largely based upon the traditional street grid, which provides a high degree of connectivity and flexibility. However, modifications to the street grid to accommodate new development and freeway construction have resulted in wider streets, narrower sidewalks, the loss of local street connections, and conversions of major streets to one-way operation. These changes often altered the character of the surrounding neighborhood, and have the cumulative effect of reducing overall connectivity for all modes of travel. Future growth in Minneapolis will rely on and support the increased use of walking, bicycling and transit modes, as well as a sensitivity to land uses along public rights-of-way.



The challenge to find physical space to accommodate each mode means that not all modes will be accommodated in the same way. The street design realms in the figure above demonstrate the various modal needs in a hypothetical street corridor. Depending on the modal priority for an individual street, these modes will be allocated appropriate amounts of right-of-way. For example, some streets will have bike lanes and some will not; and some streets will have curb extensions while others will not.

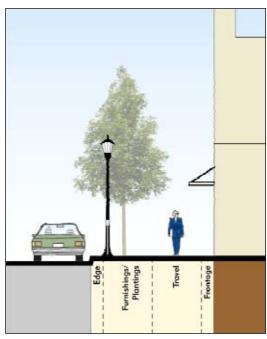


# Policy 2.2: Support successful streets and communities by balancing the needs of all modes of transportation with land use policy.

- 2.2.1 Identify modal priorities on each street to improve the overall effectiveness of each element of the transportation network.
- 2.2.2 Establish and use guidelines for the design and use of streets based on both transportation function and adjoining land use.
- 2.2.3 Promote street and sidewalk design that balances handling traffic flow with pedestrian orientation and principles of traditional urban form.
- 2.2.4 Develop strategies to mitigate and/or reduce negative impacts of transportation systems on adjacent land uses.
- 2.2.5 Engage transportation providers, transportation users, and other stakeholder groups in the transportation planning process.
- 2.2.6 Encourage reconnection of the traditional street grid where possible, to increase connectivity for all travel modes and strengthen neighborhood character.
- 2.2.7 Coordinate with the University of Minnesota, institutions and other large-scale users, as well as regional transportation agencies to manage transportation needs and manage transportation and parking impacts on nearby residential areas.

#### Creating a Walkable City

Walking is the most affordable and accessible mode of transportation, particularly for shorter trips. It serves everyone who lives, works, and plays in Minneapolis because everyone is a pedestrian at some point in a trip. Walking is a key component of the city's public realm; parks, sidewalks, and plazas are the basis for the pedestrian environment. Walking supports the public transportation system, as transit riders must access buses and trains as pedestrians. Walking also supports active lifestyles and healthy citizens.



Wide sidewalks with lighting and greening form attractive pedestrian environments.



## Policy 2.3: Encourage walking throughout the city by ensuring that routes are safe, comfortable, pleasant, and accessible.

- 2.3.1 Ensure that there are safe and accessible pedestrian routes to major destinations, including transit corridors, from nearby residential areas.
- 2.3.2 Identify and encourage the development of pedestrian routes within Activity Centers, Growth Centers, and other commercial areas that have superior pedestrian facilities.
- 2.3.3 Develop and implement guidelines for streets and sidewalks to ensure safe, attractive, and accessible pedestrian facilities.
- 2.3.4 Maintain the street grid, reconnecting it where possible, and discourage the creation of



Wide, well-equipped sidewalks – such as these on Hennepin Ave in Downtown – encourage pedestrian activity

- superblocks that isolate pedestrians and increase walking distances.
- 2.3.5 Continue to enforce standards for building placement and design based primarily on the needs of pedestrians.
- 2.3.6 Provide creative solutions to increasing and improving pedestrian connectivity across barriers such as freeways, creeks and the river, and commercial areas, such as shopping centers.
- 2.3.7 Minimize and consolidate driveway curb cuts as opportunities arise, and discourage curb cuts where alleys are available.

### Making Transit More Effective

Sustainable economic growth in the City of Minneapolis depends upon frequent and reliable transit service. In order to accommodate the projected growth in jobs and population, transit must become an attractive option for more travelers. The City will accomplish this by engaging in partnerships that coordinate transportation, land use and economic development planning at local and regional levels.



The focus of much of this work is the designation of a Primary Transit Network (PTN), a citywide system of frequent and reliable service being developed as a long-term, dependable travel option. The PTN includes both regional transitways (LRT, BRT, and commuter rail corridors) and high-frequency local transit corridors typically located on the city's commercial and community corridors. Map 2.13 shows the existing and planned PTN network. The city can accommodate growth and support increased density along these corridors and at key destinations as described in Chapter 1, Land Use. By building the city around these corridors, demand for transit service grows, which in turn necessitates improved transit service and facilities. Using transit becomes more attractive to more people more of the time.

### Policy 2.4: Make transit a more attractive option for both new and existing riders.

- 2.4.1 Collaborate with regional partners to prioritize transit service and capital improvements along a network of corridors where standards for speed, frequency, reliability, and quality of passenger facilities are maintained.
- 2.4.2 Concentrate transit resources in a manner that improves overall service and



The Hiawatha LRT line in south Minneapolis provides an attractive transit alternative as well as catalyzing new residential and commercial development.

reliability, including service for seniors, people with disabilities, and disadvantaged populations.

2.4.3 Encourage higher intensity and transit-oriented development to locate in areas well served by transit.

#### Creating a Bicycle-Friendly City

Bicycling is an increasingly important part of life for many Minneapolis residents and visitors. It reflects commitment to a sustainable, healthy community. In addition to a premier network of recreational trails, the City is building a network of on- and off-street bicycle facilities to serve a variety of travel needs that include shopping, commuting to work and school, and recreation. These efforts will be complemented



by public and private partnerships that address other needs of bicycling such as parking, safety, and education. Motorist awareness and bicycle safety education campaigns promote overall commuter confidence and encourage cyclists.

## Policy 2.5: Ensure that bicycling throughout the city is safe, comfortable and pleasant.

- 2.5.1 Complete a network of on- and off-street primary bicycle corridors.
- 2.5.2 Strive to accommodate bicycles on all streets. When other modes take

priority in a corridor, provide accessible alternate routes.

2.5.3 Continue to integrate bicycling and transit facilities where needed, including racks on



Bicyclists riding in south Minneapolis enjoy some of the city's on-road facilities.

transit vehicles and bicycle parking near transit stops.

- 2.5.4 Implement and expand zoning regulations and incentives that promote bicycling, such as the provision of secured storage for bikes near building entrances, storage lockers, and changing and shower facilities.
- 2.5.5 Provide public bicycle parking facilities in major destinations such as Downtown, Activity Centers and Growth Centers.
- 2.5.6 Identify and utilize sources of funding for long-term maintenance of facilities, education and outreach.
- 2.5.7 Promote motorist awareness and bicycle safety education campaigns.
- 2.5.8 Incorporate bike parking into street furniture configurations.

#### Managing Vehicle Traffic

As population and employment continue to grow, demand for travel in all modes increases. Even with an emphasis on creating a more balanced, multi-modal transportation system, the roadway network needs to accommodate additional

2-7



vehicle traffic. However, the overall capacity of the roadway network within the city will remain fairly constant with system expansion only at select locations. Some major roads, including the system of state and regional highways, will give priority to vehicle traffic over other modes. Many of these corridors also have dedicated facilities that give priority to transit and carpools, which help reduce demand for single occupancy vehicle travel and increase mass transit options for commuters.

# Policy 2.6: Manage the role and impact of automobiles in a multi-modal transportation system.

- 2.6.1 Encourage the implementation of Travel Demand Management (TDM) plans and programs that identify opportunities for reducing the generation of new vehicle trips from large developments.
- 2.6.2 Support the use of toll facilities that improve transportation options and generate revenue for transportation projects.
- 2.6.3 Implement strategies, such as preferential and discounted parking for low-emitting fuel efficient vehicles, car- and vanpooling, low-emitting fuel efficient taxi services, and car



Completed in late 1971, Interstate 94's Lowry Avenue tunnel is a major traffic thoroughfare for the city.

- sharing programs, that increase vehicle occupancy and reduce the number of single occupancy vehicles.
- 2.6.4 Increase the operational efficiency of the roadway network through the use of advanced technologies for traffic operations.
- 2.6.5 Encourage the design and completion of needed improvements to the street network, including the freeway system, which promote the efficient, safe movement of traffic.
- 2.6.6 Maintain street infrastructure in good condition to maximize the life of existing facilities.

#### Managing Freight Movement

The safe, efficient, and reliable movement of freight is vital to a healthy local and regional economy. All industries, especially manufacturing, construction, wholesale,



and retail trade, rely on a multi-modal freight system to transport goods. Truck traffic comprises most of the local and regional freight system in Minneapolis, with additional regional and international connections via rail, barge, and air.

The City of Minneapolis will accommodate the maintenance and expansion of freight infrastructure where benefits to the local and regional economy are apparent and where impacts to surrounding land uses are minimal. In the long term, some freight infrastructure will be phased out in order to further other goals of this plan.

For almost 100 years, shipping on the Mississippi River has been an alternate transportation option for Minneapolis businesses. While Minneapolis may elect for business reasons to close its barge shipping terminal, it will continue to provide storage locations for dredged materials. It also will not take any active steps to discontinue shipping on the river by other businesses as long as that remains a viable transportation option for them.

# Policy 2.7: Ensure that freight movement and facilities throughout the city meet the needs of the local and regional economy while remaining sensitive to impacts on surrounding land uses.

- 2.7.1 Support the <u>Metropolitan Council's freight clustering strategy</u> by continuing to encourage the consolidation of industrial land uses in Industrial Employment Districts.
- 2.7.2 Support the continuation of existing freight rail infrastructure where consistent with land use policy.
- 2.7.3 Invest in safety improvements along viable railroad corridors.



Accommodating freight movement and storage, such as these containers in north Minneapolis, is important to the city's economic vitality

- 2.7.4 Maintain a *north Minneapolis, is important to the city's economic vitality* network of truck routes that ensures the safe and efficient delivery of goods to Minneapolis businesses and that directs truck traffic to a limited number of streets with appropriate weight limits.
- 2.7.5 Consider plans to close the City-owned <u>Upper Harbor Terminal</u>, while still supporting shipping on the Mississippi River in other ways.



2.7.6 Encourage joint use of rail lines by freight and passenger rail where feasible.

#### Managing Parking

Effective parking management is an important strategy in a multi-modal transportation system. Most land uses need some parking to ensure they are economically viable. On-street parking in particular can provide convenient access, while buffering sidewalks and outdoor seating from the impacts of auto traffic. On the other hand, excessive parking can promote automobile usage and traffic congestion, create pedestrian unfriendly environments, and damage the traditional urban character of an area.

As the city and the metropolitan area grow in population, the ability to accommodate an increased workforce requires the efficient and appropriate use of existing parking spaces. Economically and environmentally, the best use of existing parking can be supported by promoting car- and vanpooling, car sharing, and shared parking. These and other citywide initiatives promote a safe, comfortable and pleasant commute, balancing the demand for parking with objectives for economic and environmental vitality.

The City is committed to a policy direction designed to reduce car use, and thereby moderate both vehicle traffic and demand for parking. This includes land use policies and parking strategies that encourage increased use of transit, walking, biking, and carpooling. To address parking and mobility issues comprehensively, these strategies need to address the supply, management, and demand for parking spaces.

# Policy 2.8: Balance the demand for parking with objectives for improving the environment for transit, walking and bicycling, while supporting the city's business community.

- 2.8.1 Implement offstreet parking regulations which provide a certain number of parking spaces for nearby uses, while still maintaining an environment that encourages bicycle, pedestrian, and transit travel.
- 2.8.2 Design and implement incentives for shared parking and



On-street parking is important to neighborhood businesses, such as this northeast commercial node. The demand for on-street parking could be tempered through incentives and regulations.



- on-site car sharing programs, as well as carpooling and vanpooling.
- 2.8.3 Maximize the efficient use of off-street parking by developing district parking strategies in high density mixed-use areas such as Activity Centers and Growth Centers.
- 2.8.4 Consider eliminating minimum parking requirements for certain small-scale uses as well as parking requirements in areas served by off-street parking facilities that are available to the general public.
- 2.8.5 Continue to prohibit new commercial surface parking lots and to restrict the size of accessory surface parking lots in Downtown.
- 2.8.6 Encourage management of on-street parking in commercial areas primarily for short-term use by adjoining land uses.
- 2.8.7 Promote transit, walking, and biking as safe and comfortable transportation alternatives through reduced parking requirements, encouragement of employee transit incentive programs, and improved facilities.
- 2.8.8 Encourage employers to offer economic incentives that support transit use, such as providing employee transportation allowances as alternatives to free parking.
- 2.8.9 Ensure that parking facilities do not under-price their parking fees as compared to transit fares except to support carpooling and vanpooling as primary commuting modes.
- 2.8.10 Continue to implement discounted packages for carpooling and vanpooling in <u>City-owned or controlled parking facilities</u>, and in leading by example, encourage private parking facilities to do likewise.

#### **Funding and Pricing Strategies**

#### **Funding**

Achieving the goal of a multi-modal transportation network will require substantial investment in new transit, bicycling, and pedestrian infrastructure, as well as funding for the ongoing maintenance and operation of these facilities. The scope and influence of these investments range from neighborhood-oriented projects such as streetscape enhancements to those of national significance such as intra-regional passenger rail lines. Across this spectrum, partnerships with appropriate agencies will be instrumental in turning plans into reality.

Regional transit lines such as light rail transit, bus rapid transit, and commuter rail are typically financed through a combination of local, state, and federal dollars. The City of Minneapolis recognizes the importance of accessing federal resources for



Minnesota transit projects and will continue to advocate for dedicated sources of transit funding to match federal funds.

While federal and state programs are important to building a multi-modal city, the City of Minneapolis will also continue to pursue innovative funding strategies that focus on local economic development outcomes and include the participation of private funding sources, including the development community. For example, a new local streetcar line may be funded in part by developers whose projects benefit from the enhanced transit service.

#### **Pricing**

In recent years, various government agencies have begun to influence short-term transportation decisions through incentives and disincentives. For example, Metro Transit has worked with local employers to encourage regular transit use through its Metropass program, which offers deeply discounted bus and train passes. The Minnesota Department of Transportation has begun managing travel demand on some highways using High-Occupancy Toll (HOT) lanes, allowing drivers to bypass congestion for a fee that adjusts dynamically to traffic conditions.

The City of Minneapolis will continue to support these and other programs that equate transportation decisions with market choices, and work toward tying daily choices to the long-term future. In addition to supporting other agencies, the city can play a direct role in developing a sustainable transportation system.

# Policy 2.9: Promote reliable funding and pricing strategies to manage transportation demand and improve alternative modes.

- 2.9.1 Advocate for dedicated sources of transit funding at the state legislature.
- 2.9.2 Develop local sources of funding as well as the means to leverage private sources of funding for transit needs and capital improvements.
- 2.9.3 Link transit improvements, such as streetcars, to economic development outcomes.



The Metropass program leverages private resources to encourage transit ridership.

- 2.9.4 Advocate for freeway toll facilities that improve transportation services and generate revenue for transit.
- 2.9.5 Support programs that encourage regular transit use, such as the Metropass program, and lead by example.



#### Supporting a Vibrant Multi-modal Downtown

Downtown Minneapolis is the hub of the regional transit system. In addition to being a workplace for over 140,000 people, it is also home to around 30,000 residents. People make over 520,000 daily trips into and out of Downtown in their cars and trucks, using light rail and buses, or by bicycle or on foot.



Morning rush hour at the downtown Nicollet Mall LRT station. The LRT is an increasingly popular option for Downtown commuters and business travelers coming to the city from the international airport.

The health of the city, as well as the region, depends upon confronting transportation challenges and ensuring continued investment and growth. It is essential that Downtown have a transportation system that meets the needs of employees, visitors, and residents alike. Without adequate use of walking, bicycling and transit, the street network cannot support significant growth. As the city grows, multi-modal transportation planning will ensure that travel to and throughout Downtown is efficient, understandable, reliable, and safe.

# Policy 2.10: Support the development of a multi-modal Downtown transportation system that encourages an increasingly dense and vibrant regional center.

- 2.10.1 Concentrate transit facilities, services and amenities along a limited set of Downtown streets in order to improve efficiency, reliability and quality.
- 2.10.2 Encourage transit use Downtown, including promoting incentives to make transit more convenient and affordable for Downtown users.
- 2.10.3 Identify and develop primary pedestrian routes that encourage walking throughout Downtown and which are the focus of particular infrastructure improvements.



- 2.10.4 Improve the pedestrian environment Downtown to ensure it is a safe, enjoyable, and accessible place to walk. Encourage strategies such as wider sidewalks for pedestrian movement, trees, landscaping, street furniture, improved transit facilities, additional bicycle facilities, and on-street parking and other curbside uses.
- 2.10.5 Improve wayfinding and vertical circulation between the street and skyway system, particularly along primary transit and pedestrian routes.
- 2.10.6 Encourage changes to freeway access that are consistent with Downtown growth plans, support other modes of travel, and improve system connectivity.
- 2.10.7 Improve local transportation across freeways, including promoting adequate spacing and connectivity of streets and improved pedestrian, bicycle, and transit facilities on local streets crossing the freeways.
- 2.10.8 Manage the growth of the parking supply consistent with objectives for transit, walking and bicycling.
- 2.10.9 Promote car sharing programs for both commercial and residential projects.
- 2.10.10 Support the education and implementation activities of the <u>Downtown</u> Transportation Management Organization (TMO).
- 2.10.11 Provide parking incentives in city-owned parking facilities for carpools and vanpools, and encourage private parking facility owners to do the same.

### Advocating for Competitive, Sustainable Global Aviation



The Minneapolis-St. Paul International Airport is part of the regional transportation system.

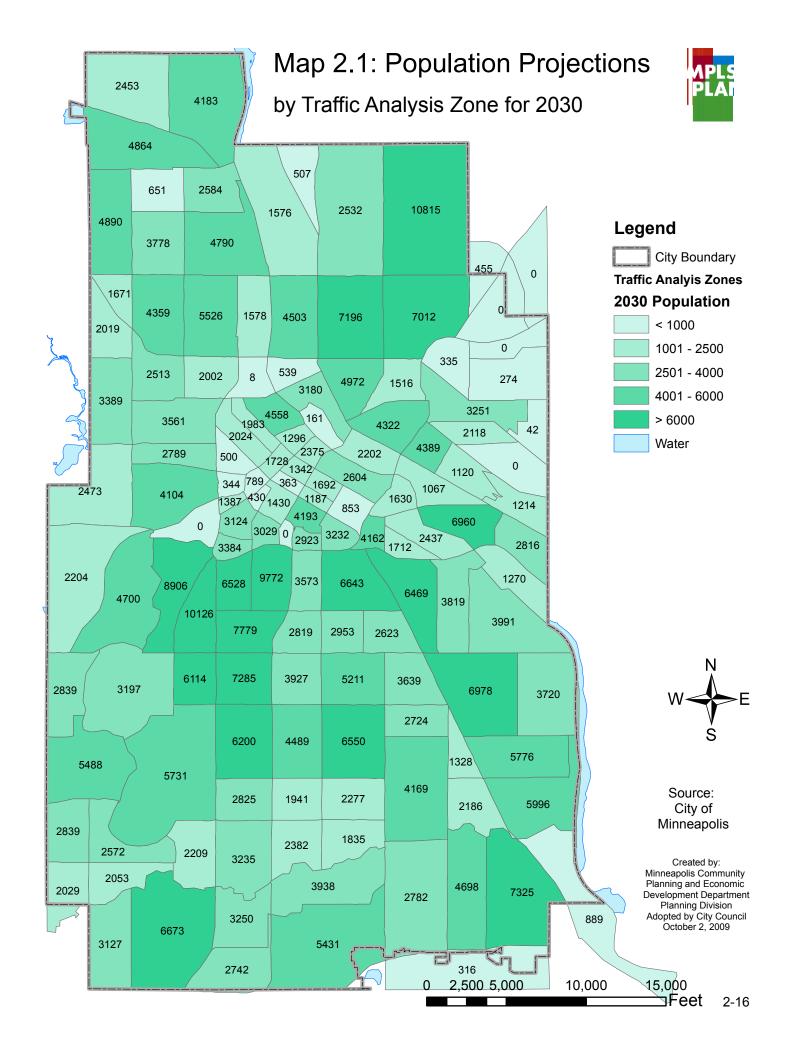
As one of the 20 busiest airports in the world, the Minneapolis-St. Paul International Airport is an economic driver in the region and the state. Although it is not located in the city, it is part of the city's multi-modal system, and provides global access for freight and passengers. The airport, as governed by the Metropolitan Airports Commission, is connected to the city by light rail, bus, and automobile.

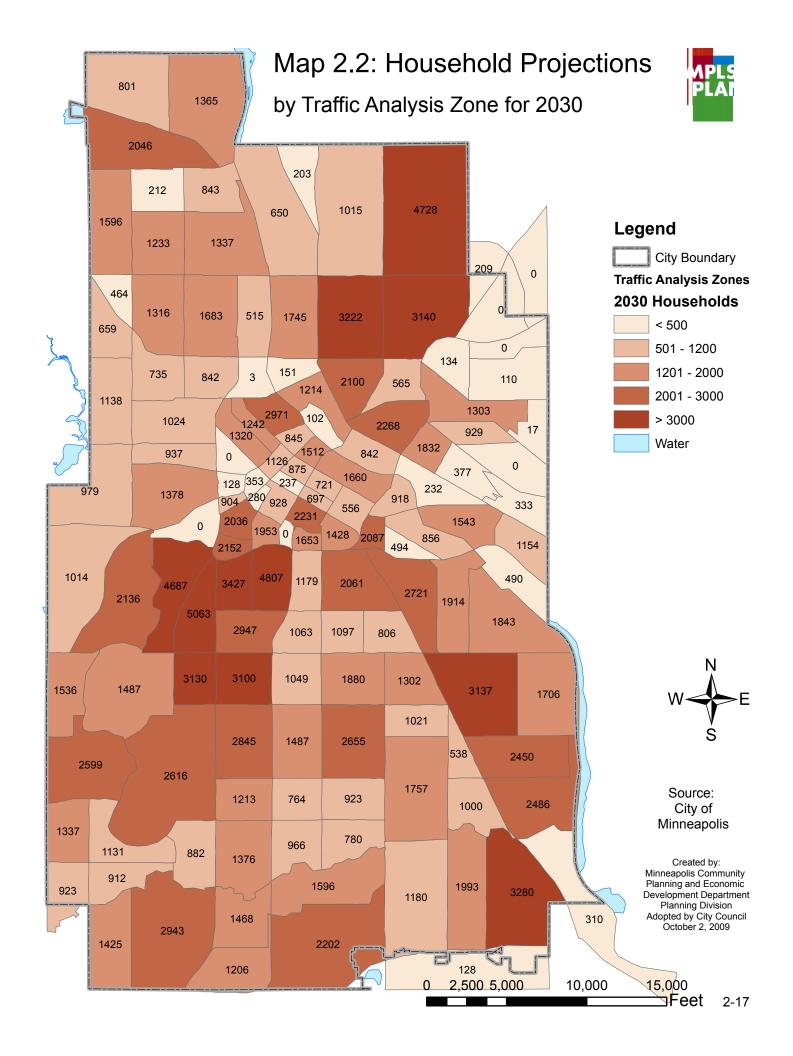


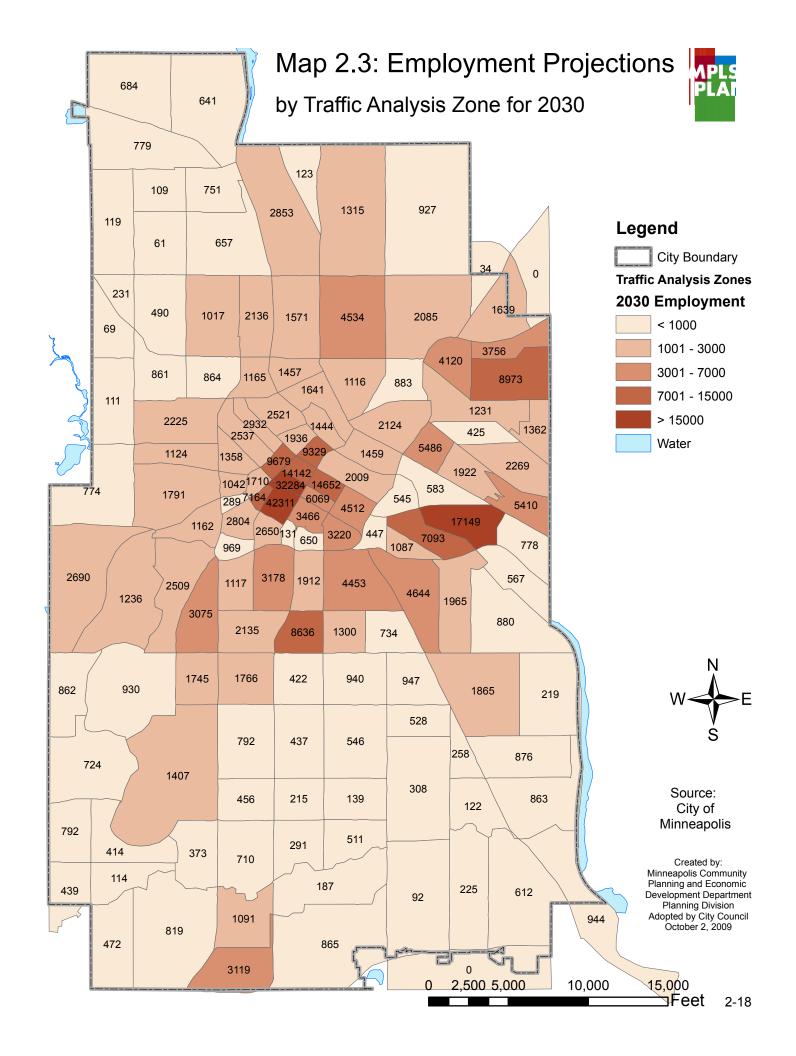
# Policy 2.11: Minneapolis recognizes the economic value of Minneapolis-St. Paul International Airport and encourages its healthy competition to reach global markets in an environmentally responsible manner.

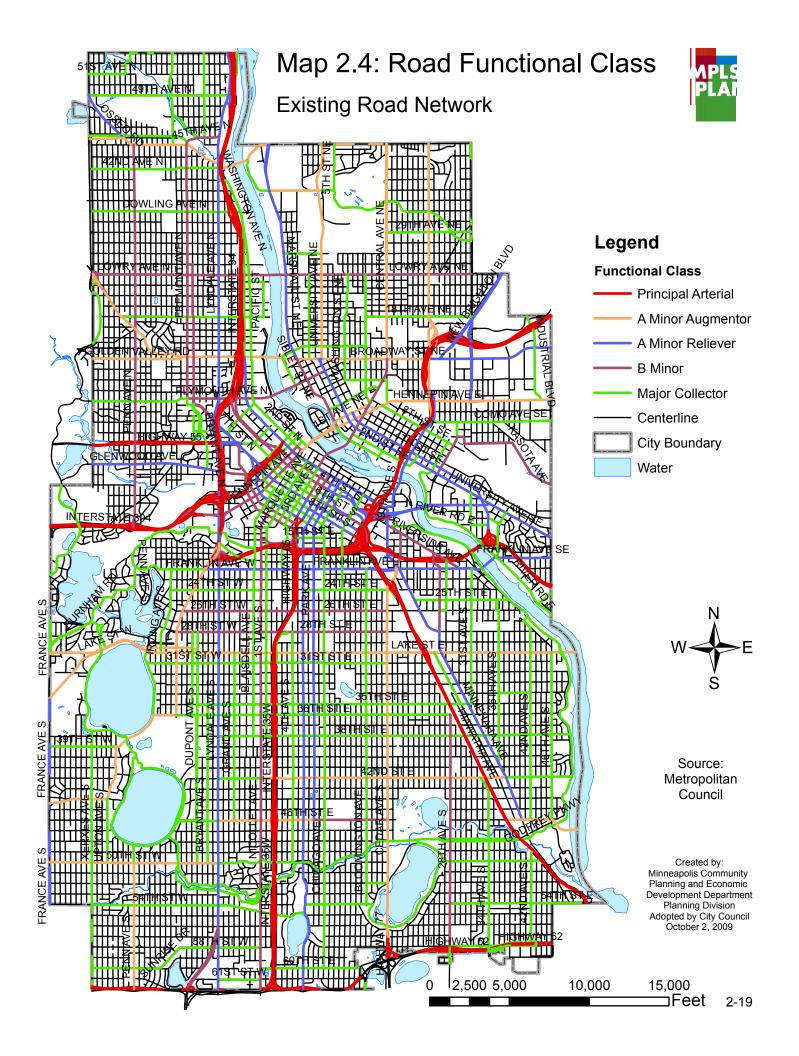
- 2.11.1 Advocate for a broader, more integrated, statewide approach for making the most cost effective use of the state's existing facilities serving all residents of the state with a safe, sustainable and environmentally acceptable aviation system.
- 2.11.2 Promote convenient multi-modal access between the airport and the city, including automobile, truck, transit, and where appropriate, bicycle, and pedestrian travel.
- 2.11.3 Protect facilities such as radio beacons, lighting and other aids used in airport navigation, from physical encroachment and electronic interference.
- 2.11.4 Ensure development is consistent with the provisions of Minneapolis-St.

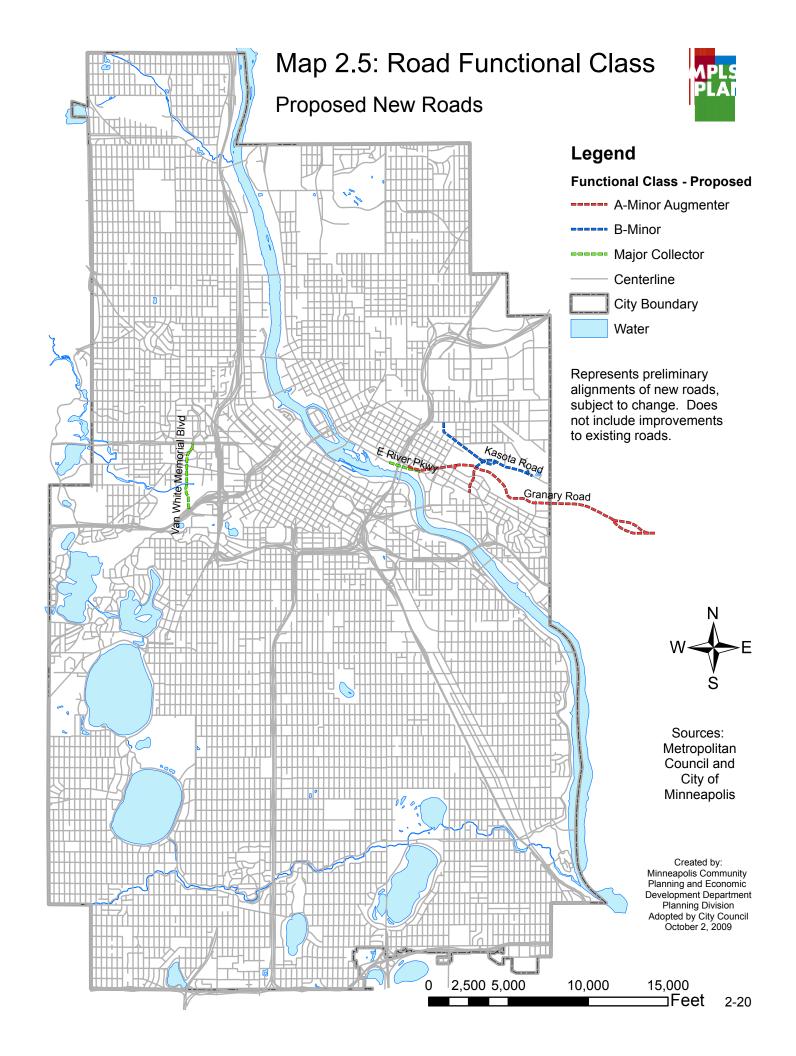
  Paul International Airport (Wold-Chamberlain Field) Zoning Ordinance and 14 CFR Part 77, Objects Affecting Navigable Airspace as applicable.
- 2.11.5 Advocate for healthy airline competition to serve international markets in order to support and attract businesses.

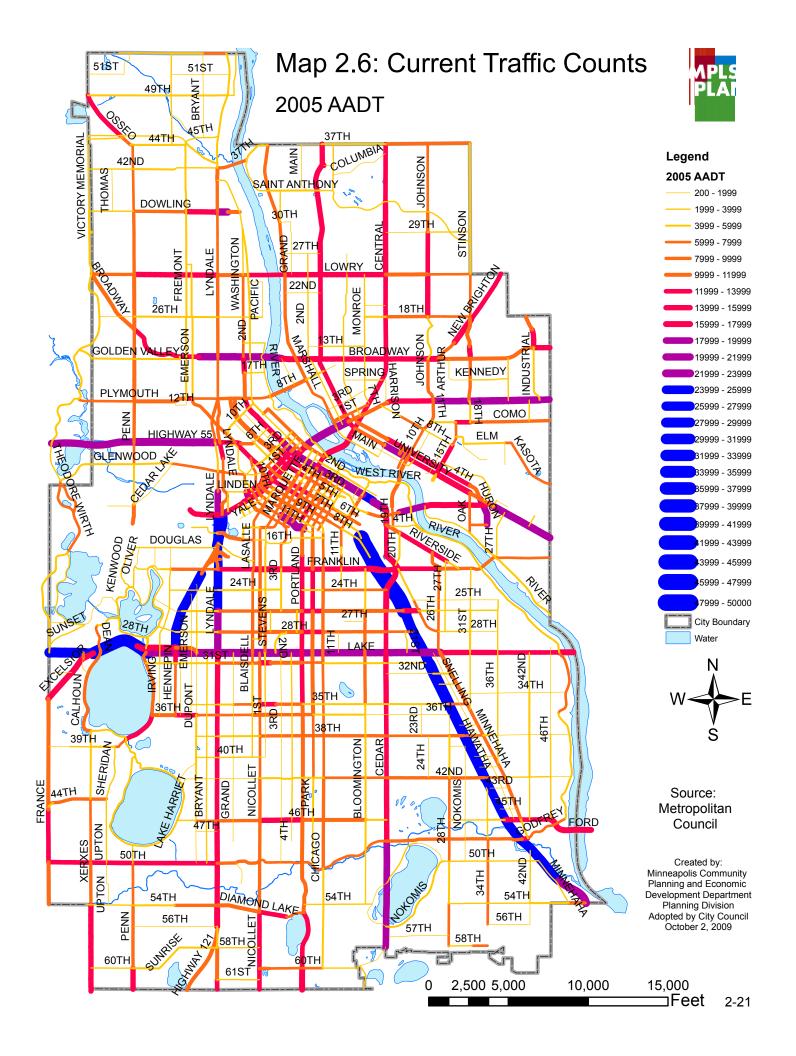


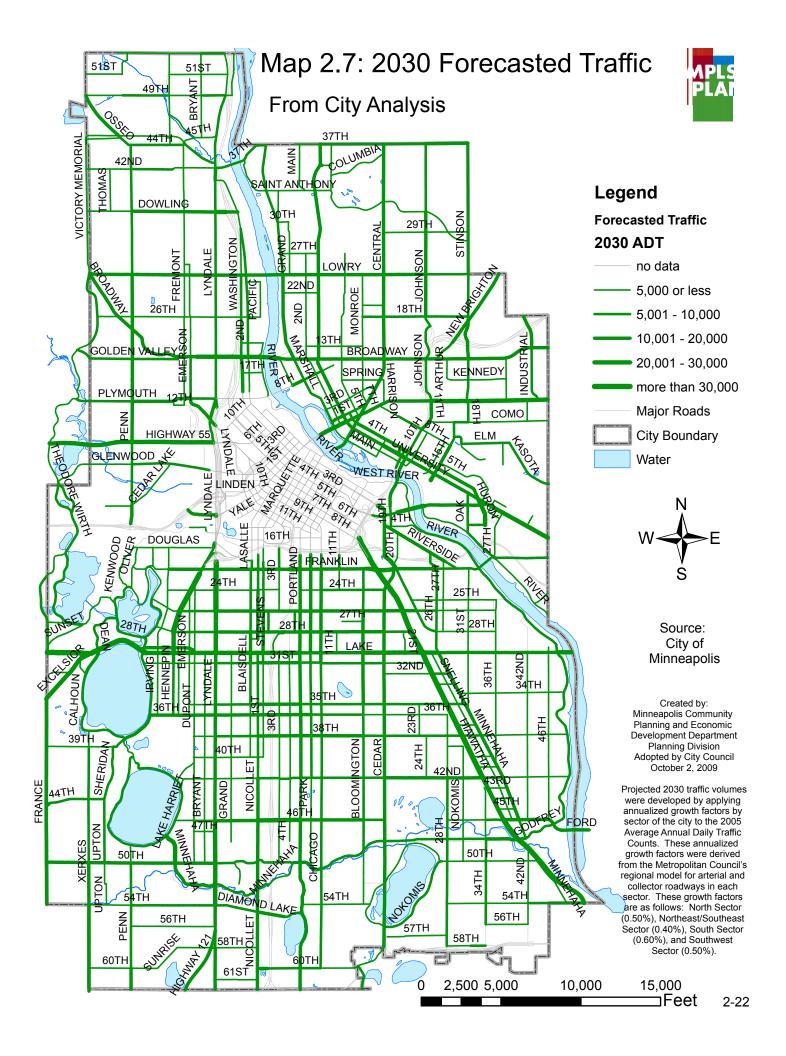


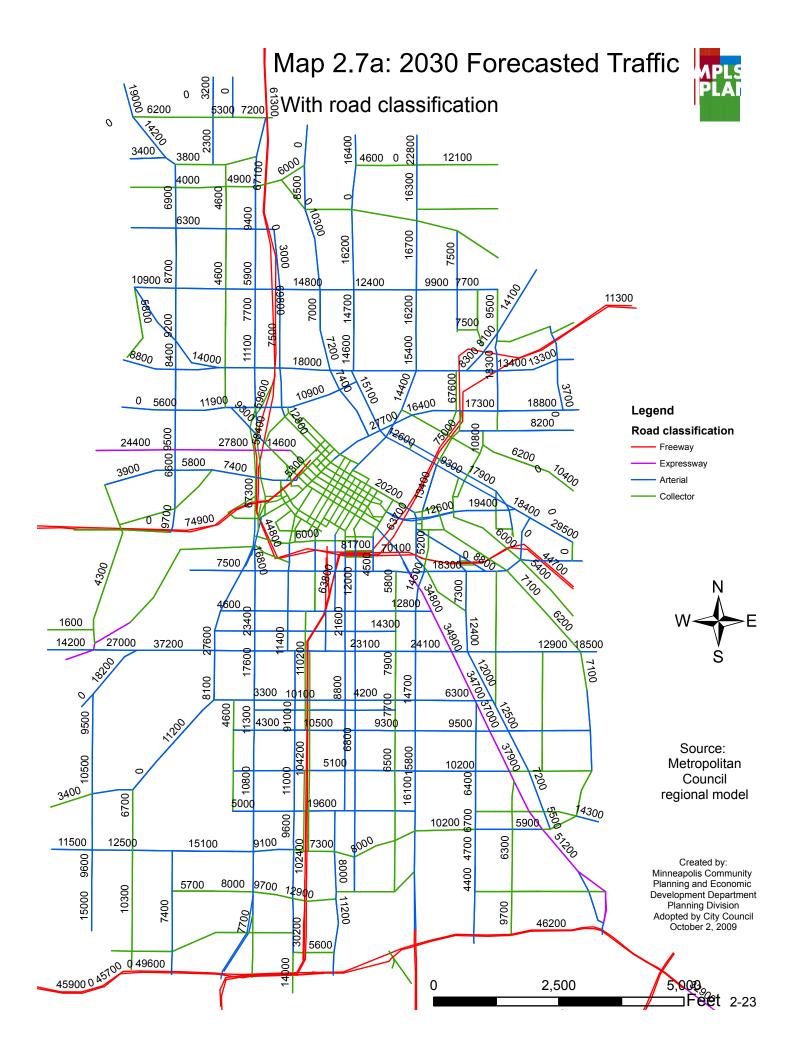


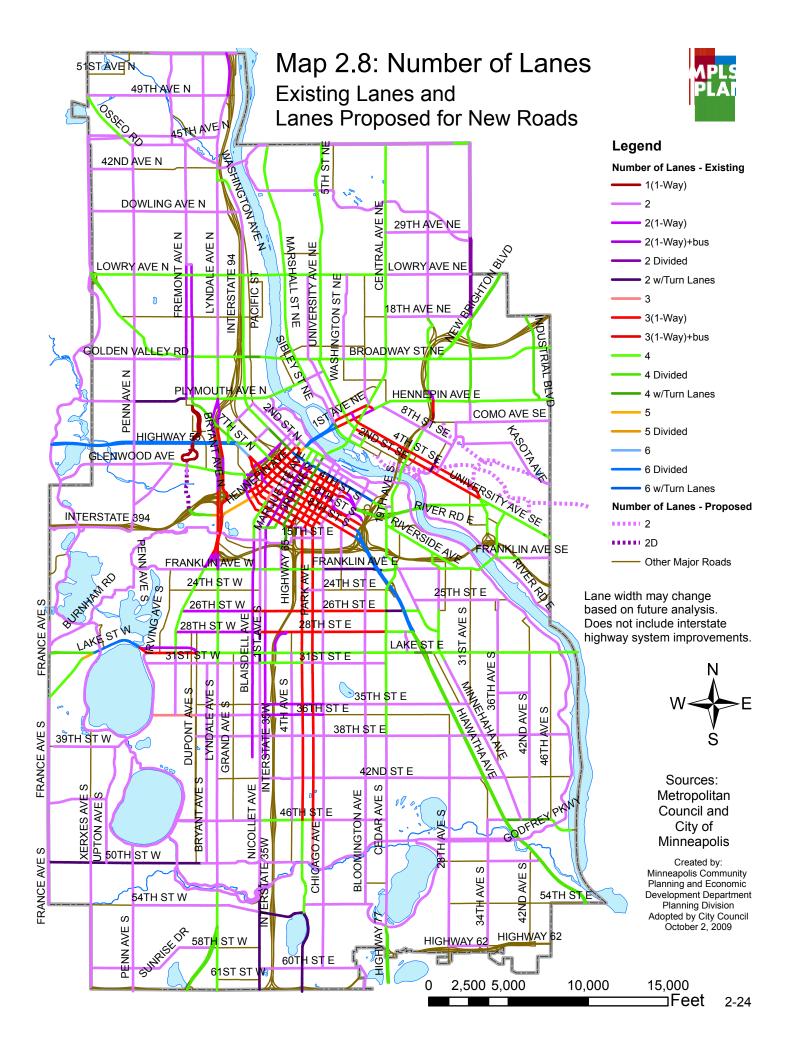


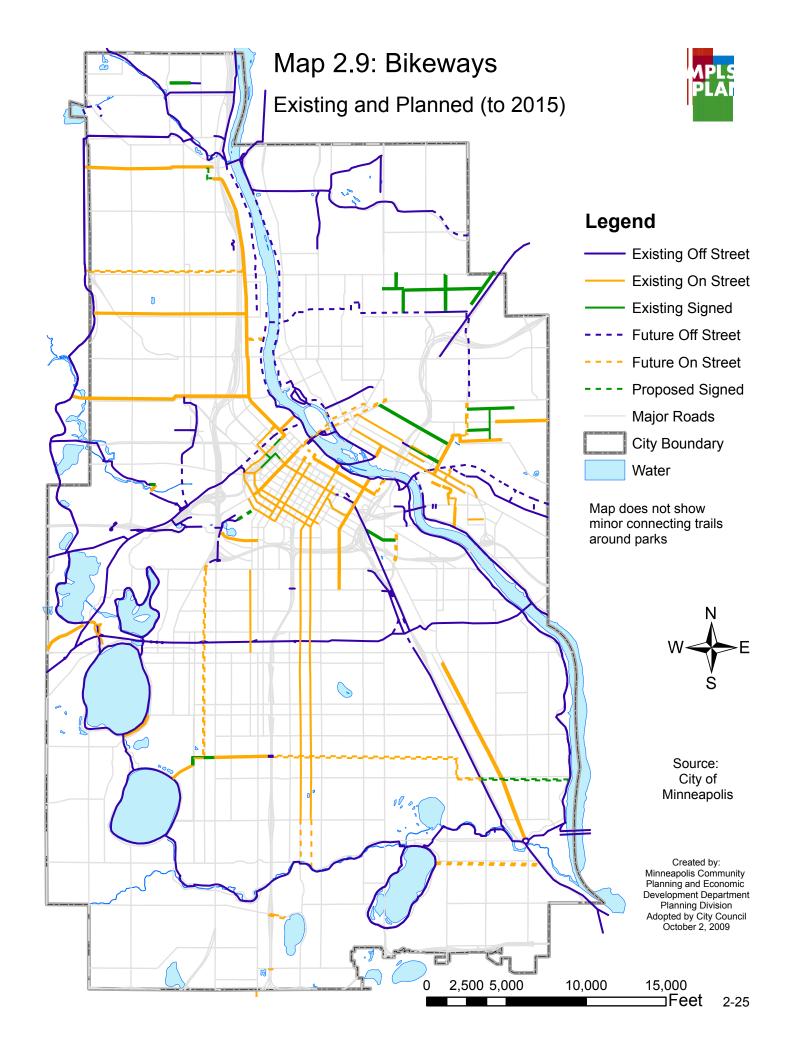


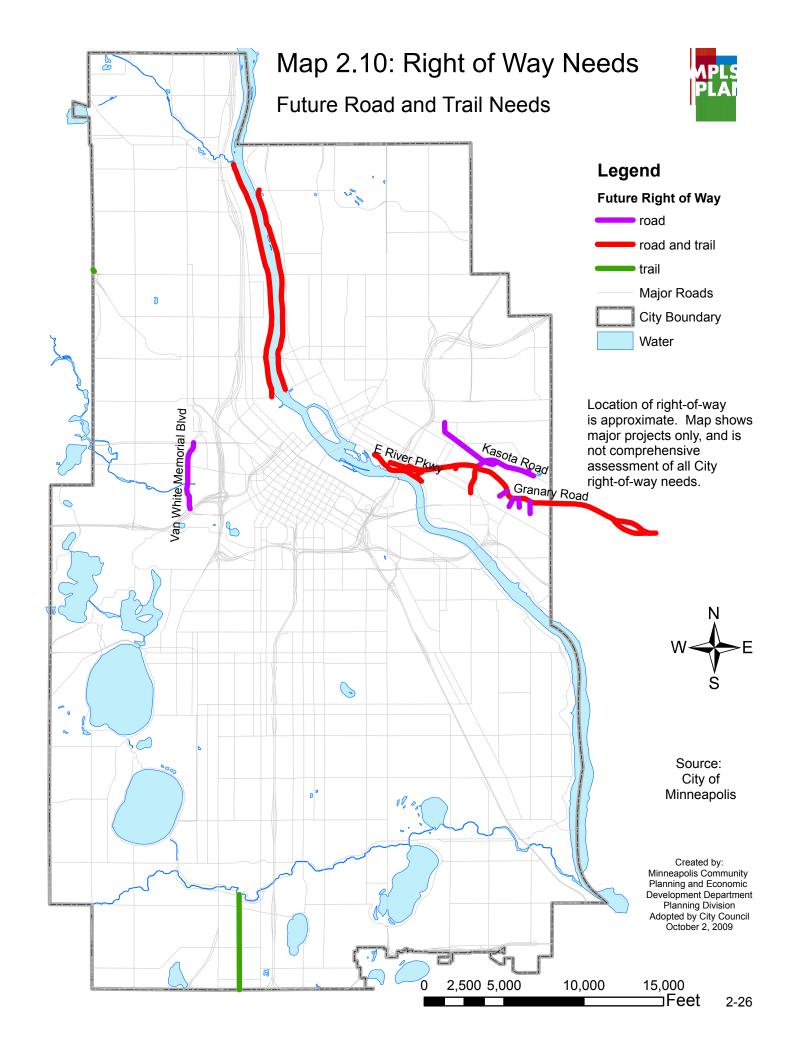


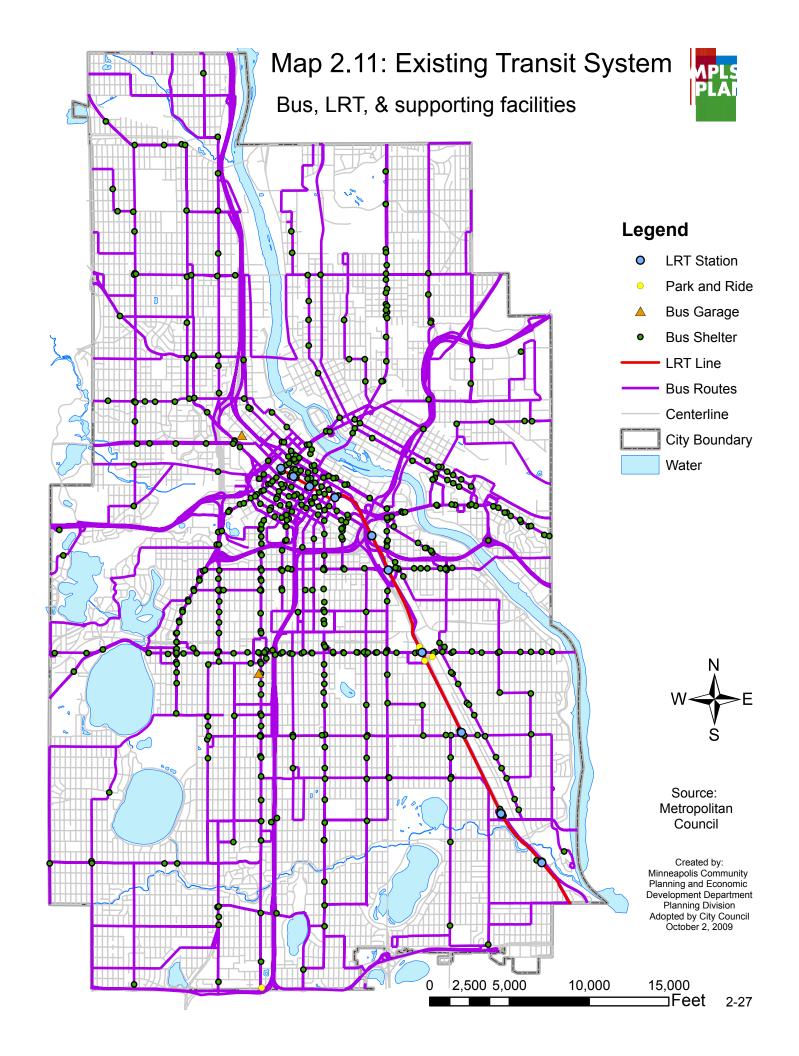


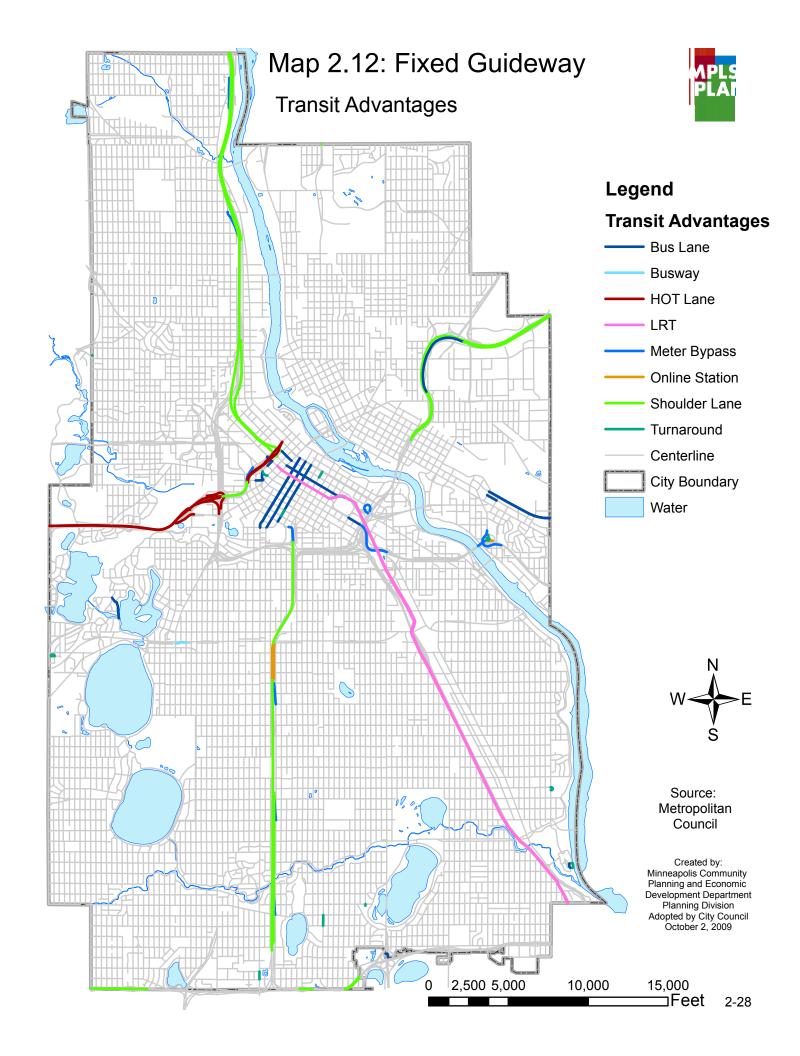


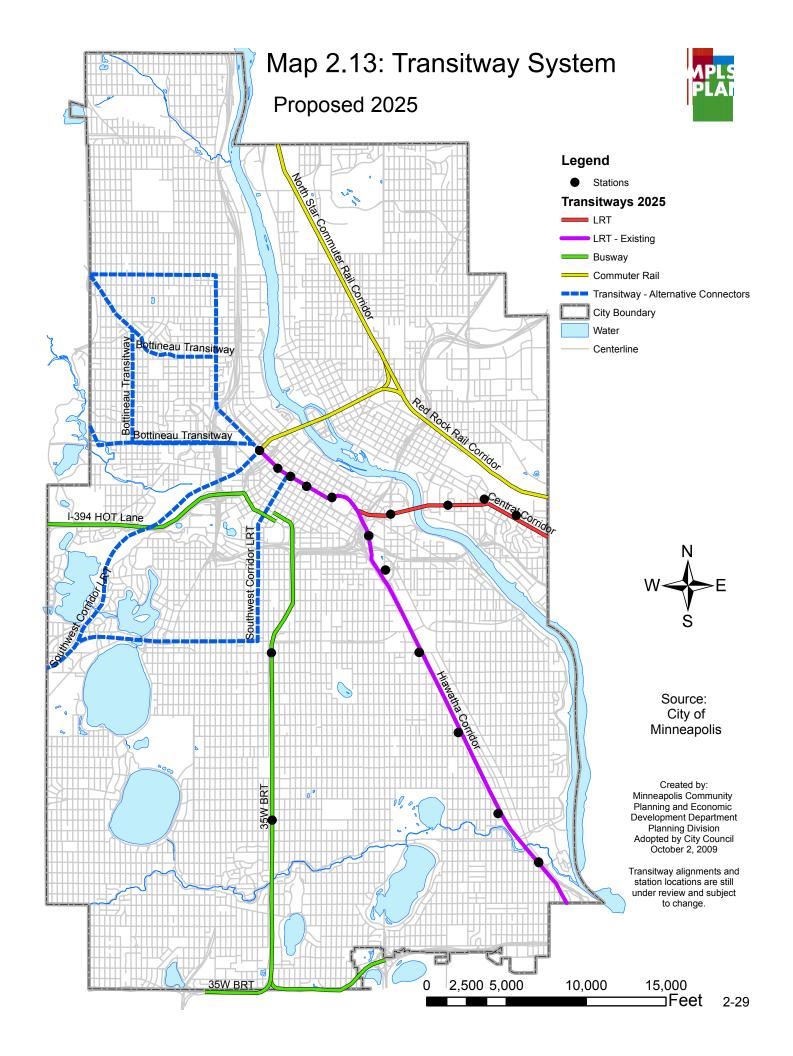


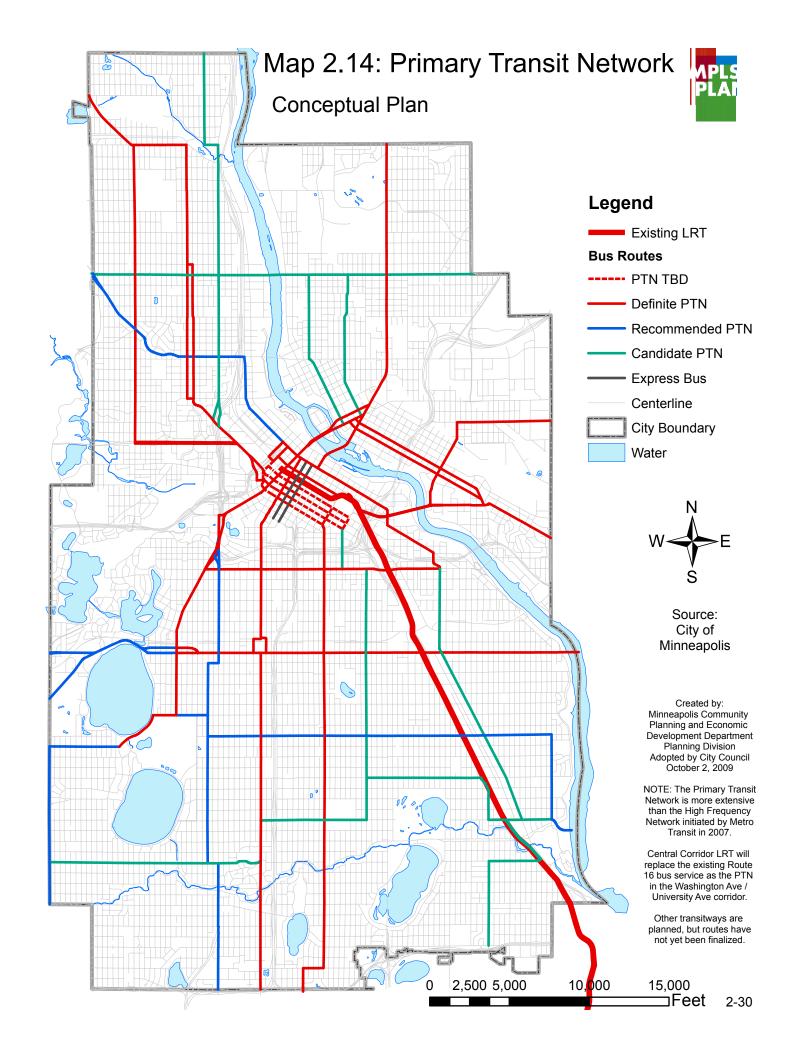


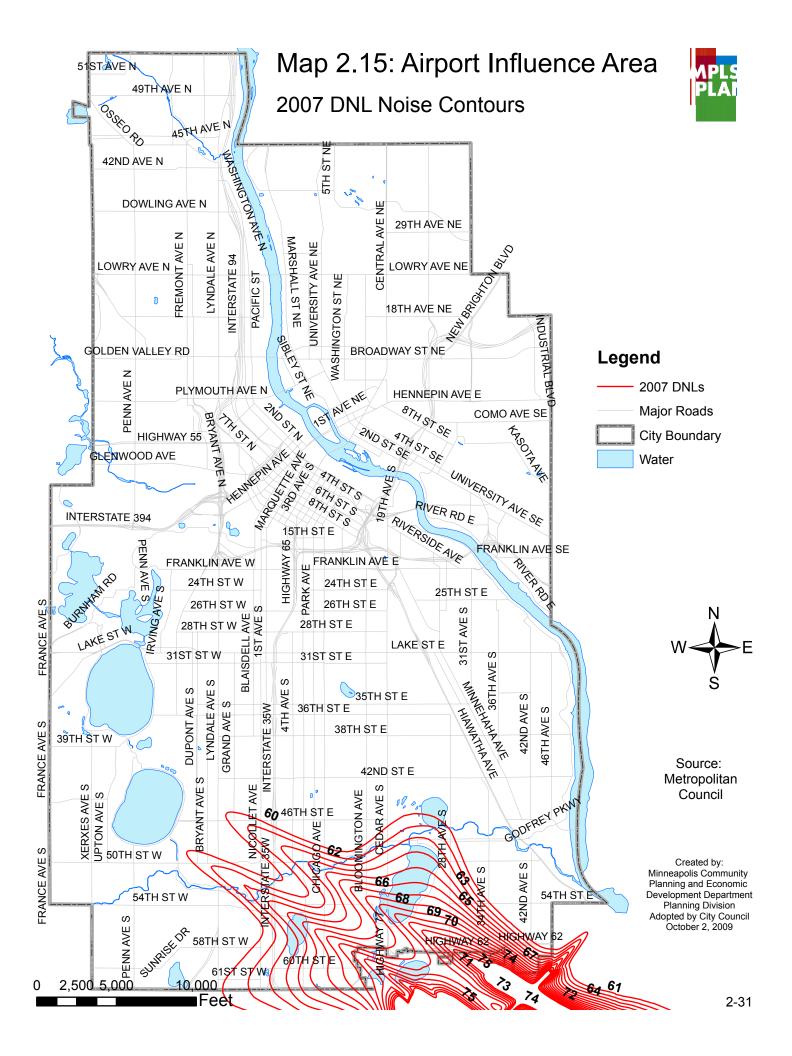














## 3. Housing

Minneapolis will build and maintain the strength, vitality, and stability of the city's neighborhoods by providing a variety of housing opportunities to meet the needs of all members of the community.



The architectural diversity of homes in Marcy Holmes adds to the neighborhood character and vitality.

Housing is an essential building block of a strong city. The City of Minneapolis has strongly endorsed a policy of growth. A growing population contributes to high quality city services, great neighborhood business districts, and safe streets. New housing is directed to locations that are well served by public transit services and close to commercial and natural amenities.

Shelter is a basic component of human welfare. Where housing is absent, essential endeavors like maintaining a job or supporting the education of children become very challenging. The city supports the development of housing that addresses the plight of the homeless and meets the needs of disadvantaged families.

Communities with concentrations of poverty face challenges related to public safety, disinvestment and education quality. New housing can have a revitalizing effect in these communities, and should be designed to attract a healthy mix of households of various means.



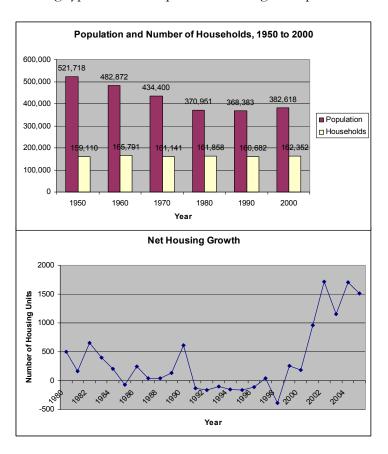
City residents are young and old, families and singles, of different cultural backgrounds and with different needs. The diversity of the existing Minneapolis housing stock is a community asset that helps meet these different needs. City policy builds on this strength by encouraging the construction of new ownership and rental housing that is designed to meet the needs of a broad range of residential submarkets.

Housing quality has safety and health implications for its occupants. If left unchecked, the deteriorating condition of one property can dampen the interest of neighboring property owners, creating a ripple effect of decline that spreads across blocks and neighborhoods. To check this cycle, the City works to ensure that the existing housing stock is maintained, and that new housing is durable and of high quality.

### Housing in Minneapolis

Minneapolis boasts a diverse and attractive housing stock, ranging from single family units to high-density apartment and condominium buildings. About half of the housing units in the city are single family homes. The rest are in multifamily buildings that range from duplexes to very large developments. This diverse mix of housing types is a consequence of having been produced over different eras of the

city's history.



Neighborhoods show very different character, depending on when their housing was constructed. The earlier neighborhoods to develop show a mix of single family houses, duplexes, and small multifamily buildings. Some areas within these neighborhoods were later subject to major urban renewal projects, which added large multifamily buildings to the mix. Postwar neighborhoods tend to be more homogeneous with mostly single family houses, albeit still sprinkled with



duplexes and smaller apartment buildings. More recently, multifamily housing developments have brought additional residents to locations such as Downtown and the city's commercial corridors.

The amount of housing in Minneapolis has shown distinct trends over time. The city's initial housing boom was largely completed by 1950. The next three decades saw the loss of 30% of the city's population, largely as a result of shrinking household sizes and out-migration to the suburbs, newly accessible because of the interstate highway system. While population declined, the housing unit count remained relatively constant. From 1980 to 2000, the city's population stabilized, and housing construction was in balance with housing demolition. Starting around 2000, the city started to grow once again. Today, new multifamily housing developments are being built as some metropolitan residents are rediscovering the advantages of living in the urban core. From 2000 to 2006, the city averaged a net increase of around 1,200 housing units per year.

In most parts of the city there is a robust market for buying and renting housing units. Some areas, however, have experienced disinvestment over the years and a decline in the quality of the housing stock. The recent and ongoing foreclosure crisis has exacerbated these conditions. It has resulted in numerous vacant housing units, and threatened many households with dislocation and great financial setback. The city and numerous collaborators have mounted an aggressive response through strengthening long-standing programs and launching innovative efforts.

## Housing Growth, Density and Location

By increasing the housing stock and retaining and attracting residents, the city establishes a foundation for a strong and vibrant future. Increased population has a number of positive effects. New households can:

stabilize and support the city's commercial districts;



- provide a basis for a strengthened transit system;
- contribute to safer streets;and
- improve the tax base, which keeps schools and

While the city has always had duplexes and multi-family housing units, townhomes such as this structure provide a housing alternative close to the Franklin Avenue LRT Station.



libraries open, and supports city services

From a regional perspective, directing growth to the core city is more economically efficient and environmentally sustainable than growth in suburban locations.

As a core city, Minneapolis has an established grid of streets and blocks that are already fully developed. For this reason, housing growth frequently requires acquisition and demolition of previously developed areas, with new construction following at an increased density.

#### Policy 3.1: Grow by increasing the supply of housing.

- 3.1.1 Support the development of new medium- and high-density housing in appropriate locations throughout the city.
- 3.1.2 Use planning processes and other opportunities for community engagement to build community understanding of the important role that urban density plays in stabilizing and strengthening the city.
- 3.1.3 Continue to streamline city development review, permitting, and licensing to make it easier to develop property in the City of Minneapolis.

Housing growth brings the benefits of increased density, but location matters. New housing that is located on the city's best transit corridors or in centers of activity provides the greatest benefits, and is the least disruptive of existing neighborhoods. These areas have been identified in the city's comprehensive plan as commercial and community corridors, growth centers, activity centers, retail centers, and neighborhood commercial nodes. Support for greater density must be balanced against the importance for new housing to be compatible with nearby existing development, and with the character of the area in which it is being built.

# Policy 3.2: Support housing density in locations that are well connected by transit, and are close to commercial, cultural and natural amenities.

3.2.1 Encourage and support housing development along commercial and community corridors, and in and near growth centers, activity centers, retail centers, transit station areas, and neighborhood commercial nodes.



The Oaks Hiawatha development is located near the Hiawatha LRT line and is an example of higher density residential housing.



3.2.2 Engage in dialogue with communities about appropriate locations for housing density, and ways to make new development compatible with existing structures and uses.

### Affordable Housing & Homelessness

The City is committed to promoting stable, affordable, high quality housing choices for all Minneapolis residents. Its leadership in supporting new affordable housing development, and stabilizing and preserving existing affordable dwelling units has been recognized by the Metropolitan Council and others. The City's priorities for creating and retaining affordable housing are described in the City's Unified Housing Policy.

The City and other funders of affordable housing have historically placed a high priority on creating housing that is affordable to households earning 50 percent or less of the metropolitan median income. While this remains a City priority, the City also recognizes the importance of meeting needs across the housing continuum, since families at all income levels play essential roles in the city's economic and social vitality. Mixed income housing (i.e. housing that contains dwelling units targeted to households of varying means) is increasingly being built in Minneapolis.

## Policy 3.3: Increase housing that is affordable to low and moderate income households.

- 3.3.1 Continue to utilize housing development finance programs to foster growth in the city's affordable housing stock in all parts of the city.
- 3.3.2 Utilize city housing resources and partnerships to preserve the affordability of existing affordable housing.
- 3.3.3 Work to provide affordable housing for both rental and ownership markets at a broad range of income levels.
- 3.3.4 Support policies and programs that create long-term and perpetually affordable housing units.



The Linden Hills Townhomes are affordable with a classic look.

- 3.3.5 Support the development of housing with supportive services that help households gain stability in areas such as employment, housing retention, parenting, and substance abuse challenges.
- 3.3.6 Use planning processes, requests for proposals for city owned properties,



- and other community engagement processes to engage in dialogue with community participants about affordable housing and its compatibility with all Minneapolis neighborhoods.
- 3.3.7 Increase low-income family access to ongoing rental assistance.
- 3.3.8 Foster partnerships with housing developers, financial institutions, faith communities and others to extend the city's capacity to create affordable housing.
- 3.3.9 Partner with other municipalities, along with county, metropolitan, state and federal agencies and policymakers, to develop a regional strategy for increasing the supply of affordable housing, supported by a more predictable, long-term revenue stream.

The City of Minneapolis partners with Hennepin County and other municipalities to end the cycle of homelessness using a common road map, the report <u>Heading Home Hennepin</u>: The Ten-Year Plan to End Homelessness in Minneapolis and Hennepin <u>County</u>.

## Policy 3.4: Preserve and increase the supply of safe, stable, and affordable supportive housing opportunities for homeless youth, singles and families.

- 3.4.1 Promote increased development of housing for very low-income households earning 30% or less of metropolitan median income.
- 3.4.2 Support the creation of additional supportive housing units for homeless youth, singles and families.



The Many Rivers development offers housing and supportive services to formerly homeless families.

- 3.4.3 Support the creation of additional shelter beds for youth.
- 3.4.4 Evaluate City policies and regulations related to the creation of supportive housing and smaller housing units, including Single Room Occupancy (SRO) housing.
- 3.4.5 Implement and promote additional strategies to reduce homelessness, such as those identified in Heading Home Hennepin.



#### Community Stabilization and Market-Building

Disadvantaged communities face multiple challenges such as disinvestment, crime, and underperforming schools. These challenges are mutually reinforcing, making significant improvement of any of them difficult to achieve without also addressing the others. Property speculation and poor management of rental housing can exert additional destabilizing effects, with property deterioration and livability impacts.

Many of these conditions are being addressed vigorously by the city along with community-minded private, philanthropic and community-based partner organizations. Their efforts include working to improve the market appeal of disadvantaged communities in order to attract a broad socio-economic mix of new households. Strategies for doing this include building or improving community assets, improving the quality of new housing that is being produced, and providing incentives for the production of mixed income and market rate housing in addition to new affordable housing.



Heritage Park is a mixed income community that includes both affordable and market rate housing.

Housing management issues have inspired responses that include diligent and creative code enforcement, the promotion of infill ownership housing, and the creation of a program that focuses on vigorously remedying issues at the most problematic locations.



The Humboldt Greenway development is adding high value homes and affordable housing opportunities in the Camden community.

- Policy 3.5: Improve the stability and health of communities of concentrated disadvantage through market building strategies, and strategies that preserve and increase home ownership.
- 3.5.1 Work to improve the stability and sustainability of the city's disadvantaged communities by taking measures to diversify the household mix and allay historic patterns of concentration of poverty.
- 3.5.2 Pursue an integrated array of development and revitalization strategies to attract a broadened socio-economic mix of residents to communities of concentrated disadvantage.



- 3.5.3 Utilize program criteria in city housing finance programs that give preference to low income and homeless housing projects in non-poverty concentrated areas, and that prioritize high quality mixed-income and market rate housing projects in disadvantaged communities.
- 3.5.4 Work with for-profit, nonprofit, and governmental partners to increase understanding of the need for market-building investments in communities of concentrated disadvantage.
- 3.5.5 Focus development activities strategically in priority areas within disadvantaged communities so that it results in the greatest impact.
- 3.5.6 Use promotion strategies and City development resources and programs to build home ownership in high rental neighborhoods.
- 3.5.7 Create pathways for qualified low-income families to become homeowners, with appropriate support, with an emphasis on improving minority homeownership rates.
- 3.5.8 Reduce the number of foreclosures through strategies such as home ownership counseling, public education about responsible mortgages and early warning systems that flag problem issues before default is inevitable.
- 3.5.9 Utilize and expand the city's development programs and tools to jumpstart investment in the city's disadvantaged communities.
- 3.5.10 Support the timely development of infill housing on vacant lots. Use partnerships and incentives to reduce duration of vacancy.
- 3.5.11 Use education and code enforcement to ensure that rental housing is responsibly managed, and that the number and occupancy of dwelling units does not exceed legal limits.
- 3.5.12 Continue to work in a vigorous and multidisciplinary manner to identify and remedy problem properties that have disproportionate public safety and livability impacts on the surrounding community.



### **Housing Choice**

In some ways, the variety of housing developments in Minneapolis is a good match for its diverse population. In other ways, the existing housing stock, built over the course of a century, is inflexible in comparison with changing consumer preferences. For example, postwar housing that once accommodated middle class families might feel cramped by today's standards. There is also a relative scarcity of transitional housing designed for the aging baby boomer generation approaching retirement.

People's need for housing is dependent on their household size, and also on their time in life. Singles, couples, families with kids, empty nesters, and the elderly all experience changing needs for housing as time passes. The City of Minneapolis supports the development of housing that enriches these options and meets people's varying needs.

## Policy 3.6: Foster complete communities by preserving and increasing high quality housing opportunities suitable for all ages and household types.

- 3.6.1 Promote the development of housing suitable for people and households in
  - all life stages that can be adapted to accommodate changing housing needs over time.
- 3.6.2 Promote housing development in all communities that meets the needs of households of different sizes and income levels.
- 3.6.3 Maintain a healthy supply of multifamily ownership and rental housing, and promote the development of alternative forms of homeownership such as cooperative housing and cohousing.



The assortment of housing in this downtown neighborhood is suitable for a variety of ages and household types.

- 3.6.4 Provide and maintain moderate and high-density residential areas, as well as areas that are predominantly developed with single and two family structures.
- 3.6.5 Promote accessible housing designs to support persons with disabilities and the elderly.
- 3.6.6 Actively enforce anti-discrimination laws and act to promote Fair Housing practices.



### Housing Quality and Maintenance

The age, character and quality of housing play a large role in defining neighborhood character. Older homes possess unique architectural features and collectively define a neighborhood's visual character. They are defining assets that should be preserved where feasible.

Housing that is allowed to deteriorate can damage the health and safety of its occupants. It carries the equivalent to a financial debt that must be borne by an owner or occupant at some point in the future. For these reasons, the City devotes programmatic resources across several departments to maintain the condition of city housing.

## Policy 3.7: Maintain the quality, safety and unique character of the city's housing stock.

- 3.7.1 Promote and incentivize private investment in housing maintenance and renovation.
- 3.7.2 Encourage and support innovative programs and practices that reduce foreclosure, tax forfeiture, and demolition of the city's housing stock.
- 3.7.3 Attend carefully and promptly to vacant housing in order to reduce property damage and community impacts.
- 3.7.4 Utilize decision-making criteria when considering possible demolitions that recognize the value that the original housing stock typically has for surrounding properties and the community.



"Rebuilding Together" volunteers in 2007.

- 3.7.5 Promote the use of high quality materials in new housing construction to minimize long-term deterioration of the housing stock.
- 3.7.6 Continue regular inspections of rental housing to preserve its functionality and safety.
- 3.7.7 Administer <u>Truth in Sale of Housing</u> inspections for city housing to provide consumer disclosure information and to repair certain life-safety items.



- 3.7.8 Seek stronger enforcement methods to discourage the illegal stripping of metals and historic elements from vacant housing.
- 3.7.9 Reduce exposure to environmental health hazards such as lead-based paint and asthma triggers through enforcement of the property maintenance codes, and programmatic initiatives and partnerships.
- 3.7.10 Support the implementation of the <u>2010 Plan to Eliminate Childhood Lead Poisoning.</u>
- 3.7.11 Ensure safety, livability and durability of the housing stock through enforcement of the Minnesota State Building Code.

### Community Livability

Well-maintained houses and yards add value to a community. Conversely, houses or yards that are not maintained have unfortunate impacts on the desirability and market value of the surrounding community. Under City code, it is the responsibility of every property owner to maintain his or her property to minimum standards. The city is committed to enforcing these codes in order to maintain the strength and value of city neighborhoods.

## Policy 3.8: Preserve and strengthen community livability by enforcing high standards of property management and maintenance.

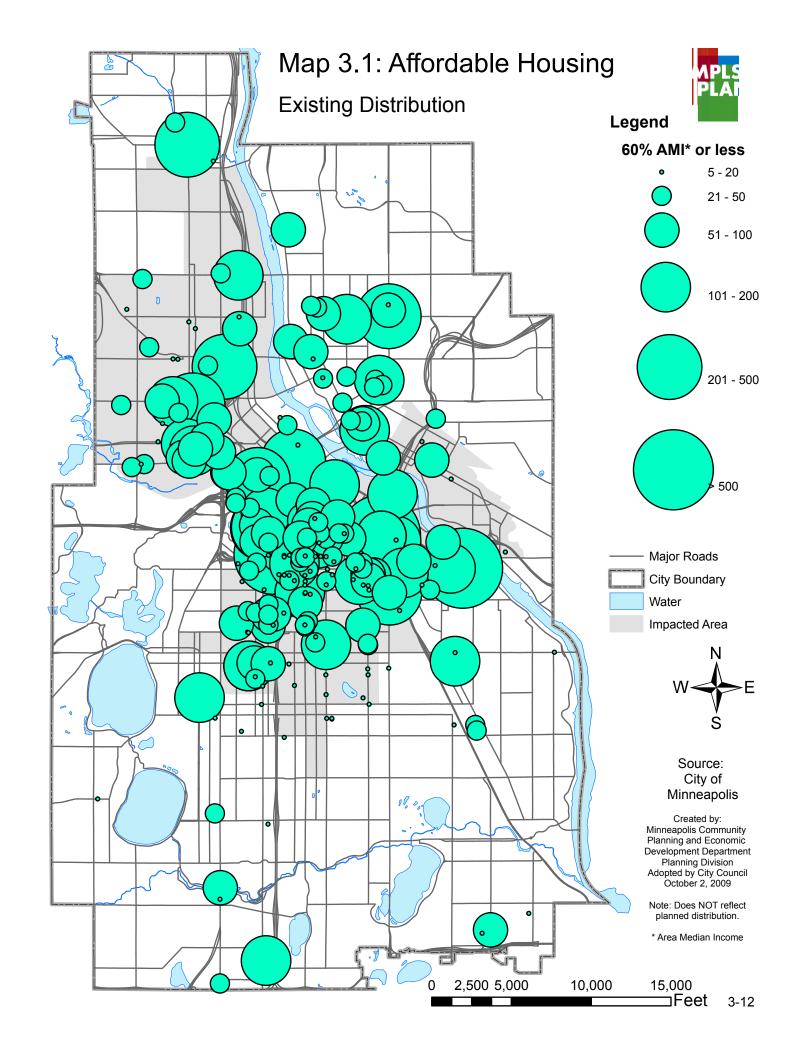
- 3.8.1 Ensure
  attractive,
  livable
  neighborhoods
  by education
  and
  enforcement of
  the housing and
  property
  maintenance
  codes.
- 3.8.2 Systematically inspect all residential parcels throughout Minneapolis to



Attractive landscaping enhances the value of a home and the appeal of a residential area.

make sure buildings and yards are properly maintained.

3.8.3 Reduce the number of vacant and boarded buildings.





## 4. Economic Development

Minneapolis will grow as the regional center for employment, commerce, industry and tourism, providing opportunities for residents, entrepreneurs and visitors.



The Southeast Minneapolis Industrial Area has benefited from the implementation of the 2001 SEMI Refined Master Plan with new stormwater management facilities, open space and a connected street system supporting a mix of uses and intensity of job growth.



Minneapolis is fortunate to have a robust economy. The city's economy is diversified with strength in numerous business sectors, including health care, finance, retail, and services. Minneapolis is home to a concentration of institutions of higher learning and boasts a correspondingly highly-educated workforce. The city has a vibrant arts community, a concentrated and dynamic Downtown core, and quality transit facilities. The diverse nature of the economy tempers impacts of any economic downturns, provides employment opportunities for all skill and education levels, and meets the retail and service needs of residents and visitors. These strong attributes define a city where people want to work, play, and visit. Minneapolis is committed to building on these strengths to enhance our sustainable economy.

The economic health of Minneapolis is not without its challenges. The K-12 public education system suffers from declining enrollment, low graduation rates, and competition from suburban, private, and charter schools. The perception of public safety citywide is a serious barrier to increased business activity. Like many central cities, Minneapolis faces competition from suburban and exurban areas for business development. National economic and demographic trends point to a shrinking workforce, so Minneapolis will need to be proactive in attracting and retaining a talent pool. Although Minneapolis is developed to its borders, it is still able to accommodate new growth. Opportunities for redevelopment exist, particularly along Commercial Corridors, within Downtown and other Growth Centers, and in Industrial Employment Districts.

Minneapolis recognizes that a healthy, sustainable economy depends on supporting its businesses, the people employed by those businesses, and the places in which businesses are located. The following chapter provides policy framework to grow and protect the health of these features.

## Policy 4.1: Support private sector growth to maintain a healthy, diverse economy.

- 4.1.1 Use public development resources and other tools to leverage maximum private sector investment for public benefit.
- 4.1.2 Seek out and implement long-term redevelopment projects that catalyze revitalization and private sector investment.
- 4.1.3 Engage higher education institutions such as the University of Minnesota in research, service, teaching, and development activities.
- 4.1.4 Improve the coordination of economic development activity among units of government, the business community, neighborhood organizations and nonprofit agencies.
- 4.1.5 Continue to streamline City <u>development review</u>, <u>permitting and licensing</u> to make it easier to develop property in the City of Minneapolis.



#### **Businesses**

Healthy businesses are essential to a vibrant destination city. The City of Minneapolis provides both policy and program assistance to a wide range of businesses that make the city their home. The City strives to facilitate assistance to these businesses through a variety of policies, programs, tools and approaches. Coordinating this assistance with the city's land use policies and regulations helps create conditions for business development, growth and retention across all sectors.



Future land use and infrastructure improvements in SEMI.

The City plays a significant role in maintaining and expanding the physical infrastructure that contributes to Minneapolis' competitive advantage in attracting, retaining and growing businesses. An example of increased infrastructure investment is the Southeast Minneapolis Industrial (SEMI) Area, a 700 acre rail yard being transformed into a light industrial park. The construction of stormwater management facilities, open space and a reconnected street system will support a new mix of uses north of University Avenue and opportunities for significant job growth in the area.

The City continues to be a leader in developing its technological infrastructure, most recently through its <u>Wireless Minneapolis</u> initiative. This is an example of a public sector technology investment that will have far-reaching effects on both the business community and city residents.

Not only does Wireless Minneapolis provide wireless internet access citywide, but it also positively impacts public safety, promotes a sustainable city, maximizes economic development opportunities, and addresses disparities in access to technology.



In 2007, Minneapolis was one of the first large cities in the US to go wireless.

The City also plays an important role in helping to remove pollution as a barrier to redevelopment. Through partnerships with the Minnesota Department of Employment and Economic Development (DEED), the Metropolitan Council and Hennepin County, public investments in pollution remediation have transformed polluted Minneapolis sites into new housing, health clinics, retail buildings and light industrial manufacturing facilities.



Despite the many assets and advantages of the City of Minneapolis, unique challenges exist to operating a business or developing commercial real estate in an urban area. Due to these challenges, the private lending market often limits financing in central cities to offset the perceived higher risk. To counteract this market conservatism, the city has a <u>number of financing programs for loans to businesses</u> of all types and sizes and real estate development projects, from performing arts centers to factories to cooperative grocery stores.

## Policy 4.2: Promote business start-ups, retention and expansion to bolster the existing economic base.



Thriving on Central Avenue in Northeast Minneapolis, Holy Land Deli expanded to another location at the Midtown Global Market and added a hummus production facility.

- 4.2.1 Promote access to the resources and information necessary for successful operation of healthy businesses.
- 4.2.2 Continue to link businesses with organizations that provide technical assistance and best practice models within the city.
- 4.2.3 Continue to assist businesses in identifying appropriate locations within the city.
- 4.2.4 Assist in site assembly for strategic commercial and industrial properties where appropriate.
- 4.2.5 Encourage small business opportunities, such as appropriate home occupations and business incubators, in order to promote individual entrepreneurs and business formation.

# Policy 4.3: Develop and maintain the city's technological and information infrastructure to ensure the long-term success and competitiveness of Minneapolis in regional, national and global markets.

- 4.3.1 Promote the use of best available technology in upgrading communication linkages to the region and the world.
- 4.3.2 Develop new and innovative means for city government to communicate with businesses.
- 4.3.3 Develop technological and information infrastructure in order to offer high quality working environments for businesses.
- 4.3.4 Electronically link schools, libraries and community centers into



telecommunications and information infrastructure.

## Policy 4.4: Remove site contamination as a barrier to private investment and redevelopment.

- 4.4.1 Continue to coordinate pollution cleanup and land readying activities in order to provide clean and competitive sites.
- 4.4.2 Encourage federal, state and metropolitan support for pollution cleanup and land readying activities.
- 4.4.3 Establish a priorities hierarchy for contaminated sites that reflects the City's business plan.



Between 1995 and 2002 the North Washington Jobs Park added seven new jobgenerating buildings on previously contaminated land.

## Policy 4.5: Attract businesses investing in high job density and low impact, light industrial activity to support the existing economic base.

- 4.5.1 Align workforce investments with targeted industrial employers identified and defined in the <u>Industrial Land Use and Employment Policy Plan</u> as "21st Century" and "Opportunity" industries.
- 4.5.2 Set aside at least half of the city's available industrial business assistance for targeted industries.
- 4.5.3 Encourage on-site job training among industrial workforce development programs.
- 4.5.4 Maintain and continue to develop strong relationships with the Minneapolis Workforce Investment Board, the Minnesota Department of Employment and Economic Development, the Minnesota State Colleges and Universities system, the University of Minnesota, and the Minneapolis School District.
- 4.5.5 Increase resident employment at existing and new industrial businesses through workforce development.
- 4.5.6 Institute biennial surveys of industrial businesses to ensure city efforts are responsive to current needs and conditions.

#### People

Human capital is critical to the success of any economy. In order to meet the needs of developing and growing business in the regional economy, the city's labor force must be well educated, appropriately skilled and adequately prepared for emerging



job opportunities. For all residents to enjoy the benefit of economic growth and wealth creation, efforts must focus on preparing a qualified, ready-to-employ resident workforce.



Art Attack at the Northrup King building in Northeast Minneapolis provides artists like Adrienne Grahn an opportunity to open their studies to a broader audience.

The individuals who make up the Minneapolis workforce are at the heart of the city's diverse economy. The spirit and energy that entrepreneurs and artists bring to Minneapolis is paramount to the city's economic success. Historically, artists have played a large role in realizing the hidden potential of many Minneapolis neighborhoods (see Chapter 9: Arts & Culture for more information). Additionally, recent immigrants who open their own businesses have fueled revitalization of areas through

their small business activities. The City provides tools and support to these independent entrepreneurs.

A full spectrum of educational opportunities, from pre-kindergarten to continuing education, allows residents to be prepared for this dynamic economy. Minneapolis is already strong in its post-secondary options, but more attention needs to be paid to preparing Minneapolis children and youth for the workforce and providing opportunities for current workers to gain more skills. Examples of the city's commitment to youth include programs linking middle- and high-school students with summer jobs, as well as putting high school graduates on a career path by getting tuition paid for two years at participating local colleges.

For residents to thrive, they need options available to make the best decisions for their employment. As an urban center, Minneapolis is rich in educational opportunities, transit alternatives, a diverse job base, and housing choices. By assisting to remove barriers to employment, residents can make their own job choices through each stage of their lives.

## Policy 4.6 Focus resources and efforts on building and maintaining a skilled and employable workforce.

- 4.6.1 Promote the work readiness of city residents and the development of skills that respond to emerging opportunities with employers that offer good jobs.
- 4.6.2 Create vocational and occupational training for job seekers in collaboration with corporate partners and educational institutions.



4.6.3 Support youth employment, apprenticeship and mentorship initiatives in preparation for city jobs.



Donna, Abdihakim, and Sadiki spent summer break of 2007 working with the Lake Street Council as part of the <u>Step-Up program</u>.



Carrie, a student at Patrick Henry High School, was a Step-Up intern for Carlson Companies in 2007.

## Policy 4.7: Focus resources and efforts on connecting residents to good jobs.

- 4.7.1 Continue to link job creation for unemployed and underemployed residents to city assistance programs.
- 4.7.2 Work to inform Minneapolis residents of jobs that are available in the city and throughout the metropolitan region.

# Policy 4.8: Continue to pursue the removal of barriers that prevent residents from holding living wage jobs and achieving economic self-sufficiency.

- 4.8.1 Improve the affordability and variety of housing choices for Minneapolis workers.
- 4.8.2 Improve public and alternative transportation that links workers to jobs.
- 4.8.3 Promote a more comprehensive range of child and elder care services.
- 4.8.4 Promote on-site day care as an employment assistance program.
- 4.8.5 Generate more opportunities to retain older workers in the workforce.



#### **Places**

Businesses are located in a variety of places throughout the city. These places, whether Downtown, business districts, neighborhoods, or industrial areas, are essential to maintaining a high quality attractive city to businesses and their employees, as well as the surrounding residential areas. The vitality of these places is supported through private sector investments, public and private partnerships, and the city's business finance tools, infrastructure investments, and supportive land use policies.

#### **Business Districts**



Cedar Riverside is well-known for its theaters, music venues, destination retailers, and ethnic businesses.

Minneapolis supports commercial growth in areas well served by transit, a good pedestrian environment, and a correspondingly growing residential population. These business districts are fundamental to creating and sustaining a healthy city. Minneapolis business districts provide essential goods, services, gathering places, jobs and entrepreneurial opportunities to Minneapolis residents and workers throughout the city. Many business districts serve as destinations; attracting visitors to sample unique restaurants,

buy specialty goods, or experience the eclectic of a diverse urban environment. The city's Great Streets initiative is an example of a program that works to enhance the success of commercial corridors and nodes, supporting small businesses and the neighborhoods surrounding them.

Policy 4.9: Focus economic development efforts in strategic locations for

continued growth and sustained vitality.

4.9.1 Prioritize economic development efforts around designated neighborhood commercial nodes, commercial corridors, activity centers, and growth centers.

4.9.2 Support industrial growth and expansion within Industrial



A 10-acre high-intensity industrial site in the Humboldt Industrial Employment District was replaced with Real Estate Recycling, a change that dramatically increased the number of industrial jobs in the area.

4-8



Employment Districts.

#### **Industrial Employment Districts**

As the industrial sectors grow, it is the responsibility of the City to guide the growth to maximize benefits for both industrial businesses and residents. Industrial Employment Districts (Map 4.2), as identified in the <u>Industrial Land Use and Employment Policy Plan</u>, identify parts of the city as protected areas for prime industrial space. These areas are usually well-served by rail and the interstate systems for easy access, and offer opportunities for business growth with minimal impacts to residential neighborhoods. Within these districts, synergy is encouraged among industrial businesses to help support business efficiencies, job retention, and better utilization of sites.

#### Policy 4.10: Prioritize Industrial Employment Districts for industrial uses.

- 4.10.1 Secure vacant and underutilized sites within Industrial Employment Districts for industrial uses.
- 4.10.2 Coordinate infrastructure investments with needs of targeted industrial employers.
- 4.10.3 Support the continuation of existing freight rail infrastructure, where consistent with land use policy, that serve Industrial Employment Districts as an alternative system of moving goods, separate from the interstate and truck route system.

#### Large-Scale Revitalization

Large-scale revitalization efforts require the most assistance by the City but reap impressive benefits. Areas in need of revitalization are usually identified through policy and go through extensive visioning processes with stakeholders from the surrounding area to set goals and priorities. Once an adopted plan is in place, public and private partners proceed with implementation, often spanning multiple years. Implementation may include additional analysis, such as engineering and architectural studies, rezoning studies, and infrastructure improvements to support access or pedestrian amenities as well as private investment and development.

The City has played a major role in the revitalization of the Downtown riverfront. With the direction of an adopted small area plan, the Mill District portion of the riverfront was transformed from an abandoned rail yard and industrial area into a completely new Downtown neighborhood. The street grid was reestablished, industrial pollution was cleaned up, connections were created to the river, park space was allocated, and sites were subdivided to prepare the area for a large amount of new housing and commercial development that would not have been possible without strategic public investments.



#### Mill District: Before and After



2<sup>nd</sup> Street South, east of 5<sup>th</sup> Street in the 1980's. In 1994, the estimated market value of the area was \$25 million

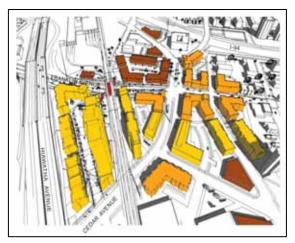


Twelve years later, the estimated market value had jumped to \$334 million

Strategic infrastructure projects can create a sense of place where none existed. Not only are major road infrastructure and cleanup projects important, but they in turn pave the way for consistent pedestrian lighting and landscaping, public gathering spaces, and possible restoration of historic elements of an area. The City will continue to identify parts of the city in need of these improvements – such as Shoreham Yards and the Hiawatha Light Rail Corridor – as future places where people want to live, work, and visit.

### Policy 4.11: Attract businesses to the city through strategic infrastructure investments.

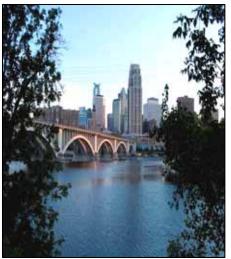
- 4.11.1 Enhance and maintain transportation, wastewater, green space, and other physical infrastructure to serve the needs of businesses where appropriate.
- 4.11.2 Promote sustainability practices in the redevelopment of areas, including access to mass transit and the use of green technology.
- 4.11.3 Prioritize strategic infrastructure investments in alignment with small area plans and other adopted policies.



Policy implementation for the Franklin transit station area includes creating new development parcels and increasing pedestrian safety through the reconfiguration of the area's major street network.



#### **Downtown Strength**



Downtown Minneapolis is the center of the Upper Midwest economic region.

Downtown is the region's cultural and business center with more than 150,000 employees and 900,000 visitors annually. It is home to world class cultural and entertainment venues, numerous large employers, over 5,000 hotel rooms, and around 30,000 residents. Recent planning ensures that residents, workers, and visitors are served by high quality transit service and expanded commuter bicycle routes. Future planning for Downtown will capitalize on this economic vitality and work towards increasing this status. By promoting and enhancing its unique urban qualities, Downtown Minneapolis can sustain its competitive advantage over its regional and global competitors.

By retaining existing employers and encouraging others to relocate, Downtown will continue to serve as the Upper Midwest's largest employment center. Downtown currently includes 42 percent of the region's Class-A office space, with the majority of the tenant base comprised of financial/insurance firms, law firms, and other professional service providers. Another substantial tenant presence – concentrated along the south end of Nicollet Mall—are Target vendors surrounding the company's downtown offices. The variety of business industries in Downtown strengthens the area's diversity and vitality.

Current projections show that Downtown will absorb approximately 6.6 million square feet of new office development by 2020. The City aspires to increase that absorption rate and reinforce the prominence of Downtown as a desirable and sustainable place to do business for both large employers and business startups. The Downtown office core should develop in a concentrated pattern, supporting Downtown retail and taking advantage of transit facilities and nearby housing. Housing should be encouraged to locate on the periphery of the office core but still in close proximity for convenient access.



A key element of a successful Downtown is also the presence of places to shop. Downtown will need to take more aggressive steps in order to successfully

participate in an increasingly competitive and changing metropolitan retail market. Historically, Downtown retail has experienced ups and downs corresponding to fluctuations in the office market. However, the growing presence of a residential population has turned Downtown into more of a 24-hour city, supporting Downtown retail and entertainment attractions. Functional retail, where office workers and downtown residents



Nicollet Mall is a fun place to shop and watch people walking by.

can shop for daily goods and services, will help Downtown compete with the suburbs for additional employers. Also, creating a destination retail presence along Nicollet Mall can capture the new high-end tier of Downtown residents and visitors.

While the most appropriate location for prominent retailers is in the office core, Downtown's growing resident population needs neighborhood-serving retail. The Downtown residential population is located in neighborhoods surrounding the urban core. More than distance separates them. The office core, major streets and highway corridors, and difficult pedestrian environments (see Map 4.1 Downtown Districts) impede connectedness. Because of this, Downtown's nearly 14,000 households do not comprise a single market but instead several submarkets. Downtown office workers will most likely continue to be a primary driver for the Downtown retail market, so any new neighborhood-serving retailers will likely position themselves in areas between the office core and residential neighborhoods. The most desirable location for these uses is along the designated Commercial Corridors.

In order to sustain a Downtown that provides entertainment as well as goods and services, it will be important to improve both the number of visitors and residents to the area. Event venues – which attract a mix of local residents, regional residents, regional visitors, convention delegates and out-of-state visitors – play a major role in generating and supporting retail, restaurant, and entertainment businesses. For these reasons, Minneapolis will continue to support the growth of entertainment opportunities in Downtown.

Cultural, entertainment, hospitality and educational opportunities contribute to the success of Downtown. In Downtown it is possible to work during the day, attend evening classes at one of several colleges, go to conventions, shop at a variety of stores, and visit world-renown museums and theaters, professional sports games, restaurants or nightclubs. Downtown is not only a good place to work and shop, it is also a fun and unique place to spend time.



Highlighting Downtown as a great place to work and visit is a high priority for the City. Downtown needs to provide a positive image, offer an attractive and safe environment, and capitalize on its unique qualities as the city center to better attract businesses, shoppers, visitors, and residents. Meeting these challenges will enable Downtown to continue its role as the economic and cultural center for the region.

## Policy 4.12: Downtown will continue to be the economic engine of the Upper Midwest region by strengthening its employment core.

- 4.12.1 Retain a concentrated office core (identified as "Commercial" on the Future Land Use map) where residential development as a primary use and expansions of government uses are discouraged.
- 4.12.2 Encourage new office development at premium sites on the north end of Nicollet Mall in addition to other locations within the core.
- 4.12.3 Encourage business retention and expansion programs aimed at supporting major employers in Downtown.
- 4.12.4 Develop a marketing strategy geared toward enticing employers to move into Downtown.
- 4.12.5 Support the continued strength and growth of the Downtown convention and hospitality industry.

## Policy 4.13: Downtown will continue to be the most sustainable place to do business in the metro area.

- 4.13.1 Support the development of a variety of businesses of all sizes within Downtown.
- 4.13.2 Encourage existing Downtown buildings to retrofit using sustainable design practices, including energy efficiency, additional green space, and bicycle facilities.
- 4.13.3 Support opportunities for new Downtown development to build to a high standard of sustainability.
- 4.13.4 Increase the pedestrian orientation of the Commercial Corridors connecting to adjacent neighborhoods and cultural amenities.
- 4.13.5 Create inviting public spaces and green corridors within the office core.



This sidewalk area on the Washington Avenue Commercial Corridor is dark and uninviting.



- 4.13.6 Provide efficient transportation options for Downtown users to get around within the district.
- 4.13.7 Continue to support Downtown housing that is affordable for all people who live and work in Downtown.
- 4.13.8 Continue to improve Downtown infrastructure to meet the needs of businesses, residents and visitors.

### Policy 4.14: Encourage recruitment and retention of retailers in Downtown that fill a functional need for office workers and residents.

4.14.1 Create a marketing strategy to entice functional retailers into locating Downtown.

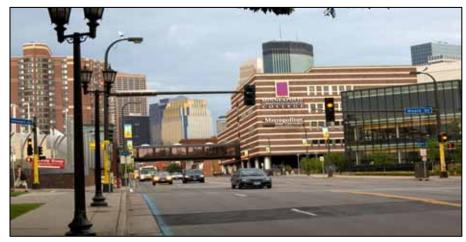


The Downtown Target headquarters is a two-story model with a visible vertical circulation point, leading employees and shoppers from the street into the skyway system.

- 4.14.2 Encourage neighborhood-serving retailers to locate in areas serving the Downtown residential areas, such as on Commercial Corridors.
- 4.14.3 Promote good urban design principles with new large-scale retailers in Downtown.
- 4.14.4 Create parking strategies for Downtown retailers to make shopping more convenient, such as short-term on-street parking, parking validation programs, and clear signage and directions to available parking facilities.



Policy 4.15: Continue to support the variety of institutional uses Downtown that serve students, visitors, employees, and residents.



Opportunities for education and life-long learning are important to the competitiveness of any economic center. Minneapolis Community & Technical College and Metropolitan State University are located on the southern end of the office core.

- 4.15.1 Concentrate government offices and social services to promote functional efficiencies between the various branches and levels of government.
- 4.15.2 Maintain a presence of educational facilities in Downtown pre-K, K-12, and higher education to support Minneapolis residents in achieving employment goals.
- 4.15.3 Allow for the physical expansion of medical services in Downtown with designs that effectively integrate them into the surrounding neighborhood.

# Policy 4.16 Strengthen Downtown's position as a regional cultural, entertainment and commercial center that serves Downtown employees, visitors, and residents.

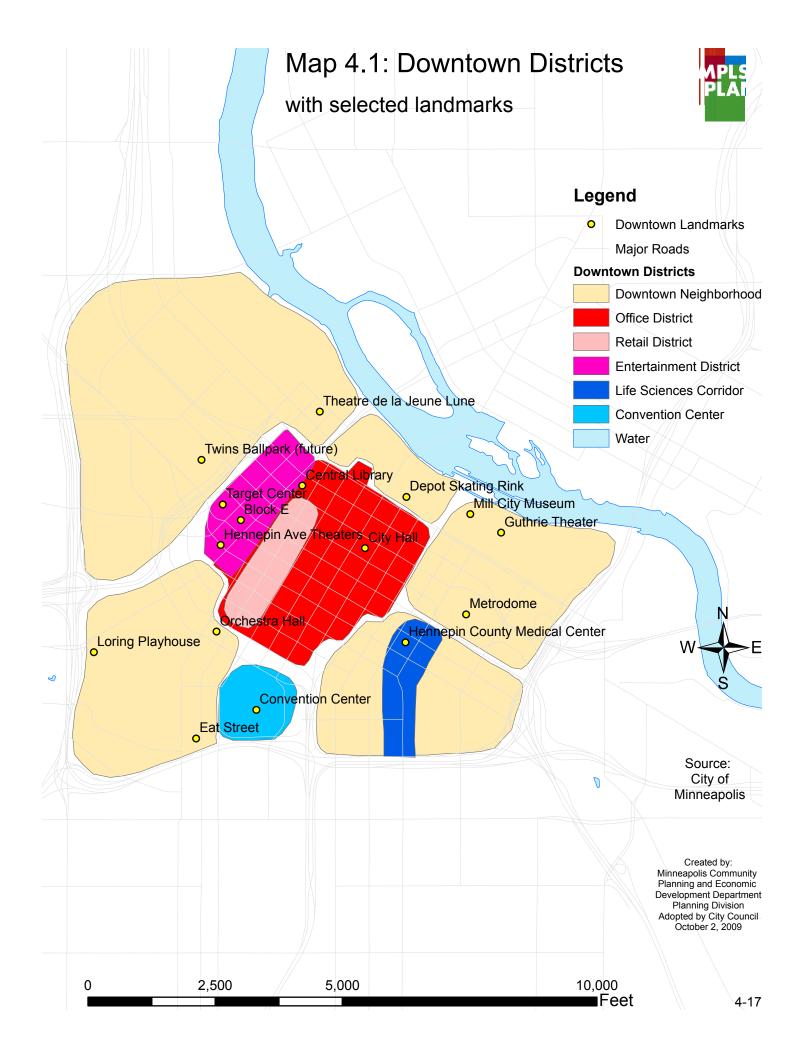
- 4.16.1 Maintain a destination Retail District along Nicollet Mall.
- 4.16.2 Provide a continuous retail presence within the Retail District by requiring active commercial uses on the street level.
- 4.16.3 Support an Entertainment District in Downtown with primarily entertainment uses at the street level.
- 4.16.4 Encourage activities and uses in Downtown for people of all ages.
- 4.16.5 Support development of Downtown Minneapolis as a unique retail, arts, and

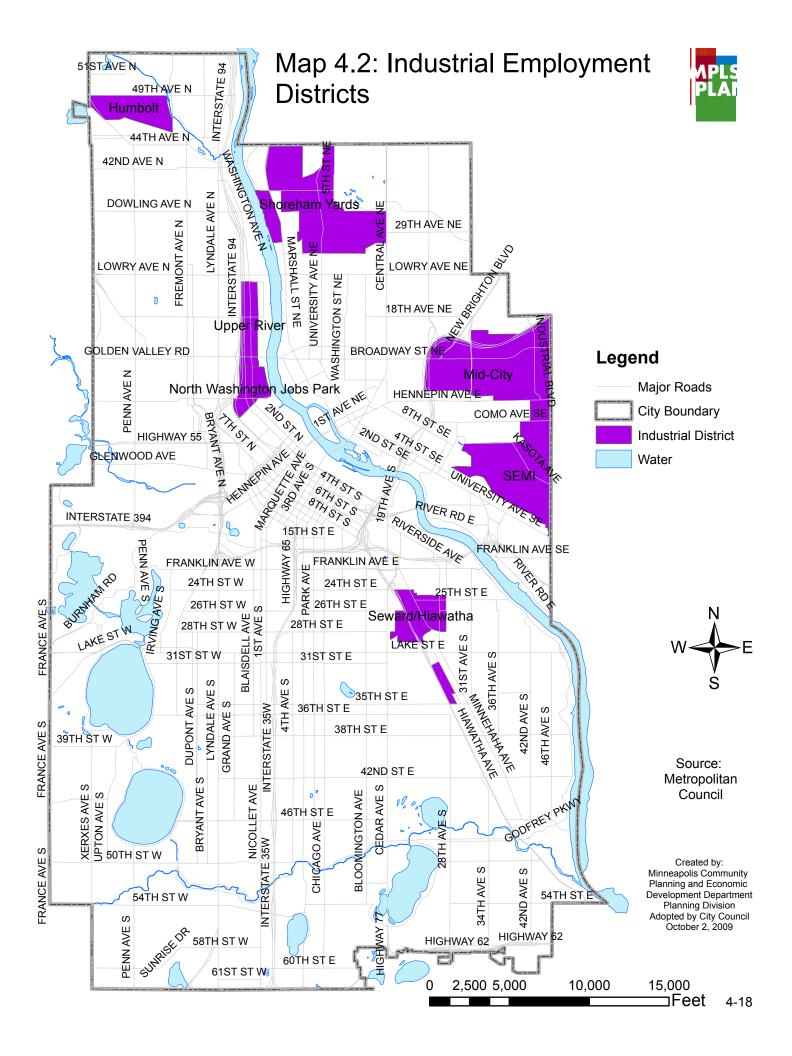


- cultural destination.
- 4.16.6 Preserve and build upon Downtown's cultural, entertainment and hospitality amenities, such as the convention center, professional sports venues and the Central Riverfront.
- 4.16.7 Improve real and perceived safety issues in Downtown.



The presence of police walking patrols improves the perception of Downtown safety.







### 5. Public Services and Facilities

Through sound management and strategic investments, Minneapolis will maintain and develop public services and facilities that promote health, safety and an enhanced quality of life for all members of this growing community.





A sustainable city is one in which its residents live in a healthy and safe environment, have access to excellent education, and have opportunities to participate in civic life. A sustainable city plans carefully for its future through meaningful public engagement while making its core functions efficient and easily accessible. This chapter outlines policies and implementation steps for promoting the sustainability of government functions and individual well-being through supporting education, libraries, coordinated public facilities, quality infrastructure, public safety, public health, and equal access to government services.

### **Public Buildings**

Public schools, libraries, recreation centers, and park buildings all serve as centers of neighborhood activity (see Map 5.1). In Minneapolis, these facilities are owned and maintained by separate entities, including Minneapolis Public Schools, Hennepin County Library, and the Minneapolis Park and Recreation Board. Each makes its facilities available on a limited basis to community groups and members of the public for uses outside of its core programming, such as neighborhood meetings or intramural sports. This practice helps connect those agencies to the community and further strengthens the role of public buildings as community focal points.

As demographics and programming change, so will the need for public buildings. Some agencies will expand services, while others will be looking for new ways of using facilities that are no longer needed for their original purpose. The City of Minneapolis will play a role in encouraging public agencies to explore opportunities for sharing facilities where the community and financial benefits are apparent. In the case that a public building closes altogether or a new facility is built, the City will ensure that the re-use or establishment of that building is consistent with community priorities



Thoughtful coordination, planning, and community involvement will be required to identify appropriate ways to re-use public buildings. Tuttle School, above, closed in 2007.

and the land use policies of The Minneapolis Plan.

Land use planning processes throughout the city sometimes identify city-owned buildings and facilities that, if closed or moved elsewhere, would help achieve desirable development objectives. An example is a <u>Public Works</u> facility near the 46<sup>th</sup> Street Light Rail Transit station that will be surplus property after its operations are combined with others at a new facility under development. City departments will continue to work together to identify these opportunities, secure funding for relocation, and plan for appropriate siting of new facilities.



### Policy 5.1: Coordinate facility planning among city departments and public institutions.

- 5.1.1 Encourage communication and coordination among city departments, Hennepin County, Minneapolis Park and Recreation Board, and Minneapolis Public Schools to share use of facilities.
- 5.1.2 Explore opportunities for co-location of public services where appropriate.
- 5.1.3 Work with all partner agencies, including City departments, to ensure that facility planning is consistent with the land use policies of The Minneapolis Plan.
- 5.1.4 Develop cooperative programming that takes advantage of the resources and missions of various public institutions.



Students in Minneapolis have access to a wide variety of educational opportunities.

#### Education

Minneapolis offers a wealth of educational opportunities to residents of the city and the region, including early childhood learning centers, the Minneapolis Public Schools' community and magnet schools, private and charter K-12 schools, and vocational and higher education institutions. These institutions operate through a variety of funding and management structures, with limited involvement by the City of Minneapolis. The City has many opportunities, however, to ensure quality lifelong education for all Minneapolis residents. Access to appropriate facilities, a diverse mix of students, strong neighborhood connections, and opportunities for learning outside of the classroom all contribute to a well-performing school. Through its role in providing planning and infrastructure, the City will continue to create an urban environment that supports lifelong learning.



# Policy 5.2: Support the efforts of public and private institutions to provide a wide range of educational choices for Minneapolis students and residents throughout the city.

- 5.2.1 Work with institutions to ensure that school facilities are safe, accessible, and functionally appropriate for a diverse array of educational programs.
- 5.2.2 Encourage new educational institutions to locate in existing school buildings, or at sites that take advantage of proximity to transit such as neighborhood commercial nodes or commercial and community corridors.
- 5.2.3 Encourage educational institutions to locate downtown, in areas that best take advantage of proximity to office, retail and housing.
- 5.2.4 Connect residents to educational opportunities throughout the city, including magnet schools, community education, early childhood family education, post-secondary education, and vocational and higher education.
- 5.2.5 Encourage the use of public transportation as a means of connecting students to educational opportunities throughout the city.
- 5.2.6 Develop partnerships between City departments and educational institutions to align strategies and provide internships, class projects, and other opportunities to connect students to the community.
- 5.2.7 Encourage partnerships between educational institutions and private sector employers to promote training opportunities and entrepreneurial advancements.
- 5.2.8 Provide infrastructure (sidewalks, crosswalks, signage, etc), education, and enforcement to ensure safe routes to neighborhood schools.

#### Libraries

In addition to educational institutions, libraries provide an essential public service that contributes to lifelong learning. Like schools, the City of Minneapolis does not directly provide library service. All libraries in Minneapolis and suburban Hennepin County are owned and operated by Hennepin County Library as a result of unification with the Minneapolis Public Library. While the strengths of each system contributes to a more effective county-wide library, Minneapolis will continue to play a role in ensuring that the libraries within its boundaries provide services that are unique to a growing and changing urban environment.



# Policy 5.3: Support a strong library system with excellent services, programs, and collections to meet a variety of informational and educational needs.

- 5.3.1 Through active engagement with the Hennepin County Library board, ensure that the unified Hennepin County Library contributes to the long-term viability of libraries in Minneapolis.
- 5.3.2 Advocate for high quality service that is responsive to the diverse and changing needs and interests of all library patrons.
- 5.3.3 Ensure open access to a premier collection of print and electronic material.
- 5.3.4 Provide an equitable array of services and programs that enable, encourage, and teach people to connect to information.

### Property and Infrastructure

Minneapolis strives to keep the built environment safe, attractive and functional for residents, businesses and visitors. The City provides basic infrastructure and public services to all neighborhoods, including bridges, streets, traffic signals, street lighting, drinking water, sanitary sewer, stormwater management, and solid waste removal and recycling services. It is necessary to maintain these functions to keep the city viable, and to plan for the future as the city evolves. This means maintaining a capital improvement program (CIP) that includes an inventory of facilities, forecasts future needs, and plans for the location of future investments (see Appendix H). Given limited resources for capital improvements, the CIP must reflect a balance of the city's priorities, from immediate safety improvements to long-term investments with economic



Improving the quality and condition of infrastructure is critical to maintaining a sustainable city.

development outcomes. It should also take advantage of opportunities for partnering with other agencies to leverage funds and improve coordination, while maintaining ownership of the city's most valuable assets, such as its prized water filtration plant.

In addition to public infrastructure, it is important that both new construction and



older buildings located in the city are safe and habitable. The scope of this work can range from building code conformance to fire code requirements. Coordinating enforcement efforts within City departments will ensure that common goals are accomplished. Part of keeping up the appearance of neighborhoods involves educating the public. Through education and enforcement, the City will ensure that all neighborhoods are attractive and livable and everyone can take pride in them.

### Policy 5.4: Enhance the safety, appearance, and effectiveness of the city's infrastructure.

- 5.4.1 Maintain and improve the quality and condition of public streets, sidewalks, bridges, water systems, and other public infrastructure.
- 5.4.2 Plan for and provide public facilities which anticipate growth needs, use fiscal resources efficiently, and meet realistic timelines.
- 5.4.3 Prioritize capital improvements according to an objective set of criteria consistent with adopted goals and policies, including those of The Minneapolis Plan.
- 5.4.4 Encourage the creation of special service districts downtown and in other business districts in order to enhance streetscapes, provide security services, and maintain the public realm.

# Policy 5.5: Improve the appearance and physical condition of private property throughout the city.

- 5.5.1 Educate the public about regulations affecting the maintenance of private property.
- 5.5.2 Use regulation and the development review process to ensure that redevelopment enhances the safety and appearance of private property.
- 5.5.3 Provide coordinated licensing, inspection and enforcement services aimed at ensuring attractive and livable neighborhoods.

#### **Public Safety**

Watching over safety and security is a traditional function of government, and is especially important for achieving sustainable growth. Reducing crime and improving the perception of safety will affect the degree to which Minneapolis retains and attracts residents, jobs, and visitors.

Rapid response to emergencies is a function that calls upon all sectors of government. The collapse of the Interstate 35W bridge in 2007 demonstrated that first responders, such as the Minneapolis Fire Department, are critical to recovery and safety functions. The response also highlighted the importance of maintaining an



emergency operations plan and coordinating closely with other public safety agencies.

Every neighborhood merits the same degree of safety. The Minneapolis Police Department has committed to a citywide community-based crime prevention approach in which the department works with individual neighborhoods to reduce the fear of crime, foster community and police cooperation, and improve



The Interstate 35W bridge collapse of 2007 demonstrated the critical role of first responders and maintaining an emergency operations plan.

the quality of life in Minneapolis neighborhoods. These methods are based on a shared commitment to making neighborhoods peaceful and livable environments. The effectiveness of such broad, community-based measures must be complemented by police and prosecution initiatives aimed at improving crime prevention and law enforcement. Strategic thinking about resource allocation and sharing of information between different jurisdictions, such as Hennepin County, are also tremendously important in order to use financial resources and personnel most effectively.

In addition to keeping neighborhoods safe, it is essential for Downtown to be safe and to project an image of safety. Downtown is the regional center of commerce and culture and a destination for more visitors than any other place in the city. As a result, the rise and fall of the incidence of crime downtown affects the Minneapolis experience for a large number of people. Law enforcement strategies for Downtown should be designed and implemented with sensitivity to its unique role in the city and region.

### Policy 5.6: Improve the safety and security of residents, workers, and visitors.

- 5.6.1 Improve the effectiveness of law enforcement through community outreach efforts and focusing resources in areas of need.
- 5.6.2 Strengthen cooperative efforts with other agencies, especially <u>Hennepin</u> County, to improve conviction rates for criminal offenses.
- 5.6.3 Augment community-based policing with neighborhood-driven crime prevention efforts, including educating the public about laws and available resources and services.
- 5.6.4 Maintain and enhance a public safety infrastructure that improves response time to police and fire calls, implements new technologies, provides operation and training opportunities and facilities, and improves communication among public safety agencies.



- 5.6.5 Maintain a law enforcement emphasis downtown, recognizing its unique position as the center of activity in the city and region.
- 5.6.6 Maintain an <u>Emergency Operations Plan</u> by planning, acquiring equipment, and training for response to emergencies and disasters.

#### **Public Health**

There has been a traditional link between public health and planning since the earliest planning efforts. The exposé of the squalid housing conditions of New York City tenements in the late nineteenth century by photographer Jacob Riis set off a movement to improve living conditions in central cities. The planning and public

health connection is still strong, as evident in the work of current practitioners to create healthy places. Through land use, transportation, and infrastructure decisions, community design influences individual and community health. From reducing obesity by creating walkable communities to improving air quality through decreased reliance on automobile travel, public health issues can be addressed through planning policies.



Farmers markets contribute to good nutrition by providing a source for healthy, locally-grown produce.

Minneapolis can improve the

health of all residents by promoting community design and healthy environments. Minneapolis neighborhoods should be designed to allow and encourage residents to be healthy. Walkable neighborhoods, with a mix of residential, employment, recreation, and commercial opportunities enable people to walk or bike to their destinations. Adequate public transportation reduces the need for automobile use, which can improve air quality by reducing pollutants from vehicle emissions. Good nutrition can be sustained by ensuring that all residents have access to a full-service grocery store as well as promoting community gardens and farmers markets. Minneapolis can also minimize disease-causing risk factors, such as reducing the harmful effects of lead poisoning with lead paint remediation programs and improving air quality by prohibiting smoking in public places.

### Policy 5.7: Protect and improve individual, community, and environmental health.

5.7.1 Support the health of individuals through direct services, initiatives, research,



- and advocacy.
- 5.7.2 Integrate physical activity into the everyday life of residents through land use and transportation planning.
- 5.7.3 Promote nutrition using strategies to ensure access to healthy foods for all residents.
- 5.7.4 Implement regulations and incentives that ensure healthy homes, workplaces, and other environments

# Equal Access and Community Engagement

The City of Minneapolis offers a wide array of services to people who live, work and play within its boundaries. Many of these functions implement the policies of this plan, while others are core responsibilities of any municipality and receive more detailed policy guidance elsewhere. In either case, all activities undertaken by the City are taking place in the context of a growing and increasingly diverse community. As demographics change

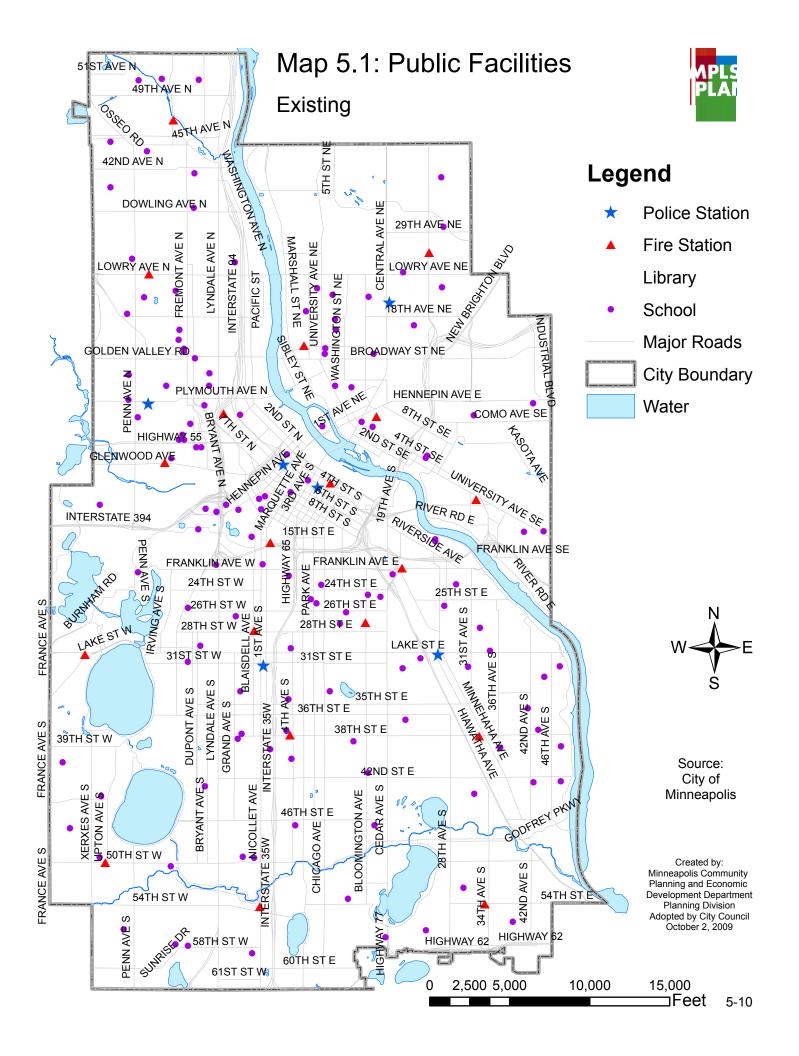


At the Minneapolis Development Review counter, residents, contractors, and developers can access several city services in one place.

and policies for the future of the city continue to be refined, processes for interfacing with the public should be refined as well. This includes ensuring that decision-making involves effective engagement with a full range of stakeholders.

## Policy 5.8: Make city government more responsive to the needs of people who use its services.

- 5.8.1 Ensure equal access to city services and contracts across the protected classes.
- 5.8.2 Continue to improve accessibility of core government functions through service enhancements such as Minneapolis Development Review and Minneapolis 311.
- 5.8.3 Effectively <u>engage the public</u> when making decisions that create, remove, or change a city service, project, or policy.
- 5.8.4 Take steps to ensure that membership of city boards and commissions represent a cross section of the city's cultural diversity and geography.





### 6. Environment

Minneapolis will promote sustainable design practices in the preservation, development, and maintenance of its natural and built environments, provide equal access to all of the city's resources and natural amenities, and support the local and regional economy without compromising the needs of future generations.



Minneapolis is recognized for its commitment to sustainability by government agencies like the US Environmental Protection Agency and by consumer groups like move.com, a real estate and home improvement organization.

Minneapolis is a national leader in sustainability, pursuing an agenda to minimize its ecological footprint, use of natural resources conservatively, and continue to build a healthy economy. The City adopted <u>Sustainability Indicators</u> as a means of focusing and measuring its efforts.



The City promotes environmental stewardship in a variety of ways:

- Revising and ensuring compliance with ordinances and policies.
- Researching and implementing best practices.
- Providing incentives to the market to encourage environmentally-beneficial practices.
- Providing information and outreach to residents, businesses, developers and other organizations.
- Implementing sustainable operation and maintenance practices, such as fleet management.
- Integrating environmental, social and economic objectives for sustainable growth and development into city policies.
- Encouraging partnerships with other organizations within the city to make public buildings, operations and maintenance sustainable.
- Advocating at various government levels on sustainability issues.
- Leading by example.

This chapter addresses City policies and implementation steps related to City operations, global warming, climate change, resource conservation and air quality, renewable energy, sustainable sites, the urban tree canopy, water resource, noise, indoor environmental quality, and social equity.

#### **City Operations**

The City of Minneapolis is committed to sustainable practices. With over 3,600 employees, 150 facilities, 1,063 miles of roadways, 832 miles of sanitary sewers, 556 miles of storm drains and 1,000 miles of water mains, the City is in a unique position to implement and influence approaches to achieving a balance between the environment, the economy and the community. That unique position is reinforced by its direct purchasing impacts and indirect impact of transferring its knowledge to others. As early adopters, the City can demonstrate and showcase applications of new technologies, such as green roofs, rain gardens, porous-pavement surfaces, and the use of environmentally friendly cleaning products.

## Policy 6.1: Integrate environmental, social and economic goals into decision-making processes at all levels.

6.1.1 Increase usage of renewable energy systems consistent with adopted city policy.

6-2



- 6.1.2 Promote efficient use of natural and limited resources when renovating, constructing or operating city facilities and in general city operations.
- 6.1.3 Apply the city-adopted <u>US Green Building Council's LEED (Leadership in Energy and Environmental Design) standards</u> and the <u>State of Minnesota Sustainable Building B3 Guidelines</u> as tools for design and decision-making when developing, renovating or operating city facilities.
- 6.1.4 Invest in energy efficient heating ventilation and air conditioning (HVAC) and lighting systems, controls and sensors that minimize emission and noise, use of renewable fuel sources, and utilization of best available control technology to minimize particulate emissions.
- 6.1.5 Continue to modify and improve processes to replace chemicals, vehicles, equipment, and fuels with safer alternatives to reduce emissions, noise and other pollutants resulting from city operations.

# Global Warming, Climate Change, Resource Conservation, and Air Quality

The City of Minneapolis is in attainment for air quality through the Federal Clean Air Act. This is due in part to the geographic location of the city, and in part to the range of businesses located in the city. Air quality in Minneapolis is among the best of large urban areas in the country. Most of outdoor environmental pollution stems from the use of fossil fuels by vehicles and the energy sources for heating, cooling and powering buildings. Making conscious decisions and lifestyle choices can help to reduce demands on natural resources so that air quality in Minneapolis remains among the best of large urban areas in the country.

### Policy 6.2: Protect and enhance air quality and reduce greenhouse gas emissions.

- 6.2.1 Work at the state and regional level to encourage analysis and implementation of sustainable energy generation within the city, including energy produced by renewable fuels, co-generation facilities, and clean alternative fuels.
- 6.2.2 Support energy efficiency and resource conservation.
- 6.2.3 Minimize carbon dioxide and other emissions and other impacts from small gasoline engines and recreational equipment.



Alternative modes of travel, such as bicycling, can contribute to air quality improvements.

6-3



- 6.2.4 Endorse the use of alternative modes of transportation such as walking, bicycles, public transit, car and bike share programs, and carpools, as well as promote alternative work schedules.
- 6.2.5 Implement traffic control measures to minimize delay and vehicle emissions on roadways.
- 6.2.6 Support the development of multi-modal transportation networks.
- 6.2.7 Promote the development of sustainable site and building standards.

Energy conservation practices can minimize impacts on global climate change, reduce dependency on non-renewable fossil fuels and minimize the need for utility companies to build additional coal and nuclear energy plants. Well over half of the nation's energy demands are used to heat, cool and light the spaces where people live and work. Encouraging everyone to participate in state and national initiatives such as local utility sponsored energy design programs can help implement energy efficient systems, appliances and fixtures, and protect natural resources.

# Policy 6.3: Encourage sustainable design practices in the planning, construction and operations of new developments, large additions and building renovations.

- 6.3.1 Encourage developments to implement sustainable design practices during programming and design, deconstruction and construction, and operations and maintenance.
- 6.3.2 Ensure that developments use storm water BMPs (Best Management Practices).
- 6.3.3 Encourage developments to use life-cycle assessments, commissioning and post-occupancy evaluations.
- 6.3.4 Encourage developments to utilize renewable energy sources, including solar, wind, geothermal, hydro, and biomass.
- 6.3.5 Support the development of sustainable site and building standards on a citywide basis.



Rain gardens can provide effective stormwater management functions and contribute to the visual appeal of an area.

6.3.6 Incentivize compliance with adopted city sustainability standards in projects that receive financial assistance from the City.



- 6.3.7 Inform developers, businesses, and residents about utility-sponsored energy conservation programs, and sustainable design deconstruction and construction practices.
- 6.3.8 Promote businesses, goods and services that implement an environmentally friendly reuse and recycling system.
- 6.3.9 Develop regulations to further reduce the heat island effect in the city by increasing green urban spaces for parks and open spaces, including shading of parking lots, sidewalks and other impervious surfaces, promoting installation and maintenance of green roofs and utilization of highly reflective roofing and paving materials.
- 6.3.10 Promote climate sensitive site and building design practices.

Renewable energy sources such as biomass, geothermal, solar, water and wind are from regenerative natural energy sources and are constant in supply over time. The City of Minneapolis, in partnership with utilities, state and federal agencies, businesses and citizens, can utilize renewable energy sources readily available in the area to promote sustainable living.

#### Policy 6.4: Expand the use of renewable energy.

- 6.4.1 Partner with others, including research institutions, to explore the feasibility of alternative energy sources for Minneapolis government operations, and for use by residents and businesses.
- 6.4.2 Encourage use and generation of renewable energy systems in the city.



Hydro-electric power is a renewable energy resource. Hydroelectric generation does not use fossil fuels that emit oreenhouse passes.

- 6.4.3 Educate and inform greenhouse gasses.
  residents and business about opportunities to increase utilization of renewable energy sources.
- 6.4.4 Take measures for the protection and development of access to sources of renewable energies, especially solar and wind power.

#### Sustainable Sites

Minneapolis will strive to become a sustainable place to live and conduct business by supporting the efficient use of land through appropriate distribution of density and



transit, preservation initiatives, environmental remediation, effective policy, education, and beautification. Land use decisions focused around sustainability are essential if the city is to conserve its resources and preserve its assets for future generations. Furthermore, education, incentives and regulations all have a critical role in improving the quality of the present and future urban environment.

### Policy 6.5: Support the efficient use of land and development that reduces the reliance on fossil fuels.

- 6.5.1 Support transit-oriented development, mixed-use projects and other multi-modal development patterns.
- 6.5.2 Encourage development projects that maximize the development capacity of the site while at the same time reducing non-renewable energy needs.
- 6.5.3 City participation in a project (land assembly, financing, environmental remediation) shall favor projects that maximize the development capacity of the site.



The Midtown Exchange Building was originally the site of a Sears store. There are now offices, commercial businesses, ethnic restaurants, and residences.

6.5.4 Educate citizens about the residences.
environmental, economic, and
equity implications of land use and transportation decisions, and enlist the
partnership of citizen and advocacy organizations in moving toward more
sustainable patterns of development.

Maximizing energy efficiency and adopting policies that influence sustainable lifestyle choices and conservation practices are some of the first steps a community can take in educating individuals and communities about the costs of wasteful resource use. The City has taken steps to lead this cause by implementing a sustainability plan which institutes policies on a citywide basis.

# Policy 6.6: Advocate for federal, state, metropolitan and county policies and programs that support sustainable development.

- 6.6.1 Support finance programs and tax policies that foster intensive redevelopment projects in central cities.
- 6.6.2 Support policy changes that help to minimize environmental externalities and that shift the public infrastructure costs associated with inefficient development patterns that increase urban sprawl to the responsible



developers and governments.

Rehabilitation of contaminated land is crucial for safe and productive land use. It is also important to plan for present and future pollution prevention and remediation. City policies must be devised to ensure that future businesses are not contaminating or having adverse impacts on an individual site or community as a whole.

### Policy 6.7: Preserve and protect land from pollution and encourage the remediation of contaminated sites.

- 6.7.1 Support the environmental cleanup and remediation of brownfields and other contaminated sites to enhance the availability of urban land for redevelopment.
- 6.7.2 Support implementation controls that prevent and minimize toxic releases and waste disposal.
- 6.7.3 Require projects that receive city assistance to disclose efforts to minimize toxic releases and waste disposal.
- 6.7.4 Educate and inform developers on the use of nontoxic, safe products and materials, and the impact of toxic releases and waste disposal.

### **Urban Tree Canopy**

An important aspect of overall improvements to the quality of the air, water, neighborhoods and public spaces is the presence of mature, healthy trees, gardens, and wetlands in the city. The urban forest serves many purposes and provides many economic and ecological benefits. Strategic tree planting on a citywide basis is a proven complementary approach to environmental conservation and urban living.

# Policy 6.8: Encourage a healthy thriving urban tree canopy and other desirable forms of vegetation.

- 6.8.1 Enforce and educate the public on the City's Urban Forest Policy.
- 6.8.2 Achieve, at a minimum, no net loss of the urban tree canopy by maintaining and preserving existing trees and planting new trees on public and private property.



Despite years of losing trees to disease, there are over 220,000 trees in Minneapolis; tree lined streets are common throughout the City of Minneapolis.



- 6.8.3 The city's built infrastructure will support a healthy thriving urban tree canopy through street and sidewalk guidelines and other means.
- 6.8.4 Protect the city's critical ecosystems.
- 6.8.5 Continue to invest in the health of the urban forest and other vegetated areas by avoiding monocultures and planting a variety of native and other hardy, non-invasive species.
- 6.8.6 Continue to recognize the functions and values of the urban forest and tree canopy which provide many economic and ecological benefits such as reducing storm water runoff and pollution, absorbing air pollutants, providing wildlife habitats, absorbing carbon dioxide, providing shade, stabilizing soils, increasing property values and increasing energy savings.

#### Water Resource Management

Minneapolis has a tradition of valuing its lakes, streams, wetlands and the Mississippi River. As it is defined by its surface waters, the city manages its water resources to maintain the quality of life of the city's residents, support the city's continued economic prosperity, and address emerging and existing regulatory challenges. The health and vitality of the city's lakes, urban streams and groundwater are linked to how each resident and business owner manages their property as well as to how the City manages its infrastructure systems. Through integrated efforts on a watershed scale, the City is working toward a future free from flooding and water quality degradation.

#### Policy 6.9: Be a steward of clean water by protecting and enhancing its surface and groundwater systems.

- 6.9.1 Continue to invest in maintaining excellent water quality for consumption, and ensure delivery of safe drinking water to customers.
- 6.9.2 Continue to implement the city's floodplain and shoreland Ordinances, and the Mississippi River Critical Area plan.
- 6.9.3 Accomplish the guiding principles of the city's Local Surface Water Management



Open space and parks provide places for recreation and also serve the environment.

<u>Plan</u>, which are to protect people, property and the environment; maintain and enhance infrastructure; provide cost-effective services in a sustainable

6-8



- manner; meet or surpass regulatory requirements; educate and engage the public and stakeholders, and enhance livability and safety.
- 6.9.4 Encourage consumer use of the municipal water supply to reduce reliance on bottled water and the waste stream water bottles generate.
- 6.9.5 Support pollution prevention programs as an important first step in maintaining a healthy physical environment.
- 6.9.6 Manage pollutants at the source in order to prevent degradation of water bodies.
- 6.9.7 Preserve and enhance the strategic placement of pervious surfaces within the city to decrease the rate and volume of stormwater runoff.
- 6.9.8 Eliminate combined sewer overflows and reduce the volume of stormwater that inflows into sanitary sewers to reduce the total volume for treatment.

#### Solid Waste and Recycling

Businesses and individuals are making tremendous inroads in recycling and reducing the solid waste that goes to area landfills. Through its own example, and by educating residents, workers, and business owners about best practices and best available technologies in waste management, the city will encourage others to reduce waste whenever possible.

## Policy 6.10: Coordinate and operate waste management programs that focus on reducing, reusing and recycling solid waste prior to disposal.

- 6.10.1 Operate waste management practices consistent with the state approved waste management hierarchy.
- 6.10.2 Follow source reduction criteria in all City operations for new construction, demolition and renovation activities.
- 6.10.3 Educate citizens about the risks associated with using products that generate hazardous waste.
- 6.10.4 Minimize use of products in City operations that generate hazardous waste.
- 6.10.5 Strongly emphasize and promote reduction, reuse and recycling, including the purchase of recycled materials in residential, business and industrial and government operations and building practices.





- 6.10.6 Encourage deconstruction and construction waste management plans in development proposals and projects to minimize the amount of waste going to landfills and promote sustainable building practices.
- 6.10.7 Encourage reuse of existing materials or use of products with recycled content materials for city purposes, including new construction or renovation projects.
- 6.10.8 Encourage standards for product purchase decisions based on selecting products that have high post-consumer and pre-consumer recycled material content, long product life expectancy, and product life cycles with minimal environmental impacts, and high potential for reuse or recycling.
- 6.10.9 Educate residents and property owners about the benefits of recycling, and of properly composting and reusing yard wastes and organic plant-based food waste.
- 6.10.10 Provide seasonal yard waste collection services from spring through fall.
- 6.10.11 Assign waste that cannot be reused, recycled or composted to facilities that recover some of the energy value in garbage.
- 6.10.12 Use landfilling as a last alternative for waste disposal.



Composting bins for yard waste and free mulch are available at sites across the city. Mulch is better for controlling weeds in flower beds than chemicals, which can run off into storm drains and leach into groundwater sources

#### Noise

Numerous sources of noise are found throughout the City of Minneapolis, ranging from household appliances and lawn mowers to roadway noise and airplanes. Noise pollution can affect human health and community livability. Noise pollution can be mitigated through awareness and education, better building design, regulations such as noise mitigation requirements along freeways and highways, and enforcement.

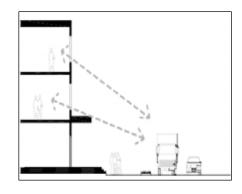
## Policy 6.11: Take measures to reduce noise pollution at point and non-point sources.

- 6.11.1 Work with other governmental units, owners and developers to identify and implement ways to buffer and reduce noise originating from businesses, industries, railroads and rail corridors, freeways and highways, and airports.
- 6.11.2 Encourage acoustic attenuation in all new construction, large additions and renovations to reduce interior noise level transfers by enhancing acoustical



- performance from interior to interior and exterior to interior point sources.
- 6.11.3 Seek stricter enforcement of noise standards for businesses, vehicles (especially motorcycles, trucks and buses), small engines (leaf blowers, lawnmowers, snow blowers and chain saws) and sound systems.

Operational activities of the Minneapolis-St. Paul (MSP) International Airport conflict with neighborhoods located in its vicinity. These

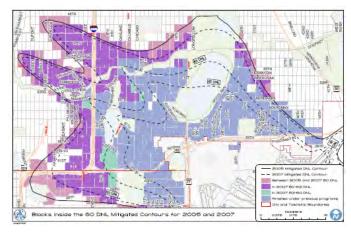


Acoustic attenuation is used to reduce interior noise levels.

neighborhoods were developed before the airport, thus there are few preventive measures available to ensure a greater degree of land use compatibility with the airport. The city has and will continue to aggressively advocate for corrective measures to mitigate noise impacts on residents.

#### Policy 6.12: Minneapolis recognizes the economic value of the Minneapolis-St. Paul (MSP) International Airport but will advocate for measures to reduce its noise impacts.

- 6.12.1 Advocate for alternative airport strategies to meet increased demand and continue opposition to any future development of a third parallel runway at MSP.
- 6.12.2 Advocate for the extension of the sound insulation program to the Minneapolis Airport Commission's (MAC) 60 DNL line.



Map showing the 60 DNL line

- 6.12.3 Advocate for conversion of the entire MSP fleet to manufactured Stage 3 (reduced noise impact) aircraft or better by the year 2015.
- 6.12.4 Advocate for maximizing use of the north-south runway, 17-35 as a more equitable noise distribution measure.
- 6.12.5 Advocate for operational measures that minimize noise and other environmental impacts on neighboring communities and for procedures



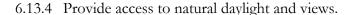
- which equitably distribute noise in nearby communities.
- 6.12.6 Advocate for measures and state participation which allow for a greater degree of community enhancement, stabilization and redevelopment in the airport influence area.
- 6.12.7 Continue working with other neighboring communities to advocate measures to reduce the total noise footprint at MSP.

### Indoor Environmental Quality

A sense of place is influenced in the design of the homes people live in and buildings they occupy. Indoor environmental quality can have a major affect on the health, well-being and productivity of the occupants of a building since a majority of the population spends at least two thirds of their time indoors. Incorporating sustainable design practices achieves optimal indoor environmental quality and ensures the wellness of all occupants.

#### Policy 6.13: Promote optimal indoor environmental quality.

- 6.13.1 Provide adequate ventilation and optimal thermal comfort.
- 6.13.2 Use environmentally friendly materials, products, and finishes that contain low or no VOCs (volatile organic compounds) and no added ureaformaldehyde.
- 6.13.3 Minimize sources and concentrations of pollution such as air pollutants, noise, hazardous particulates and chemical pollutants.



6.13.5 Use environmentally friendly cleaning and maintenance products.



Natural light fills the interior of the Pillsbury Center.

- 6.13.6 Promote the use of environmentally friendly operations and maintenance plans.
- 6.13.7 Continue to prohibit smoking in public places and in places of work.

#### Social Equity

Minneapolis will demonstrate its commitment to a safe, sustainable environment by ensuring equal opportunity for human development and growth, achievement of



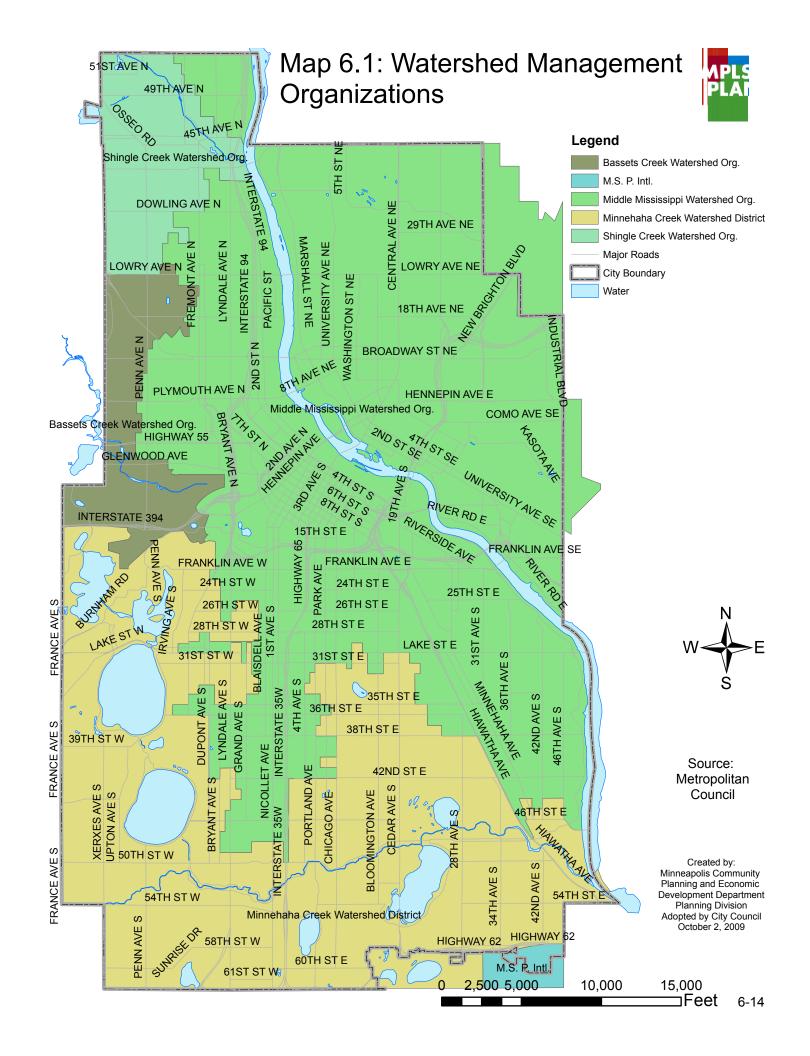
human potential, and the choice for all residents to live an environmentally sustainable lifestyle. Everyone will have access to all of the city's services, resources, natural amenities, transportation, education and opportunity to ensure social equity, community engagement, development and growth that enhances the fabric of a sustainable city. Through promoting and protecting the civil rights of the citizens of Minneapolis, sources of environmental pollution will not be concentrated in neighborhoods of one race or ethnicity, near sensitive populations, or in economically disadvantaged areas. Social sustainability is an essential component to the success of the city. It is connected to political, human and community development that promotes diversity and cultural and historical connectedness to the natural environment.

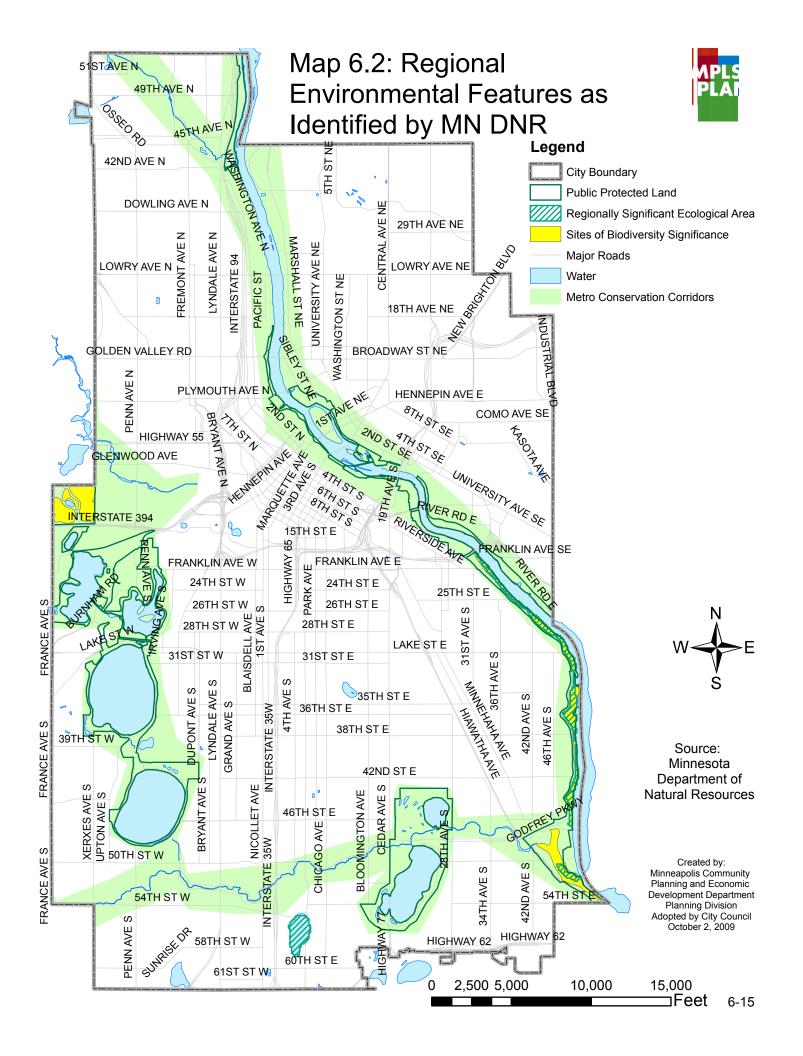
## Policy 6.14: Preserve and enhance the quality of the urban environment to promote sustainable lifestyles for its citizens.

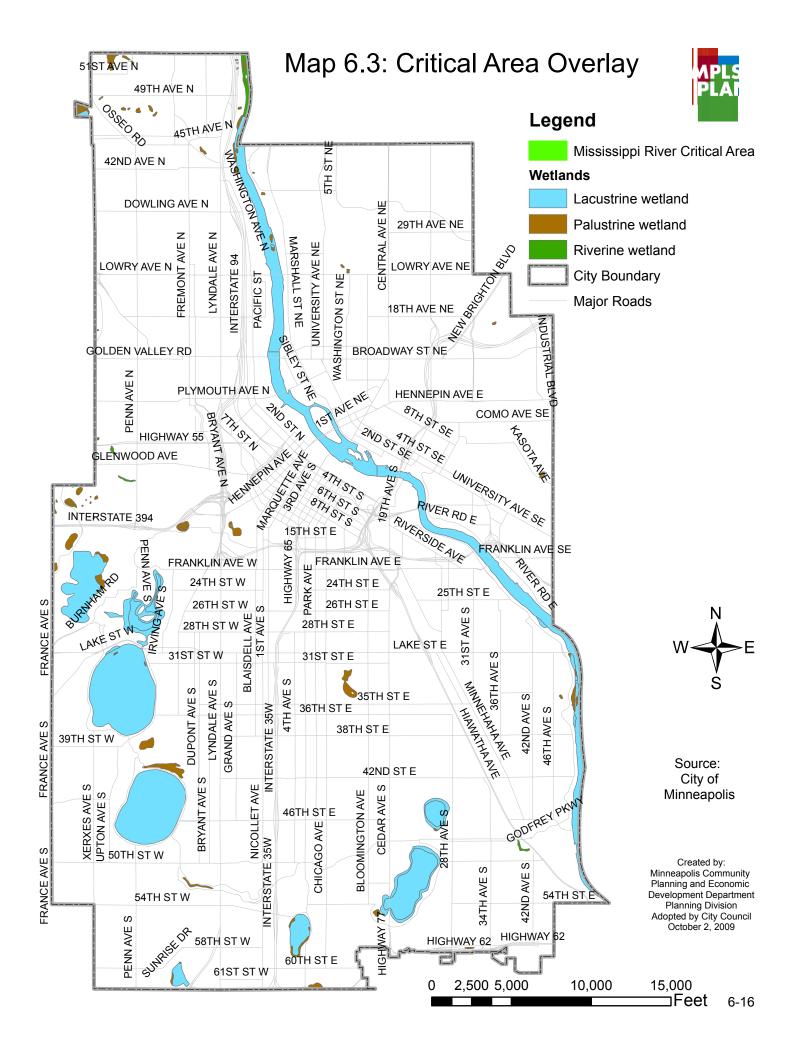
- 6.14.1 Promote environmental stewardship and awareness through education and outreach.
- 6.14.2 Consider the needs of the surrounding population and sensitive populations when engaging in city practices.
- 6.14.3 Work with builders and building managers to minimize nuisance conditions.

# Policy 6.15: Support local businesses, goods and services to promote economic growth, to preserve natural resources, and to minimize of the carbon footprint.

- 6.15.1 Invest in local businesses, goods and services.
- 6.15.2 Support the growth and development of local businesses.



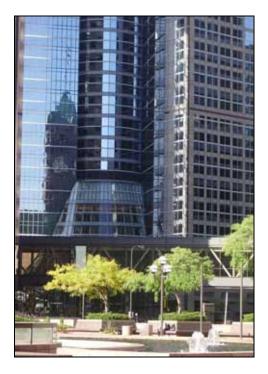






### 7. Open Space & Parks

Minneapolis will cooperate with other jurisdictions, public agencies, and the private sector to provide open space, green space, and recreational facilities to meet the short and long-term needs of the community and enhance the quality of life for city residents.





The plaza at the Hennepin County Government Center in downtown Minneapolis (left), and Peavey Plaza (above), jointly owned by the City and the Minnesota Orchestra, are popular gathering spots. Their water features, benches and trees are attractive venues for concerts or lunch with friends. Peavey Plaza Photographed by PD Larsen

Minneapolis is known throughout the country as a city with a high quality of life. One of the reasons for this is the abundance of open spaces and parks. Minneapolis has sparkling lakes, a dynamic riverfront, quiet creeks and gushing waterfalls all linked by the <u>Grand Rounds National Scenic Byway</u>. In addition, a multitude of neighborhood parks provide important gathering and recreation space. Several parks and trails in Minneapolis are also part of the premier Regional Parks System. Envisioned 125 years ago, the <u>Minneapolis Park and Recreation Board</u> (MPRB) managed park system delights Minneapolis' residents and visitors.

Minneapolis residents also benefit from the presence of other open spaces such as school facilities, greenways, gardens, and plazas. Open spaces and parks make up a collection of formal and informal landscapes used in numerous ways by a diversity of residents.

This chapter addresses the full spectrum of open spaces and parks found in Minneapolis and ones that could be created in the future to enhance the quality of



life of its residents. As the city continues to grow, it must support the parks system while enhancing other open spaces and public gathering spots in order to:

- Enhance the health of its citizens
- Provide opportunities for education
- Ensure access to recreational opportunities for a wide range of residents
- Preserve and enhance ecological functions
- Preserve historic resources and feature public art
- Strengthen the beauty and quality of the city's built form
- Support economic development and tourism, and
- Serve as catalysts for unique partnerships that improve the city.

#### Parks and Recreation Governance

The governance of the parks and recreational areas in Minneapolis is unlike most other municipalities in the United States. The Minneapolis Park and Recreation Board is legally separate from the City. The MPRB has nine elected officials (Board of Commissioners), who serve four-year terms. It is the Board, rather than the City, which is responsible for maintaining and developing the Minneapolis park system and planting and maintaining boulevard trees. The Mayor recommends the tax levies and budget for the Park Board, and the City Council and Mayor approve the allocations of local government aid from the state for Park Board operations. The budget considers funding for ongoing operations and maintenance and the development of new park amenities.

Over the years, the Minneapolis park system has grown from a few city parks to a large, nationally recognized park system of more than 6,400 acres of land and water, including over 182 park properties throughout the city and 49 year-round staffed recreation centers (see Map 7.2 Existing regional parks and trails).

The MPRB serves the nearly 400,000 Minneapolis residents, offering recreational, environmental and other park programs and services for all ages. The Minneapolis park system also serves as a regional resource with seven parks and three trails also being part of the Regional Parks System (see Map 7.2 Existing regional parks and trails and Map 7.3 Planned regional park expansions from Park Board).

This chapter strives to set goals and objectives that allow the City of Minneapolis and the MPRB to work both collaboratively and independently to protect, enhance, and create a variety of open spaces and recreational opportunities for the citizens of



Minneapolis. This chapter also guides other potential future partnerships and supports the development of open spaces such as plazas and gardens by a variety of groups.



The Minneapolis Park and Recreation Board manages the park system, recreation programming, and cares for street trees in Minneapolis.

This chapter first outlines visions and goals created by the MPRB through its comprehensive plan process. The MPRB Comprehensive Plan defines a vision for the park system which is alert to the needs of the community and integral to a thriving city. Key elements of the plan are summarized below.

Additionally, this chapter presents policies created by the City of Minneapolis within its larger comprehensive plan update process. These policies are intended to support and expand upon the MPRB vision and goals to ensure that all open spaces are valued and seen as a unique set of spaces that greatly enhance our city and quality of life. These policies are presented in the "Additional Open Spaces" section of the chapter.

### The MPRB Comprehensive Plan

The MPRB Comprehensive Plan outlines several issues that currently affect the park and recreation system and present both challenges and opportunities in the future. These include:

The Built City: Unlike the late 1800s when the park system was created, Minneapolis is a now a fully developed urban city. Most new development

7-3



occurs on previously developed land. Few parcels remain that are suitable for parkland, and land costs are high. At the same time, demand on the parks is expected to grow.

- Demographic Shifts: Changes in the city's population include a higher percentage of individuals living alone; fewer households with children; and broader racial and ethnic diversity. This changes the nature of the demand for parks and recreation facilities.
- Environmental Pressures: Due to invasive species, tree disease, and pollution, the management of natural areas, trees, and water bodies requires a new level of investment of both time and finances.
- Regional Connections and Pressures: The Minneapolis Park and Recreation Board is one of ten implementing agencies that provide regional parks for the 3.1 million people that live in the metropolitan area. The Minneapolis park system receives the highest number of regional park visits per year. As regional development and growth continues, the demand on the Minneapolis park system's regional parks and trails is expected to grow. Additionally, several watersheds and the Mississippi National River and Recreation Area span across the Minneapolis Parks System.
- Signs of the Times: Local, state, national, and world events shape the perceptions and needs of city residents and park visitors. Key factors include: emergency preparedness, rising operational and material costs; environmental changes, and an increase in the appeal of public and private partnerships.
- Heritage and Historic Preservation: As the park system ages, its features gain historic importance. This provides opportunities for greater historic interpretation and programming, but can also mean increased costs. Historic preservation will need to be considered in the early stages of planning alterations to park facilities.
- New Recreation Trends: Recreation is shaped by a number of factors such as demographics and the introduction of new activities. This presents new needs and preferences.

The MPRB Comprehensive Plan outlines a vision statement and four vision themes that will guide future development, operations, and maintenance of the Minneapolis park system to 2020:

- Urban forests, natural areas, and waters that endure and captivate
- Recreation that inspires personal growth, healthy lifestyles, and a sense of community



- Dynamic parks that shape city character and meet diverse community needs
- A safe place to play, celebrate, contemplate, and recreate

Each of these themes is supported by a series of goals and strategies. While all of the goals and strategies are key to maintaining and improving parks and recreation, the MPRB comprehensive plan theme of "Dynamic parks that shape the city character and meet diverse community needs" speaks most directly to future park needs.

Strategies for creating future parks include:

- Continuing to expand physical access to the Mississippi River in a manner that is aesthetically compatible with the riverfront and sensitive to the environment, giving priority to implementing the <u>Above the Falls Master</u> Plan.
- Providing a well-maintained, safe, and continuous trail system, giving priority to completing the "missing link" of the Grand Rounds Parkway, and providing trail connection in northeast Minneapolis.
- Balancing the distribution of premier park and recreation features across the city, giving priority to adding features to north and northeast Minneapolis.
- Developing and/or implementing park plans to acquire parkland and build amenities in current or projected growth areas of the city: Bassett Creek Valley, Hiawatha LRT Corridor, Downtown, Southeast Minneapolis Industrial, Midtown Greenway Corridor, Upper River, Northeast Industrial, North Loop, and Central Riverfront.
- Ensuring easy park access for all residents by providing parks within an easy walk from their homes (no more than six blocks) and achieving a ratio of .01 acres of parkland per household.
- Working with the City of Minneapolis and other entities to identify and support multi-mode transportation corridors between parks, with preference given to routes that encourage non-motorized linkages between parks.

### Additional Open Spaces

Well designed, accessible open spaces provide health benefits by offering amenities for exercise and peaceful areas to enjoy. They can provide environmental benefits by supporting plant and animal life and by improving natural systems degraded by urban land uses. Open spaces can educate by revealing history or providing a



window into understanding the natural environment. Open spaces also offer areas for human interaction, food production, and an element of beauty in our daily lives.

The city contains numerous open spaces which are not official parks or recreation areas, vet are important elements in the built environment. For example, the city has approximately 60 community gardens which



Opportunities exist to exist to add and enhance open spaces throughout the city.

are a focal point for neighborhoods and community food systems. Locally grown and distributed food is an important to human and ecological health. Other examples include the Midtown Greenway; plazas; pocket parks; cultural and historic landscapes such as cemeteries; as well as corporate and college campuses and school spaces.

Providing new types of outdoor amenities will allow the city to continue to transform into a sustainable and functional environment. The development and design of new open spaces should respond to the changing demographics and an ever-changing built environment. Future possibilities exist to give the city the equivalent of a central square; provide green infrastructure such as green roofs, bioswales, and rain gardens; develop high quality open space as part of new developments; and to better preserve the city's existing open spaces.

#### Safety, Community Health, and Recreation

When people feel safe and can pursue healthy activities such as recreation and relaxation, there are direct benefits to the overall health of the population. Improving and expanding open space can provide opportunities for exercise, recreation, socializing, relaxation, and production of locally grown foods.

Policy 7.1: Promote the physical and mental health of residents and visitors by recognizing that safe outdoor amenities and spaces support exercise, play, relaxation and socializing.

7.1.1 Ensure that adjacent land uses contribute to the safety and ambiance of parks and open spaces.



- 7.1.2 Ensure safety in open spaces by encouraging Crime Prevention through Environmental Design strategies.
- 7.1.3 Provide safe pedestrian and bike routes to open spaces and parks.
- 7.1.4 Ensure open spaces provide peaceful, meditative, and relaxing areas as well as social, recreational, and exercise opportunities.



Community gardens contribute to community sustainability and community health by providing locally-grown foods to residents and a pleasant form of activity and recreation. They are also a form of open space.

- 7.1.5 Provide equipment, programming, and other resources when possible that promote the physical and mental health of citizens.
- 7.1.6 Support the creation and improvement of community gardens and food markets which sell locally and regionally grown foods.
- 7.1.7 Where appropriate, support the planting of edible fruit and vegetable plants.
- 7.1.8 Encourage the development of open spaces that provide amenities for year round use.

#### Education

The benefits of open spaces and parks can not be realized if people are unaware of all of the opportunities that exist to use and enjoy these spaces. Open spaces and parks allow residents to learn more about their natural environment, the benefits open space, and what can be done to both enjoy and protect these resources.



# Policy 7.2: Provide residents and visitors information about recreational locations, events, programs and educational opportunities.

- 7.2.1 Coordinate with other agencies to help promote educational and recreational events and programs being held in open spaces and parks.
- 7.2.2 Educate residents, developers, businesses, and visitors about the variety of open spaces and the benefits they provide.
- 7.2.3 Promote educational events for residents, businesses, and developers which include opportunities to learn how they can protect and enhance the Minneapolis' natural environment.
- 7.2.4 Provide opportunities for people to learn about the natural environment, geography, history, design and other elements found in open spaces through a variety of interpretive tools.
- 7.2.5 Evaluate the needs of users in order to provide effective signage, kiosks, and other way-finding tools to make people aware of open spaces.

### **Equity and Equal Access**



Clear signage and lighting make open spaces more accessible

Access to resources can be affected by the number, location, size, and quality of facilities, the level of comfort and the ease of traveling to a place, and an individual's physical ability.

Improving access to open spaces and parks for underserved areas and populations is an important priority for the city. In addition, existing facilities must be preserved and enhanced so they are available for future generations.



# Policy 7.3: Maintain and improve the accessibility of open spaces and parks to all residents.

- 7.3.1 Ensure that access to the city's lakes, streams and the Mississippi River continues to be maintained for the benefit of present and future citizens of Minneapolis.
- 7.3.2 Encourage the development of a broad array of recreation facilities and opportunities in response to a diverse range of resident interests.
- 7.3.3 Support the development of additional publicly accessed open spaces in underserved areas.
- 7.3.4 Encourage the equitable spatial distribution of community gardens and food markets to provide all Minneapolis communities with access to healthy, locally grown food.
- 7.3.5 Promote designs that ensure access to open space for people with a range of abilities.
- 7.3.6 Ensure that in all areas of the city people feel safe so that they are comfortable using parks and open spaces.

### **Ecology**

Open space can maintain and improve the natural environment. In an urban environment such as Minneapolis, it is important to improve ecological functions of the natural environment.

# Policy 7.4: Work to restore and preserve ecosystem functions in green open space areas.

- 7.4.1 Consider the impacts of open space on connectivity and habitat fragmentation when acquiring, altering, or disposing of land.
- 7.4.2 Support the acquisition and retention of land which performs important ecosystem functions.
- 7.4.3 Identify ecological impacts on open spaces and parks caused by urban uses, for example stormwater runoff, and work to mitigate these impacts in order to advance environmental and human health.
- 7.4.4 Encourage the protection, conservation and maintenance of the environment in the design and operation of open spaces.
- 7.4.5 Increase the use of green infrastructure to decrease the city's impact on the natural environment.



## 7.4.6 Encourage planting of appropriate vegetation for this climate and environment.



Native plants are more resistant to drought and harsh climatic conditions.

#### **Art and Historic Resources**

Open spaces frequently contain important historic and artistic features. For example, cemeteries inform visitors about the lives of past generations and often contain artistic architectural features. Many parks, plazas, and public gardens contain art, sculptures, fountains, and other features. Even landscapes themselves can be historic or a form of art.



Cemeteries can be historic landscapes, including water and artistic features such as sculptures. Their vistas also provide a sense of openness, something seen and experienced from the outside.



# Policy 7.5: Protect landscapes that are significant to the historic legacy of Minneapolis, the region and state, and preserve and expand artistic features in publicly accessed open spaces.

- 7.5.1 Encourage the preservation of historic buildings, memorials and monuments found in open spaces throughout the city.
- 7.5.2 Develop a comprehensive inventory of significant historic, artistic, and cultural landscape features within the city to ensure their protection into the future.
- 7.5.3 Encourage the integration of public art into the development and renovation of open spaces and parks and encourage the interpretation of the landscape through art.
- 7.5.4 Use open space to protect prime public view corridors such as those of landmark buildings, significant open spaces, and/or water bodies.

#### **Beauty and Built Form**

Open spaces and parks are an integral part of the urban fabric. As the city is continually redeveloped, opportunities to better design the built environment and weave together its different components should be taken.

Policy 7.6: Continue to beautify open spaces through well designed landscaping that complements and improves the city's urban form on many scales – from street trees to expansive views of lakes and rivers.



Important open spaces, like the indoor Crystal Court in the IDS Tower, are often provided as part of development projects (photo used with permission of the Inland Group of Companies)



- 7.6.1 Where open spaces and the built environment interface, seek greater design integration between them to create interesting spaces for active and passive use.
- 7.6.2 Provide visual and physical connections between urban areas and open spaces including lakes and rivers.
- 7.6.3 Invest in the greening of streets, particularly those that connect into and supplement the parks and open spaces network.
- 7.6.4 Provide private landowners and developers with incentives to create and maintain publicly accessible open spaces or green infrastructure.
- 7.6.5 Develop design standards for the creation of publicly accessed open space on private property, such as plazas in new developments.
- 7.6.6 Promote open space design that enhances the four season experience for all Minneapolis residents and visitors.
- 7.6.7 Maintain multimodal transportation corridors to link open spaces and parks with surrounding neighborhoods.



Open spaces and parks can enhance economic development and tourism. Gold Medal Park, a public-private partnership, opened in 2007 and is close to the Mississippi River, the Guthrie Theater and other community amenities



#### **Economic Development and Tourism**

Parks and open spaces are significant amenities which have been shown to increase investment in cities, attract businesses, and retain residents.

### Policy 7.7: Support the expansion and maintenance of open spaces and parks in order to increase economic development and to promote tourism.

- 7.7.1 Support marketing of the city that involves festivals and other events that take place in open spaces throughout the city.
- 7.7.2 Work with business representatives to better understand the open space needs of employees and how they can be served.
- 7.7.3 Promote open space and parks as resources to businesses and their employees.
- 7.7.4 Invest in open space to help improve economically challenged neighborhoods.

#### Coordination

A host of organizations and individuals control various lands in the city that can contribute to a robust open space network. Partnerships must be forged to create new spaces that can benefit the public and enhance the city.

# Policy 7.8: Strengthen existing and create new partnerships, including public-private partnerships, to deliver the best park and open space system possible.

- 7.8.1 Continue to collaborate and coordinate space sharing, maintenance agreements, and programming among public agencies.
- 7.8.2 Support the preservation of former transportation corridors that are intact or largely intact and use them to connect neighborhoods to each other and to major amenities.
- 7.8.3 Encourage new development projects to incorporate open spaces and green spaces through land use regulations and other regulatory tools.
- 7.8.4 Continue to identify future needs related to open space and pursue innovative options for creating new publicly accessed open space.
- 7.8.5 Explore opportunities for partnerships linking farmers markets, community gardens and open space.



#### **Downtown Policies**

Downtown Minneapolis has seen an increase of approximately 10,000 new residents since 2000, bringing the downtown population to approximately 30,000 people. While parks and open space have always been important resources to Downtown workers and visitors, the increased residential density is creating an additional need for more greening of Downtown.

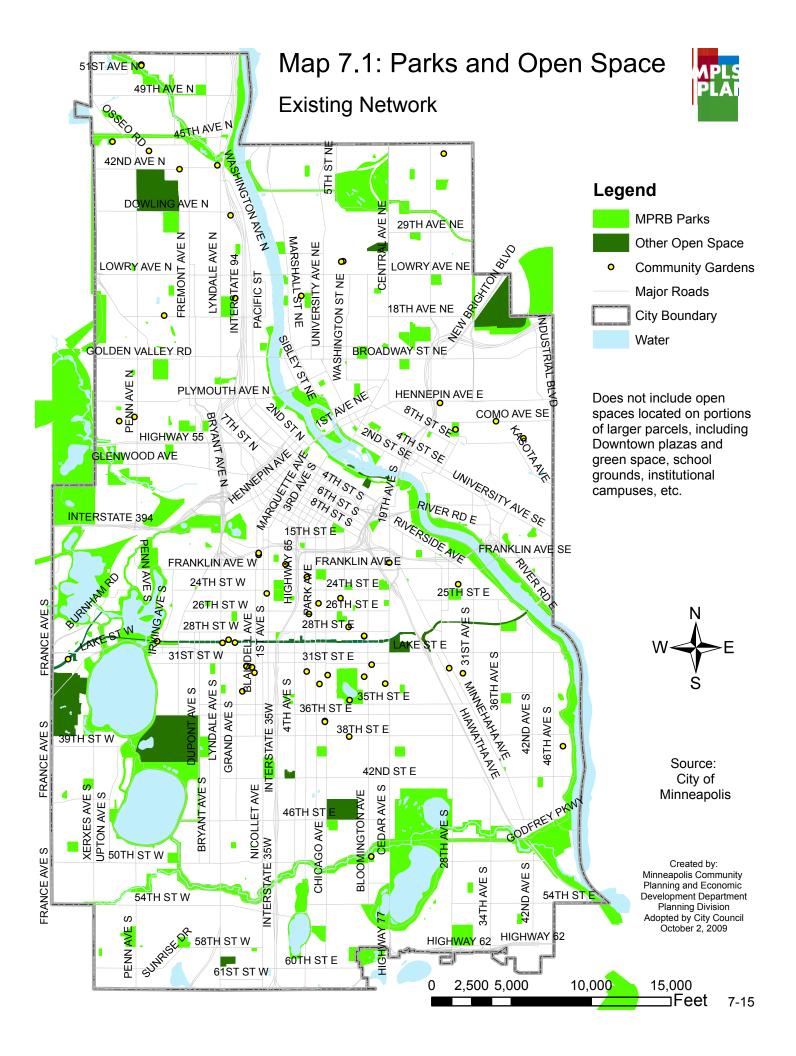
Change in the density and demographics of downtown have put new demands on the type and location of open spaces. For example, spaces are now being used in the early mornings and evenings by downtown residents and needs go beyond those desired by daytime visitors.

#### Policy 7.9: Work to develop high quality open spaces in Downtown.

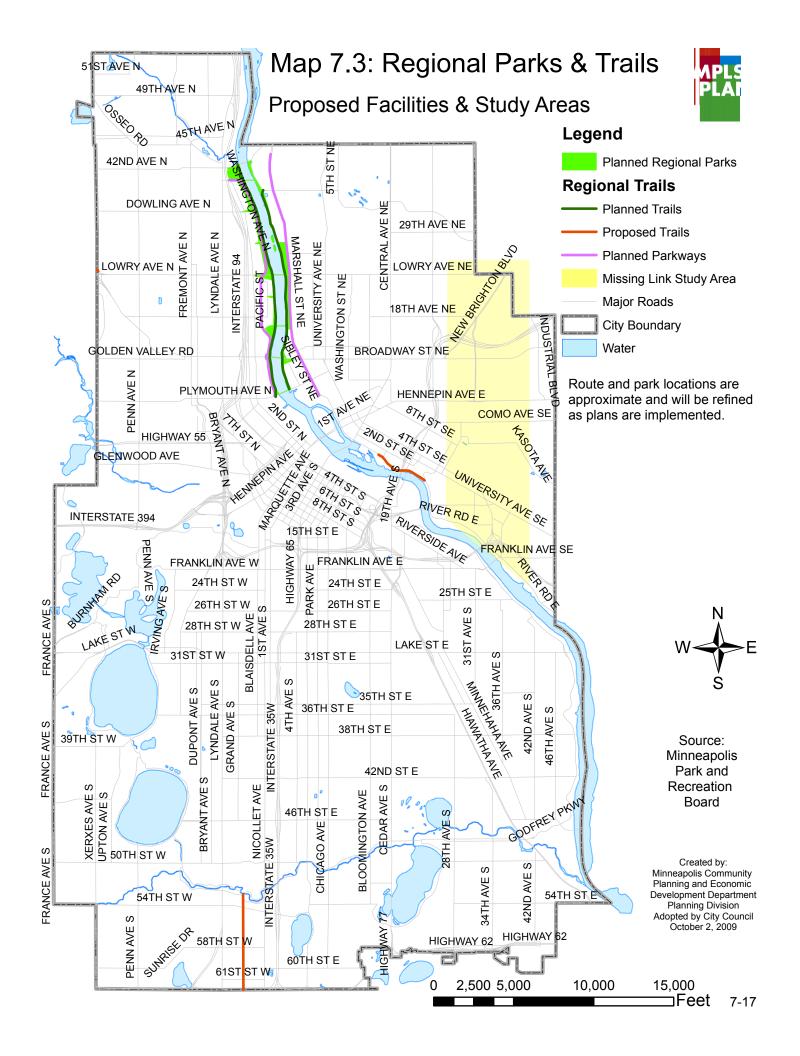
- 7.9.1 Encourage the creation of new parks and plazas that are easily accessible by Downtown workforce and residents
- 7.9.2 Support the incremental greening of Downtown through the addition of more trees, plantings, and small open spaces.
- 7.9.3 Promote the Mississippi River as a major landscape feature and recreation opportunity.
- 7.9.4 Ensure that people feel safe in Downtown open spaces.
- 7.9.5 Encourage activity in Downtown parks and plazas seven days a week.

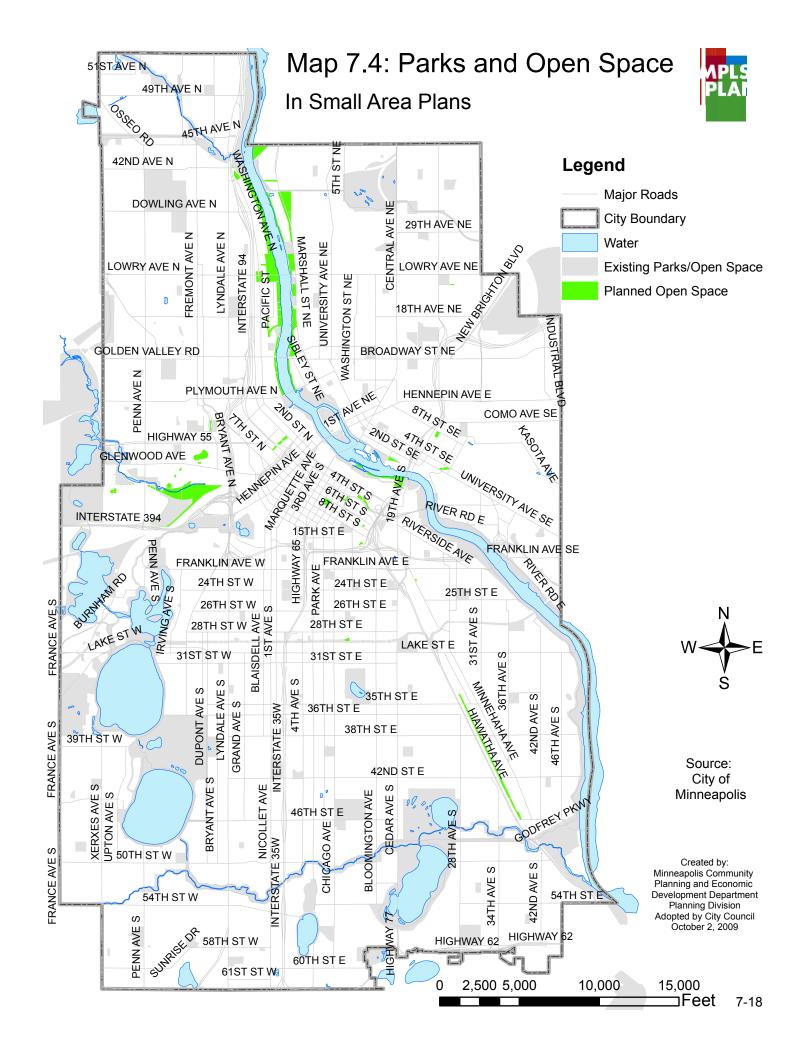


Incremental greening enhances urban environments.





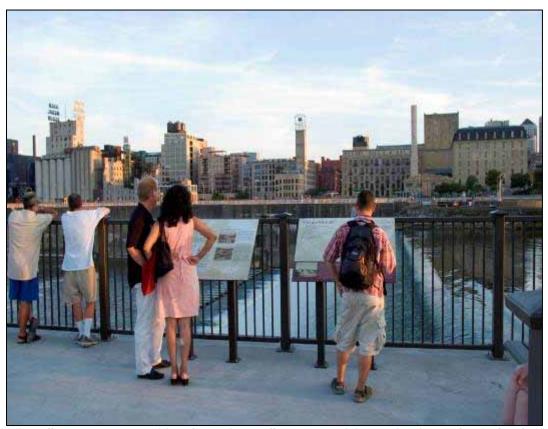






### 8. Heritage Preservation

Minneapolis will promote the sustainable practice of protecting and reusing our culturally significant built and natural environment, including buildings, districts, landscapes, and historic resources, while advancing growth through preservation policies.

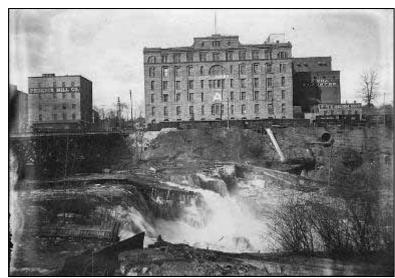


The Milling District, as viewed from St. Anthony Falls, is an area of the city where historical and cultural resources have been preserved and adapted to serve current and future uses.

Heritage preservation in Minneapolis extends past the brick and mortar of buildings to the landscape, both natural and altered by humans, and into the stories and experiences of the people who came here before. Around the United States, heritage and historic preservation are used interchangeably to denote the practice of preserving and reusing historic resources. While the term historic preservation relates to buildings, sites, structures, objects, or districts that have historical, architectural, archaeological, or cultural value, the term heritage preservation encompasses the historical and cultural significance of the built environment and landscape for the community today and future generations.



This chapter is organized into three sections: Historic Resources. Future Preservation Goals, and Programs & Preservation Essentials. The first section explores the known historic resources in Minneapolis, such as designated properties, historic surveys and archeology. Future Preservation Goals acknowledges the new frameworks in which to view heritage, like cultural landscapes, preservation of the public realm and neighborhood preservation.



St. Anthony Falls and the Pillsbury "A" Mill, 1905, photo courtesy of the Minnesota Historical Society

Preservation Essentials addresses many of the processes involved in the day to day functions of preservation within Minneapolis municipal government.

### Historic Resources

#### **Historic Districts & Individual Landmarks**

Historic resources are considered to be properties with significant historical, cultural, architectural, archaeological or engineering importance. The federal government, as well as local and state governments, can designate historic resources. The federal designations are called the <a href="National Register of Historic Places">National Register Landmarks</a> and these properties are designated through a nomination process. The State of Minnesota can designate properties through state statute and the City can also designate properties through the local nomination process. Locally designated properties are protected for exterior, and sometimes interior, alterations.

Presently, Minneapolis has <u>eleven locally designated historic districts and one-hundred and forty-six landmarks</u>. Buildings in historic districts typically have shared characteristics while individual landmarks span a variety of architectural styles and architects. While all buildings have a history, historic designation means that a property has a greater significance to local or national history. The significance may be the way the building or landscape is designed, or the significance may be the persons associated with the building, including owners, tenants, and designers.





Homes in the <u>Milwaukee Avenue Historic District</u> are protected by historic designation to ensure perpetuation of their visually cohesive design.

Buildings and other features within districts share a past which is significant either historically, culturally, architecturally, archaeologically or by virtue of engineering. Some districts are both locally and nationally designated. Historic districts in Minneapolis range from districts that cover multiple neighborhoods, such as in the <a href="St. Anthony Falls">St. Anthony Falls</a> and <a href="Warehouse">Warehouse</a> Historic Districts, to smaller districts that comprise a few blocks, as in the <a href="Healy Block">Healy Block</a> or <a href="Fifth Street Southeast Historic District">Fifth Street Southeast Historic District</a>. Of the eleven locally designated districts, two are also listed on the National Register of Historic Places.

The individually designated landmarks vary in their historic use, location, architectural style, and date of construction. Many of the individual landmarks in Downtown Minneapolis are commercial, institutional or cultural, such as the Foshay Tower, Basilica of St. Mary, and the State Theater. In residential neighborhoods, many landmarks are residential, commercial, civic or religious, such as homes designed by Frank Lloyd Wright and William Purcell, the Midtown Exchange, Fire Station Number 42, and Pioneers and Soldiers Memorial Cemetery. As the city ages, newer historic resources are eligible for preservation protection. Currently, the City is completing a re-survey of potential historic resources. One of the driving forces behind the current survey is to balance the designated properties. The re-survey of the city attempts to balance the historic properties by investigating properties from the recent past, variety of geographic locations in the city, and land uses. Certain areas, such neighborhoods in and around downtown, have a wealth of designated properties. Other parts of the city have historic resources; however, many have not been identified through historic surveys. Although buildings and resources constructed after World War II are now eligible for listing on the National Register of Historic Places, there are few city landmarks representing mid-20<sup>th</sup> century history



in the built environment. In addition to preserving the recent past, resources once considered unimportant, are being hailed as contributing to our city's significant history. The Midtown Greenway (historically known as the Chicago, Milwaukee and St. Paul Railroad Grade Separation), an abandoned railroad trench, has experienced a rebirth as a bike and pedestrian corridor and is now on the National Register of Historic Places.

# Policy 8.1: Preserve, maintain, and designate districts, landmarks, and historic resources which serve as reminders of the city's architecture, history, and culture.

- 8.1.1 Protect historic resources from modifications that are not sensitive to their historic significance.
- 8.1.2 Require new construction in historic districts to be compatible with the historic fabric.
- 8.1.3 Encourage new developments to retain historic resources, including landscapes, incorporating them into new development rather than removal.
- 8.1.4 Designate resources recommended for designation from historic surveys and listed on the National Register of Historic Places which have no local protection.

# Policy 8.2: Continue to evaluate potential historic resources for future studies and designation as the city ages.

- 8.2.1 Future surveys should focus on completion of a basic or reconnaissance survey of the entire city which incorporates nominations of potential landmarks or historic districts.
- 8.2.2 Identify and document the city's 20<sup>th</sup> century and post-war resources as part of the city's heritage. These resources may be increasingly threatened due to lack of awareness or the information necessary to evaluate their significance.
- 8.2.3 Contemporary architectural styles, such as resources from the last half of the 20<sup>th</sup> Century, as well as architects, should be identified and evaluated as part of future survey efforts.

### **Archeological Resources**

Minneapolis is a relatively new city. Much of the urban fabric was constructed from the mid to late 19<sup>th</sup> century up to the present. A cycle of construction, demolition and rebuilding, often rapidly paced, was characteristic of Minneapolis' development, a trend that has continued to the present. Continued construction has no doubt resulted in the obliteration of potential archeological sites and artifacts, both prehistoric and historic. Areas around the city's lakes, river and streams were used as settlements by indigenous people and have the potential to yield information about



these communities. Evidence of this use has been identified, for example, on the islands in Lake of the Isles. Archeology, however, is not limited to prehistoric or Native American sites. Recent development and redevelopment along the riverfront, for example, revealed a wealth of archeological sites associated with the city's early milling, lumber, and water powered industries.



Archeological dig in Elliot Park, 2005

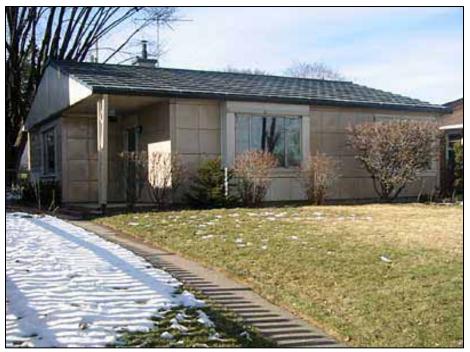
# Policy 8.3: Explore and protect potential archeological resources in the city.

- 8.3.1 Examine potential archeological sites and artifacts as part of historic resource surveys undertaken by the city.
- 8.3.2 Protect potential and known prehistoric, as well as 19<sup>th</sup> and 20<sup>th</sup> century archaeological sites and artifacts
- 8.3.3. Utilize existing identified sites, such as those associated with the city's milling and industry along the riverfront, as examples for documentation and interpretation of archeological resources.

### **Future Preservation Goals**

Over time, new ways to view our shared history become noticeable. Previously undervalued resources are pushed into the spotlight because of an emergence of new ways of thinking about the built and natural environment. One example of this is neighborhoods that reflect a certain era of housing. Preservationists have started to examine whether historic districts are possible for these intact neighborhoods. This reflects a change from only designating the grandiose homes of prominent city and business leaders to recognizing the importance of the character of neighborhoods with vernacular housing.





Homes built after WWII, like this South Minneapolis Lustron home, are an example of the growing popularity of mid-century architecture.

Historic resources can also be evaluated for criteria other than architectural style. Landscapes, such as natural or planned parks and plazas, are resources that are gaining more prominence as historical resources. In addition to preserving buildings for their architectural significance, the history of people, organizations, and activities can be a reason for historic designation. Currently, much of the properties protected by historic designation reflect early white settlement in Minneapolis. Recognizing the influence that Native American settlement patterns had on modern city development is important, as well as how early minority groups interacted in the city, such as African Americans and other immigrant groups. Properties should also be evaluated for the influences by particular people, organizations, and events on the growth and development of Minneapolis.

#### **Historic Contexts**

Historic resources or properties are viewed within a context, or an interrelated condition in which the resources exist or occur. Contexts are important themes in the prehistory or history of a community, state, or the nation during a particular period of time. Historic contexts can be organized by subject, place, and time and link properties to important historic trends.

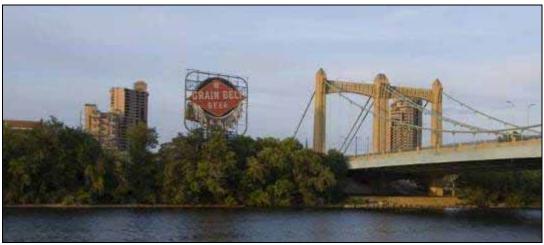


#### **Historic Contexts & period of significance**

Architecture—1855 to present
Business and Industry—1821 to present
Civic—1872 to present
Culture, Fine and Applied Arts—1883 to present
Education—1836 to present
Residential Development—1847 to present
Religious and Social Organization—1830 to present
Transportation—1823 to present

The contexts that many historic resources in Minneapolis are viewed include industrial (such as the milling and railroad industries), commercial development, prominent architecture and architects, as well as civic related, like schools and religious places of assembly, as identified in the *Preservation Plan for Minneapolis*, 1990. Over time, new contexts may become prominent, such as modern architecture, development and transportation patterns, and cultural contributions by ethnic or community groups. Context studies are often used to highlight and identify previously unrecognized historic resources.

The period of significance is that period of time in which the property achieved importance. The period may be as short as one year; however, a property can also have achieved significance during several distinct periods of time, as in the case of an archaeological site. In the case of a historic district, the date of significance is usually the date of the oldest building within the district. The ending date of the period of significance is the time by which significant development of the property, or the property's importance ended.



The Grain Belt sign on Nicollet Island is an example of an underrepresented historic resource.



# Policy 8.4: Examine and evaluate the contexts in which historic resources are analyzed.

- 8.4.1 Complete context studies associated with the city's history and development, such as the impact of <u>Grand Rounds</u> park system or transportation systems, to evaluate their impact on the built and natural environment.
- 8.4.2 Evaluate the impact of the ethnic and community groups on the natural and built environment.

### **Cultural Landscapes**

The city is a mixture of buildings and open spaces. A focus on buildings belies the fact that history is imprinted on nature as well. While the City has moved quickly to designate many of the area's most important buildings in the decades following urban renewal, a large category of historic resources has yet to be comprehensively identified and potentially designated: landscapes. Historic and cultural landscapes are more than parks, encompassing a wide variety of spaces and features including: Native American trails and encampments, old industrial sites, walls, woodlands, archeological sites, cemeteries, religious landscapes, formal and informal gardens, fairgrounds, college campus spaces, and much more. The City currently has a few designations that could fall under the category of historic landscape, but there is a potential for much more work.

Currently, few infrastructure projects are designated. Bridges, canals, locks and dams, railroad corridors, and stone or wood-paved roads are a few examples. The impact that infrastructure has on the history of the city is another resource to document.



The <u>Pioneers and Soldiers Memorial Cemetery</u> is a locally and nationally designated historic landscape.



# Policy 8.5: Recognize and preserve the important influence of landscape on the cultural identity of Minneapolis.

- 8.5.1 Identify and protect important historic and cultural landscapes.
- 8.5.2 Encourage planting and maintenance of street trees and other natural elements in historic districts to promote livability.
- 8.5.3 Preserve historic materials typically found in public spaces, such as street materials like pavers, lighting and other resources.

#### **Property Maintenance**

Property maintenance is an important aspect of preserving and enhancing historic structures, whether they are historically designated or not. The city's role in property maintenance includes educational, technical, and financial assistance. Educational assistance is provided through proactive inspections, the city website, informational brochures, and events such as <a href="Minneapolis Housing Fairs">Minneapolis Housing Fairs</a> and the <a href="Minneapolis/St.Paul Home Tour">Minneapolis/St.Paul Home Tour</a>. Staff also provides property owners of historically designated structures information on how to ensure repairs and maintenance are done in a way that maintains the property's historic integrity.

Ongoing property maintenance is the informal and less regulated work surrounding the general maintenance and upkeep of the built environment. It can be viewed as a means and not an end, and can be utilized in all types of reuse projects, not just projects involving designated properties. Ongoing property maintenance can ensure the desirability of a single home or neighborhood. Preventing, or at the least



Ongoing maintenance is key in preserving historic architecuture as evidenced in this North Minneapolis Queen Anne Victorian home.

mitigating, the demolition of existing housing, commercial and industrial buildings can ensure neighborhood reinvestment based on existing cultural resources.



# Policy 8.6: Provide educational, financial, technical, and regulatory assistance to ensure the survival of the city's historic resources.

- 8.6.1 Increase the information on the City's <u>heritage preservation website</u> about the resources available.
- 8.6.2 Identify financial assistance for historic properties such as loans and grants targeted to historic properties.
- 8.6.3 Enhance technical assistance by subsidizing architectural assistance for property maintenance and remodeling issues.
- 8.6.4 Ensure maintenance of properties through regulatory enforcement of the City Code, specifically as it relates to historic resources.

### Reduce, Reuse, and Recycle

Demolishing buildings often rips the fabric of the city as the character of neighborhoods disappears. Moreover, demolition of structures and throwing out building materials adds waste to landfills and makes the reuse of building materials for housing and other needs impossible. Applying the ethic of "reduce, reuse, and recycle" to buildings with the goal of neighborhood revitalization can have positive results for Minneapolis communities, the natural environment, and society.



Demolition of a single-family house.

The need for demolitions can be reduced by adapting the building to a new use which meets the needs of the existing owner or selling the property to an owner who will use the property as is. Moving the structure in whole or part to a vacant lot is another alternative. Analyzing the historic significance of properties to determine



their historic value can prevent demolition. Properties worthy of historic designation should not be demolished or relocated. These options keep the city's building stock intact and conserve the energy and resources required to build a new structure.

If none of the above options are possible, reusing building materials in the structure is preferable. This can be accomplished through salvage. Property owners can offer the opportunity to salvage building materials. Salvage rights could be sold for all or part of the building. Materials could be reused by developers or homeowners, or acquired and resold by businesses specializing in salvaged materials.

If there is no demand for salvaged materials, recycling building materials is the next best option. Simply providing recycling containers on site during demolition and informing workers on how to use the containers can divert large amounts of waste from going to landfills. If a building cannot be moved and if materials cannot be salvaged or recycled, the resources must be thrown out. At any time during the process of reducing, reusing, or recycling buildings, documentation of the structure could also take place.

# Policy 8.7: Create a regulatory framework and consider implementing incentives to support the ethic of "reduce, reuse, and recycle" and revitalization for buildings and neighborhoods.

- 8.7.1 Protect historic resources from demolition and explore alternatives to demolition.
- 8.7.2 Research and modify the preservation and zoning ordinances as they relate to demolition of historic resources, in order to better serve neighborhoods.
- 8.7.3 Develop regulations and/or processes that ensure the timely and appropriate construction of buildings once demolition occurs.
- 8.7.4 Encourage relocation of historic resources as a last means of preservation for endangered properties.
- 8.7.5 Preserve artifacts from structures and sites that are historically, architecturally or culturally significant and seek to reintroduce these artifacts into the city's streetscape and building interiors.
- 8.7.6 Encourage the recycling and reuse of building materials from demolitions and remodels in order to conserve natural resources and remove material from the waste stream.
- 8.7.7 Work with private and public sector stakeholders to develop a salvage system that minimizes the loss of building materials, promotes the reuse of materials, and requires recycling containers to be present on-site with guidance on their use.



8.7.8 Develop a salvage process for materials from any City-initiated demolitions.

#### **Conservation Districts**

In addition to regular maintenance and adherence to the zoning code, other tools exist to preserve neighborhood character. A Conservation District is a zoning or preservation tool used to help communities protect certain characteristics in their neighborhood. They concentrate on protecting such things as architecture styles, densities of the area, heights of structures, and setback guidelines. The scope and size of conservation districts may vary; and the regulations of the district may affect design elements, structure size, building demolition, and land use. While Minneapolis currently does not have conservation districts, this tool can be effective for preserving neighborhood character.

### Policy 8.8: Preserve neighborhood character by preserving the quality of the built environment.

- 8.8.1 Preserve and maintain the character and quality of residential neighborhoods with regulatory tools such as the zoning code and housing maintenance code.
- 8.8.2 In addition to local designation, develop other preservation tools, like conservation districts, to preserve the historic character of neighborhoods and landscapes.

### **Preservation Essentials**

Heritage preservation in Minneapolis is advanced by the work of City staff and the Heritage Preservation Commission (HPC). Staff reviews administrative applications for minor alterations to districts and landmarks and also prepares reports to the HPC for approval of major alteration to districts and landmarks, as well as reviewing demolition permits for potential historic resources. City staff also works with other government partners, such as the Minnesota State Historic Preservation Office (SHPO) and the Minneapolis Park and Recreation Board to further preservation plans and programs. A myriad of organizations, such as Preserve Minneapolis, the Preservation Alliance of Minnesota, and the American Institute of Architects promote preservation through education efforts.

In addition to the work involved with historic resources, the City is involved with many programs that promote preservation. Education and outreach programs target Minneapolis residents and others interested in preservation. Preservation staff is involved in many programs and review processes within the city as well as with the State of Minnesota, such as environmental reviews and "Section 106" reviews. Preservation policies are also used in the creation of neighborhood or small area plans.



#### **Preservation & Land Use Planning**

Land use planning in Minneapolis integrates a preservation ethic into long range and strategic planning. Many neighborhood and small area plans adopted by the City have historic preservation components. Neighborhoods such as <a href="Marcy-Holmes">Marcy-Holmes</a> and <a href="Whittier">Whittier</a> have significant historic districts or landmarks, with plans that include policies and implementation steps related to the continued maintenance of historic resources and guidelines for infill development. In addition, City-led plans have historic components, such as the <a href="Midtown Exchange">Midtown Exchange</a> (Sears, Roebuck & Co. <a href="Mailto-Mailton">Mailton</a> Order Warehouse and Retail Store) and the <a href="Grain Belt Brewery Redevelopment">Grain Belt Brewery Redevelopment</a>.

#### Policy 8.9: Integrate preservation planning in the larger planning process.

8.9.1 Incorporate preservation at the earliest stage of comprehensive planning,

small area plans, and neighborhood revitalization strategies.

8.9.2 Incorporate preservation in early land use and planning evaluations, including federal reviews such as 106 Reviews and Environment Assessments, and city processes such as Capital Long



Humboldt Greenway homes reflect historic building design

Range Improvement Committee (CLIC) and preliminary development review.

8.9.3 Encourage property owners and developers to consider historic resources early in the development review process by promoting the preliminary review and early consultation with preservation staff.

#### **Revitalization and Preservation**

Historic preservation can be a strategy in redevelopment or revitalization of a neighborhood or area of the city. Reuse and rehabilitation of historic buildings can be a catalyst for other investment, especially in neighborhoods with barriers to economic success. While renovating an older building has many positive impacts to the community, the cost of renovating a historic building to property owners and developers can often be a major issue. Working with developers early in the process can help to streamline preservation requirements and increase the project success.



# Policy 8.10: Promote the benefits of preservation as an economic development tool and a method to achieve greater environmental sustainability and city vitality.

- 8.10.1 Encourage rehabilitation of buildings and landscapes to stimulate economic activity in depressed areas.
- 8.10.2 Establish property tax relief for historic building owners whose building is in an economically depressed area.
- 8.10.3 Establish a local funding stream for preservation work which directly contributes to the city's economic growth.
- 8.10.4 Encourage the occupation and reuse of historic structures in areas targeted by the city for revitalization by contributing resources to make older buildings more energy efficient and therefore less expensive to operate.
- 8.10.5 Prioritize the reuse of the city's historic buildings as a strategy for sustainable development.
- 8.10.6 Market the city's high quality, architecturally interesting, readily available and affordable housing and commercial properties.
- 8.10.7 Use planning tools, such as transfer of development rights and historic variances, as well as economic incentives, such as tax increment financing and tax abatements, to retain historic structures while compensating for the loss of development potential.
- 8.10.8 Promote financial preservation incentives for property owners and developers.
- 8.10.9 Develop heritage tourism strategies.



Restoration of historic buildings aids revitalization, such as the <u>State Theater</u> and other historic theaters along Hennepin Avenue.



#### **Preservation Regulations**

Minneapolis has a preservation toolbox that includes ordinances, design guidelines, and plans. These tools need to stay current in order to best evaluate modifications to historic resources as well as new construction in historic districts. Many district design guidelines were written in the 1980s and should be modified to integrate greater city goals, such as sustainable building practices and accommodating increased population growth.

# Policy 8.11: Improve and adapt preservation regulations to recognize City goals, current preservation practices, and emerging historical contexts.

- 8.11.1 Update the preservation ordinance to include the codification of local districts and landmarks, discourage demolition of historic resources, and incorporate conservation districts.
- 8.11.2 Revise existing historic district guidelines and require guidelines for all new local districts and landmarks
- 8.11.3. Create and use design guidelines for existing historic landscapes.

### **Education and Outreach Programs**

Citizens from all walks of life can be involved in learning about and preserving the city's

historic resources. Preserving the city's built past can incorporate a range of approaches, from education about the importance of maintaining historic buildings to recognition and designation of previously unaccounted historic resources.

Other approaches important to success in historic preservation projects rely on technical support and citizen involvement in designation campaigns. The role of residents and property owners in identifying, preserving, protecting, and adaptively reusing buildings is critical to keeping Minneapolis' heritage strong.



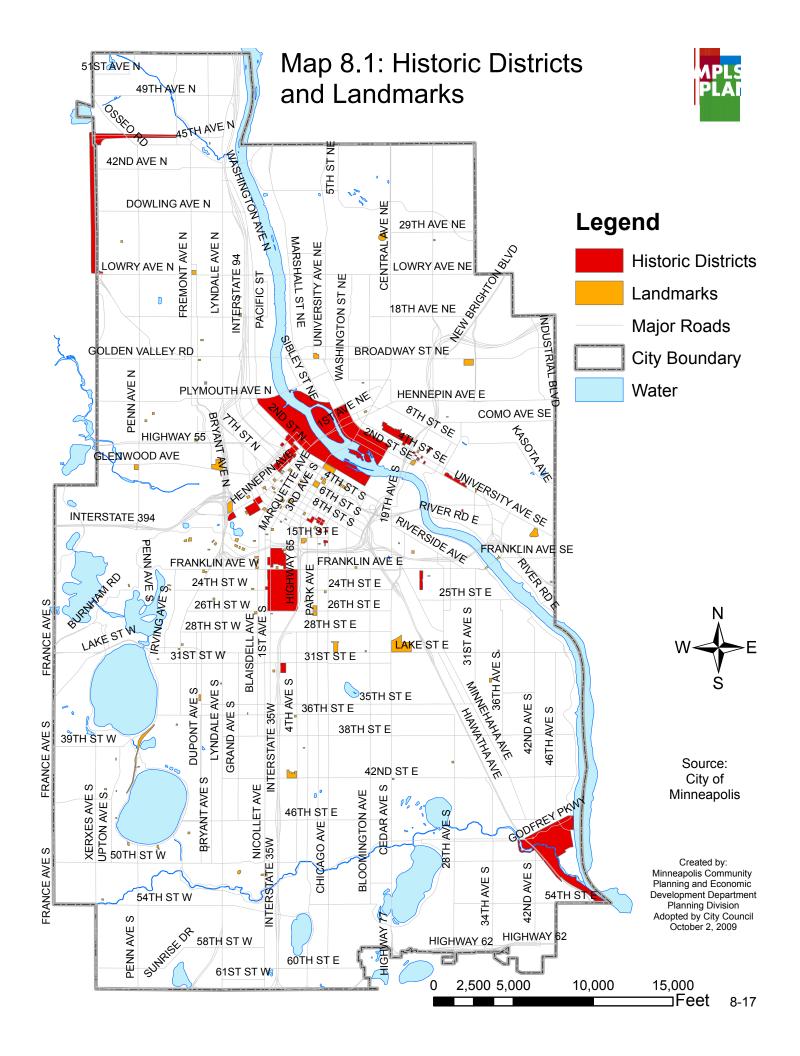
Walking tours, like this one of the <u>Schubert Theater</u>, are one way to promote the city's historic resources and awareness of their value.

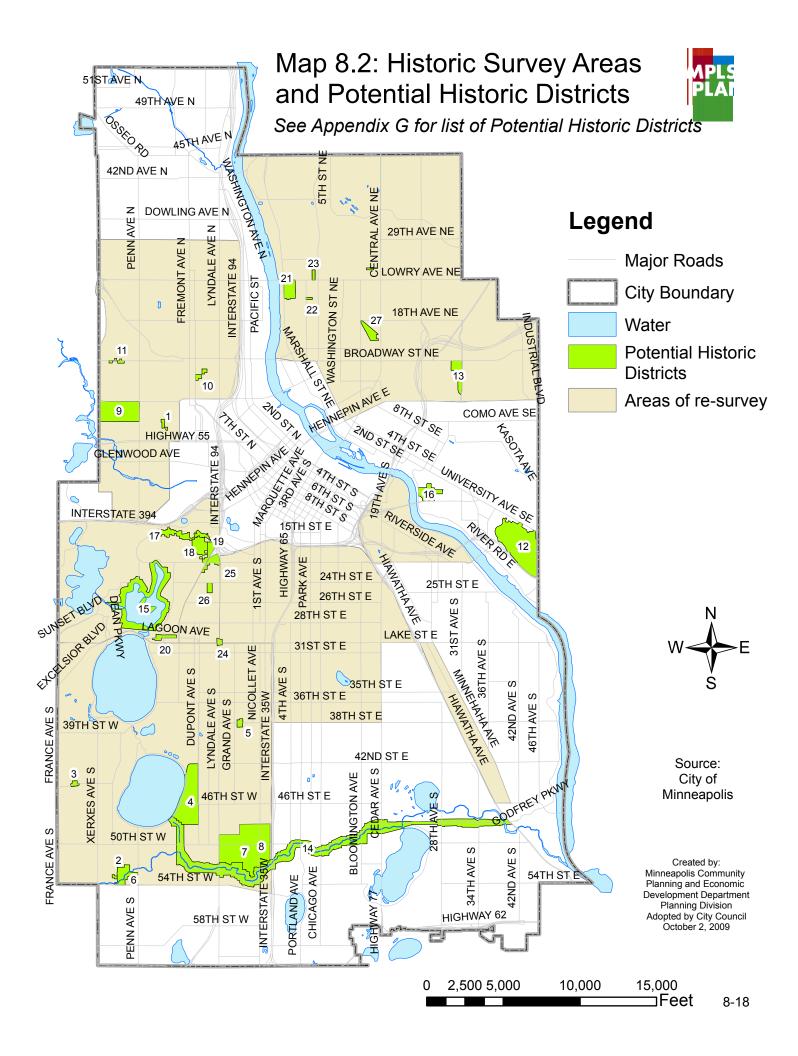


## Policy 8.12: Raise awareness of the history of Minneapolis and promote the quality of the built environment.

- 8.12.1 Promote heritage preservation planning efforts to important stakeholders, including other city offices, the public, and preservation organizations.
- 8.12.2 Continue to work with the State Historic Preservation Office (SHPO) and preservation organizations to promote education and incentive programs.
- 8.12.3 Involve residents and neighborhood organizations in review of heritage preservation applications.
- 8.12.4 Continue to recognize outstanding projects, programs, individuals and organizations that have significantly contributed to the heritage of Minneapolis and enhancement of the urban environment.
- 8.12.5 Provide educational activities, such as walking tours, to foster appreciation of Minneapolis' history and the built and natural environment.
- 8.12.6 Design and install appropriate and interpretive signs and historical markers for designated historic districts and landmarks.
- 8.12.7 Work with <u>Minneapolis Public Schools</u> and the <u>Heritage Preservation</u>

  <u>Commission</u> to prepare a preservation curriculum package for instructors.







### 9. Arts and Culture

Minneapolis will continually grow into a more diverse and vibrant city, ensuring that residents have access to rich and meaningful arts and cultural activities that are vital to the city's quality of life and economic success.



The Powderhorn Art Fair is part of Minneapolis Arts Weekend, an opportunity for art lovers of all ages to enjoy art, music and culture at locations around the city.

The arts community in Minneapolis has a long tradition of grassroots arts activity, and is nationally recognized for the dynamism and creativity of arts-related events in the city. Minneapolis' arts community thrives on its ever-increasing cultural plurality, and some of our most vibrant cultural resources are based in the city's neighborhoods. From Northeast Minneapolis, home to the city's first designated arts district, to the West Bank Theatre district, to cultural festivals such as May Day, Juneteenth, and Minneapolis MOSAIC, arts organizations enrich community life in Minneapolis by providing learning experiences, entertainment, creative inspiration, economic benefits and cultural understanding to patrons and participants alike.

### **Economic Development and Leadership**

Linking arts and culture with economic development is a strategic direction for the City and correlates with research into the increasing importance of creative capital in



the <u>21<sup>st</sup> century global economy</u>. New ideas and innovations generated by talented individuals are the fuel for developing and sustaining globally competitive enterprises. A highly mobile creative class is attracted to cities like Minneapolis with a unique quality of place, diversity of lifestyle options, and opportunities to exercise their creativity at work and play with other talented people.



The Hennepin Avenue Theater District features venues, like the historic State Theater for performing arts and concerts.

# Policy 9.1: Integrate and utilize arts and culture as a resource for economic development.

- 9.1.1 Create policies that define the city's role in the planning, development, operation, and management of cultural facilities throughout Minneapolis.
- 9.1.2 Collaborate with community-based arts organizations (such as <a href="ArtSpace">ArtSpace</a>, <a href="Metropolitan Regional Arts Council">Metropolitan Regional Arts Council</a>, and <a href="Springboard for the Arts">Springboard for the Arts</a>) to build capacity and knowledge among organizations engaged in developing cultural facilities.
- 9.1.3 Provide workshops and training for Minneapolis nonprofit cultural organizations in facilities development.
- 9.1.4 Explore and identify indicators for measuring the economic impact of cultural activities, and build the capacity of the Department of Community Planning and Economic Development (CPED) staff to document economic and other benefits of cultural development through mapping and economic impact studies.



- 9.1.5 Develop a creative industries strategy and integrate it into the city's economic development policies and practices.
- 9.1.6 Encourage the implementation of the <u>Northeast Arts Action Plan</u>, and the creation of cultural plans for other neighborhoods and districts.
- 9.1.7 Support the film and commercial production industry by providing assistance with permitting, locations and coordination with city services.
- 9.1.8 Make Minneapolis a more livable place for artists through support for arts initiatives that contribute to the city's community development priorities.



Constructed in the mid-1920's as a movie theater, the Ritz Theater today is a 221-seat performance and studio space and is a nexus of the neighborhood arts scene.

The need for strong, visible and vigorous leadership for arts and culture within the city is one of the most crucial ingredients for successful implementation of a cultural plan. Significant cultural leadership has emerged from the staff and boards of cultural organizations themselves – both large and small organizations. Equally important are the foundation, corporate and individual funders who have supported Minneapolis' ascension to world class status as a creative city.

It is critical that the city's cultural and civic leadership become more representative, reflecting the diversity of the community. Elected officials who are strong and positive advocates for the arts are needed. Their leadership is critical to moving



forward with cultural planning recommendations and objectives.

#### Policy 9.2: Develop robust leadership on behalf of cultural development.

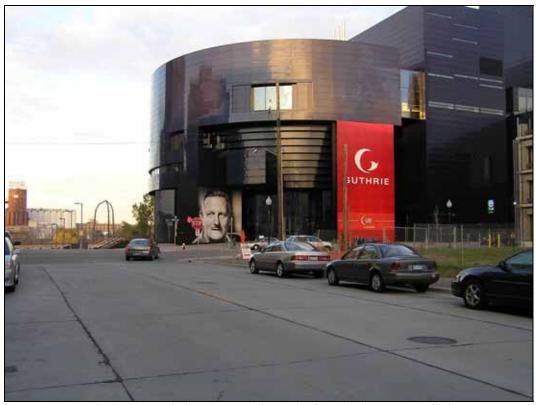
- 9.2.1 Create a Department or Division of Arts & Cultural Affairs, with staff, funding, and ongoing advisory input from the Minneapolis Arts Commission.
- 9.2.2 Recruit people of color and diverse geography into cultural leadership roles.
- 9.2.3 Strengthen the Minneapolis Arts Commission with visionary, diverse, and influential leadership.
- 9.2.4 Encourage arts leaders to become engaged with city leaders and support those who take strong arts positions.
- 9.2.5 Seek affirmation and support of the plan from corporate, foundation and individual philanthropy through the influence of elected officials, Minneapolis Arts Commission and the <u>Arts and Culture Plan</u> Advisory Committee members.
- 9.2.6 Empower the Minneapolis Arts Commission as the central advisory body with public art decisions in the city.

### **Funding and Resources**

Strong foundation, corporate and individual philanthropic support is generally credited with enabling the Minneapolis cultural community to achieve its enviable depth and breadth. However, there should be concern over whether Minneapolis' cultural excellence can be sustained without a broader base of funding, including city support.

In the past, the two main strategies for city support of arts and culture have been: 1) involvement in capital and infrastructure projects, including renovation and operation of city-owned historic theatres, land acquisition and parking facilities for major cultural institutions, and various types of assistance for facilities projects of cultural institutions; and 2) development of a public art program. The city lacks cultural infrastructure found in most major American cities, usually administered by a local arts agency, such as direct grants to artists and organizations, technical assistance, programming initiatives, cultural marketing and regular convening of cultural and community leaders.





Founded in 1963 by Sir Tyrone Guthrie (pictured above), the Guthrie Theater is a world-class major resident theater that showcases Tony award winning productions and debuts new theatrical works. The building contrasts with and complements the neighboring historic mills.

#### Policy 9.3: Increase resources for arts and culture in Minneapolis.

- 9.3.1 Identify a dedicated funding mechanism with the priority for supporting small and mid-sized arts organizations and individual artists.
- 9.3.2 Encourage and celebrate private support of arts and culture and recognize exemplary initiatives.
- 9.3.3 Require arts and cultural organizations that benefit from City financial support to create space for and access to facilities for small and medium-sized art and cultural organizations.

The City funds public art through a voluntary allocation of the annual net debt bond, the exact amount determined annually through the Capital Long Range Improvement Committee and budget adoption process. The public art program is administered by Cultural Affairs staff in the Planning Division of CPED, and overseen by the Minneapolis Arts Commission. In addition, the Minneapolis Public Library Board has a public art program, the Department of Public Works has initiated a number of projects, and Neighborhood Revitalization Program funding has been used for public art.





The City of Minneapolis supports installations of public art such as P.S. Wish You Were Here, 2005 by Andrea Myklebust and Stanton Sears, located at Lake Street E and West River Road. Photo by Sue Hartley

# Policy 9.4: Strengthen the City's public art program by providing a definite funding commitment and confirming policy.

- 9.4.1 Continue to develop and refine public art policies and procedures.
- 9.4.2 Develop a Public Art Plan that will establish priorities for public art projects and locations for the next ten years. Yearly public art work plans should reflect these priorities.
- 9.4.3 Fund public art with a portion of the annual net debt bond as part of the City's annual Capital Long Range Improvement Plan.
- 9.4.4 Develop partnerships with small and large arts institutions, galleries and museums, for the purposes of commissioning works, establishing artists in residence in city departments, developing exhibits in public buildings, and assisting with public art maintenance.
- 9.4.5 Establish exhibit and performance spaces in select, appropriate public buildings.

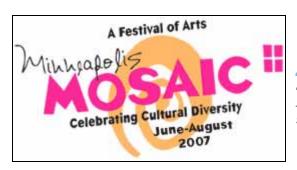
In order to appreciate diverse art and cultural opportunities, the public must know about them. Better communication and outreach will help residents take full advantage of cultural resources.



### Marketing and Promotion

Policy 9.5: Promote the city's arts and culture to residents, visitors, and civic and community leadership as an integral aspect of Minneapolis's identity, quality of life, economic vitality and civic health.

- 9.5.1 Work with the City's Communications Department, in its capacity as a conduit to the public for City of Minneapolis activities, to integrate arts and cultural messages and activities in various communications efforts.
- 9.5.2 <u>Meet Minneapolis</u> (former Greater Minneapolis Convention and Visitors Association) will develop an arts and cultural marketing plan to promote the city's cultural resources to local, national and international audiences.



Minneapolis Mosaic is a summer-long celebration showcasing the rich diversity of Minneapolis' music, dance, theater, the visual arts, film and the literary arts.

Nationwide, nonprofit organizations, commercial businesses and other sectors of the community develop partnerships and shared service initiatives. Education, human services, and government partnerships have been created to serve economic and community development, education, promotion, and other common concerns. The City can stimulate similar collaborations to promote arts and culture.

# Policy 9.6: Promote collaborations among arts and cultural organizations, artists, the City, and other partners.

- 9.6.1 Partner with Hennepin County, other municipalities, the Metropolitan Council, and state and federal entities on issues of mutual concern, such as regional funding, arts education, and promotion.
- 9.6.2 Meet Minneapolis will compile and review annually a master list of arts and cultural organizations, starting from existing lists.
- 9.6.3 The Hennepin County Library, the unified library system will develop its capacity as an arts and culture resource and activity center, and identify and review annually a listing of arts resource people.
- 9.6.4 Minneapolis Arts Commission will convene regular meetings or workshops with arts and cultural organizations around specific topics or for sharing information and identifying collaboration opportunities.



9.6.5 Establish a task force to make recommendations for integrating the arts into the city's design review function, policies and practices.

### Education

The need to build and sustain strong cultural learning opportunities for Minneapolis youth – both in school and out of school – is paramount. This priority has been clearly linked to success in school and work, training the city's future artists and building the creative and civic capital of the future.



Experiencing and making works of art benefits youth and the community. Community public art workshops are one way of bringing the arts to neighborhoods. Photo by Alan Wilfahrt

# Policy 9.7: Preserve and strengthen arts education opportunities for Minneapolis youth and adults.

- 9.7.1 City leaders will advocate for arts education and lifelong learning through the arts.
- 9.7.2 Art in Public Places will include education and youth development components in its projects.
- 9.7.3 Integrate arts education and lifelong learning programs into the operating policies of the city-owned arts facilities.



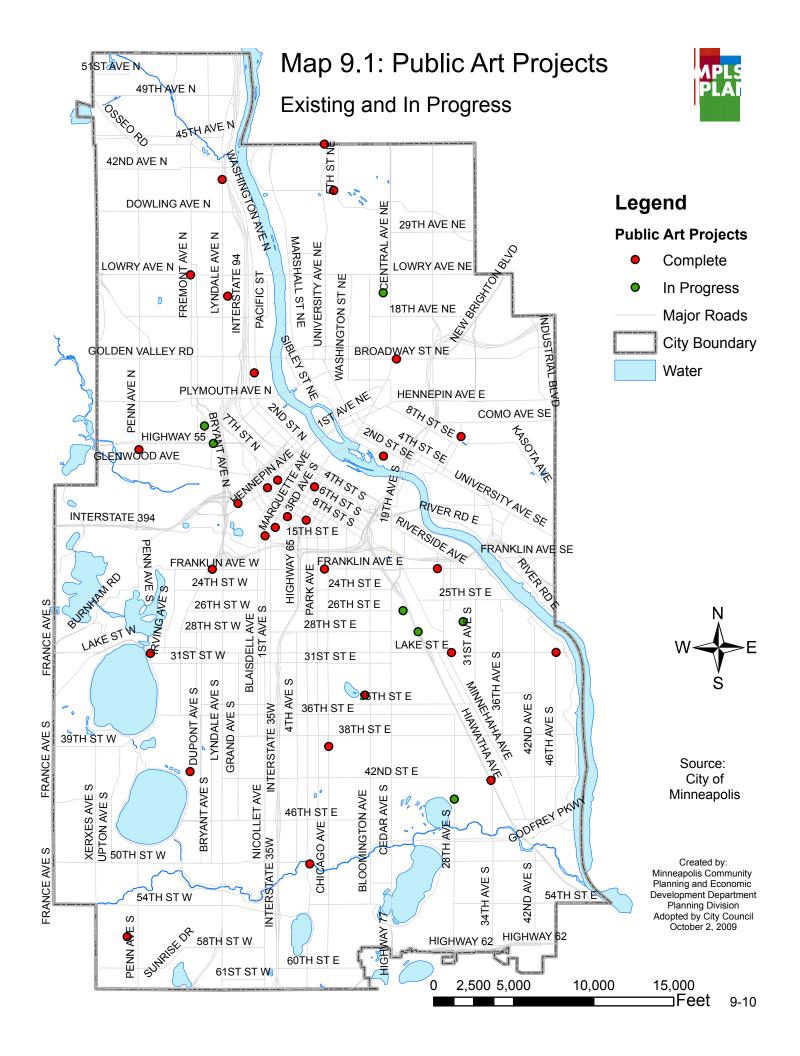
- 9.7.4 Include arts education as a criterion for determining City support for development of cultural facilities
- 9.7.5 Continue to support cross-cultural learning opportunities, such as MOSAIC, and examine ways the MOSAIC model can continue to evolve and work with Minneapolis schoolchildren.
- 9.7.6 Act as a liaison to connect the art education initiatives of arts and cultural institutions, higher education institutions, and community-based organizations and neighborhoods.
- 9.7.7 Provide information on parking and transportation for school field trips to arts and cultural institutions.

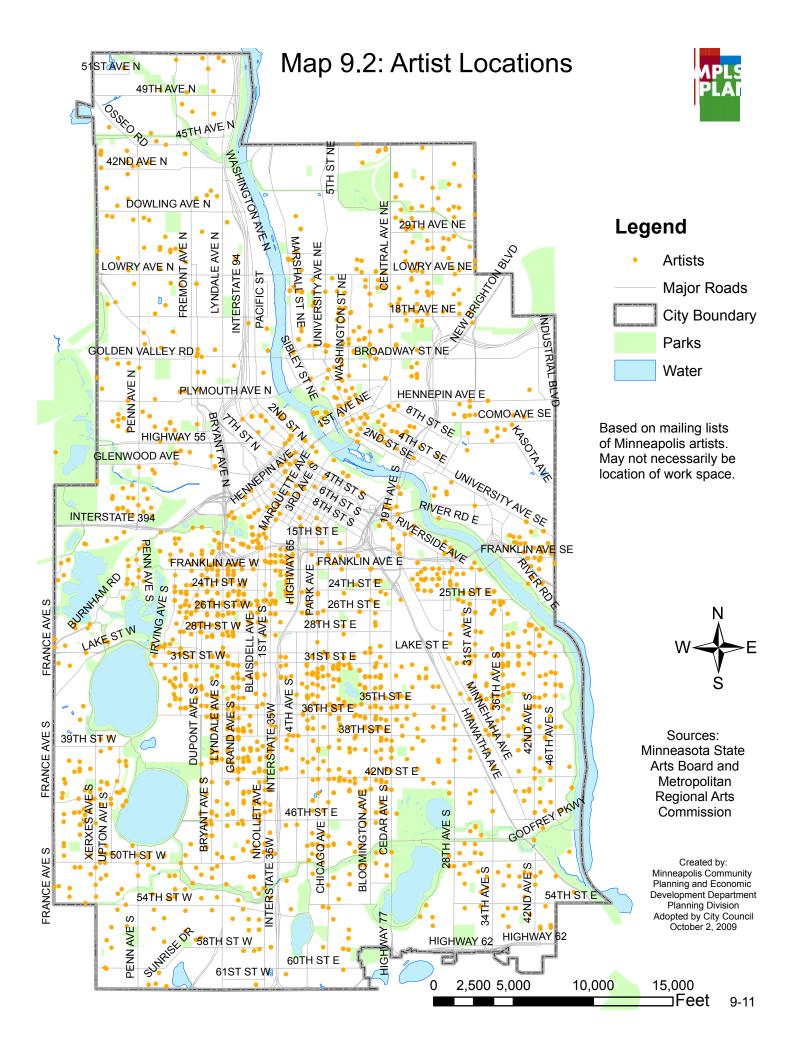


From engaging neighborhoods in public art, to providing opportunities for learning through the arts and enjoying live performances at neighborhood and major theaters, a city with vibrant arts and culture provides opportunities for life-long learning and enrichment.



9-9







## 10. Urban Design

Minneapolis will be an attractive and inviting city that promotes harmony between the natural and built environments, gives prominence to pedestrian facilities and amenities, and respects the city's traditional urban features while welcoming new construction and improvements.



A range of building types and forms intermingle near Downtown

Urban design combines aspects of architecture, landscape architecture, public works, transportation systems and public art to create dynamic urban environments. Urban design and urban form affect movement of people, goods and services, human interactions with the built and natural environments and human health. This chapter provides a design framework for community development and guidelines for new construction and redevelopment.

### Traditional Urban Form

Urban form is a term that describes the physical attributes of a traditional city: Rectangular blocks connected by avenues, streets, and ribbon-like arterials along which people move about and commerce bustles. These connections, combined with presence of sidewalks, transit and urban amenities like parks and buildings from different eras of a city's history comprise a dynamic urbanism. Traditional urban form is the overarching policy that will drive the design of new developments, streets and public realm in the City of Minneapolis.



"The traditional city is the sublime, complex and popular manifestation of civility and conviviality. It is the perfect synthesis between territory, culture and human communities. It is stable and stimulating for individuals, for locals and strangers, for residents and hosts, for industry, business, crafts, art, for communication and interaction, for social, cultural, intellectual and commercial exchanges, activities and inventions. Despite quick and dramatic and unprecedented changes and innovations in the past century, the traditional city has remained a good and desirable place to live. It has proven to be perfectly compatible with modern life...it is both an experiencalbe reality and a realistic project of contemporary civilization"

--Prince Of Wales Urban Design Task Force, 1996

Traditional urban form for Minneapolis consists of a network of streets with a pattern of lower-density residential neighborhoods with higher-density, mixed-use corridors and nodes. It includes pedestrian-scale buildings and street designs that reflect the presence of pedestrians as well as automobiles, transit and bicycles. Our urban form also reflects the fact that Minneapolis is a Winter City. Utilizing climate sensitive design strategies adapted to our northern environment can create and enhance year round urban livability by making the winter environment more safe, comfortable and enjoyable at the pedestrian realm. Snow removal for safety and active winter transportation (walking and biking), minimizing the shadowing of pedestrian spaces used in the wintertime, as well as landscaping for winter visual interest and wind screening are important. These elements of the built and natural environment give the city a unique identity and present unique challenges.

The urban neighborhood pattern resulted from the days of Minneapolis' growth as a streetcar city that created residential neighborhoods built at a scale measured in "walking time". Most residents can reach the shops and services they need within a few blocks of their homes and workplaces. People are not required to drive every time they leave their home in search of goods, services or entertainment, and the purpose of many trips can be accomplished by traveling to a single location.

The pattern and scale of the streets, open spaces and buildings that make up the city fabric have a direct and daily impact on how residents and citizens move about, patronize local shops and businesses, meet their neighbors and enjoy the city's amenities. In parts of the city, the network of streets and blocks, the gridlike neighborhood, is efficient. Pedestrians can walk relatively directly between any two points. However, in other parts of the city, suburban style cul-de-sac development impedes that efficiency, or the street grid has been blocked off by artificial barriers. Still other parts of the network have been transected by obstacles—interstate highways or LRT crossings. In these areas urban form is impacted and the network needs healing. Urban design can contribute to that by providing the policy framework and preferred standard for new development and built form that is subsequently implemented through the regulatory framework of the City's Zoning Code.



### Traditional urban form in residential areas

Neighborhood architecture forms a varied backdrop to the experience of place that impresses on sidewalk stroll in Longfellow or Lowry Hill or Northeast Minneapolis. Porches, gables and attic windows punctuate the housing landscape. A combination of the brand new and the old exist side by side on many city streets and are good examples of accommodating and encouraging the new while preserving and appreciating the old. The shape and feel of neighborhoods can be impacted by the width of a road, the height of a building, the distance a structure is set back from the property line, window design and pattern, and the orientation of buildings in relation to the street.



Residential areas in Minneapolis often are identified as having large front yard setbacks, consistent heights, front porches, and a healthy tree canopy.



# Traditional urban form in commercial and mixed-use structures and areas

Good design must be used to ensure that mixed-use developments are functional, attractive, and withstand the test of time. Successful mixed-use buildings and areas attract pedestrians by bringing their storefronts to the sidewalk's edge, orienting building design to the street and respecting traditional urban form by providing transitions to adjacent structures, keeping building heights to a scale compatible with the surrounding neighborhood.



Commercial and mixed-use areas should be designed in order to be accessible from a balanced variety of transportation modes, including pedestrian, automobiles, transit and bicycles. Responding to the demands of traditional urban form requires design solutions that prioritize the appeal of the pedestrian environment, emphasize diversity in form and materials, and promote a distinctive identity for an area.

#### Downtown

### Skyline



The height of buildings conveys a sense of the type and intensity of use of the building or area, and it also symbolizes the importance of the use within the broader community. With respect to Downtown, the height of buildings contributes to an understanding of how Downtown is organized and the importance of its various functions. The Downtown skyline also is a source of civic pride. As such, it should be considered a community asset.

Policy 10.1: Promote building designs and heights that enhance and complement the image and form of the Downtown skyline, provide transition to the edges of Downtown and protect the scale and quality in areas of distinctive physical or historical character.

- 10.1.1 Concentrate the tallest buildings in the Downtown core.
- 10.1.2 Building placement should preserve and enhance public view corridors that focus attention on natural or built features, such as landmark buildings, significant open spaces or water bodies.
- 10.1.3 Building placement should allow light and air into the site and surrounding properties.

#### The Pedestrian Environment

Streets and sidewalks serve as the primary pedestrian network and are Downtown Minneapolis' greatest opportunity for improving the public realm. Streets designed for pedestrian use contribute to Downtown's public nature, vibrant image and synergy by encouraging pedestrian circulation and activities and by integrating Downtown's various attractions. To foster this type of environment at the street level the first floor of buildings need to be designed with the pedestrian in mind.



# Policy 10.2: Integrate pedestrian scale design features into Downtown site and building designs and infrastructure improvements.

- 10.2.1 The ground floor of buildings should be occupied by active uses with direct connections to the sidewalk.
- 10.2.2 The street level of buildings should have windows to allow for clear views into and out of the building.
- 10.2.3 Ensure that buildings incorporate design elements that eliminate long stretches of blank, inactive building walls such as windows, green walls, architectural details, and murals.
- 10.2.4 Integrate components in building designs that offer protection to pedestrians, such as awnings and canopies, as a means to encourage pedestrian activity along the street.
- 10.2.5 Locate access to and egress from parking ramps mid-block and at right angles to minimize disruptions to pedestrian flow at the street level.
- 10.2.6 Arrange buildings within a site in order to minimize the generation of wind currents at ground level.
- 10.2.7 Locate buildings so that shadowing on public spaces and adjacent properties is minimized.
- 10.2.8 Coordinate site designs and public right-of-way improvements to provide adequate sidewalk space for pedestrian movement, street trees, landscaping, street furniture, sidewalk cafes and other elements of active pedestrian areas.



This active pedestrian area accommodates active and passive users with interesting paving, separation of uses, as well as lighting and other amenities.



### **Skyways**

Skyways play an integral role in the movement of pedestrians in Downtown Minneapolis. Because skyways connect office buildings, retail stores, parking structures and residential structures to one another, priorities should be placed on maintaining uniform hours of operation, consistent directional signage, and convenient and easily accessible vertical connections between street and skyway levels. All new internal skyways should be designed in such a way that allows pedestrians to maintain a visual connection with the street in order to help them orient themselves while navigating through the system.

#### Policy 10.3: Use skyways to connect buildings Downtown.

- 10.3.1 Provide maximum transparency of skyway walls in order to provide views to the outside that help users orient themselves.
- 10.3.2 Maintain uniform skyway hours of operation wherever possible.
- 10.3.3 Provide consistent and uniform directional signage and accessible skyway system maps near skyway entrances, particularly along primary transit and pedestrian routes.
- 10.3.4 Provide convenient and easily accessible vertical connections between the skyway system and the public sidewalks, particularly along primary transit and pedestrian routes.
- 10.3.5 Maintain functional links in the skyway system while adjoining properties undergo redevelopment or renovation.
- 10.3.6 Limit skyway expansion to the downtown core and at other key sites with high-intensity uses in order to minimize low-usage skyways and maximize street-level pedestrian activity in growing downtown neighborhoods and historic areas.

### Multi-Family Residential

New housing development provides an opportunity to reinforce the urban character of specific areas of the city. Building more housing close to or within commercial developments is the key to stronger commercial and other mixed-use markets. The location of new housing developments within close range of amenities such as shopping, cultural or recreational facilities, job targets, or transportation corridors focuses the city's growth into specific areas, as designated in this plan. At all times, multi-family residential development needs to have a clear connection to the street with adequate windows, architectural details and landscaping. The scale of the development should be compatible with the character of the surrounding area.

The character of Minneapolis' urban neighborhoods is a great asset to the city and is



highly valued by residents. Good development enhances its surroundings and adds to the dynamism of the city. While renovations and redevelopment are necessary and often desirable, care should be taken that the new development does not detract from the character of its surroundings. As shown in this illustration, this does not mean buildings must always remain exactly as they have been, or that new neighborhoods need to mimic their neighbors, but it does require consideration of compatibility through attention to building form, scale, massing, and architectural detail.



The Wellstone is Phase III of the Franklin-Portland Gateway project and features mixed uses that meet the street, use of vegetation to beautify the pedestrian realm and revitalize an underused and undervalued corner. The articulated mass and façade enhance the visual effect of the project.

Photo courtesy of Minnesota Green Communities

# Policy 10.4: Support the development of residential dwellings that are of high quality design and compatible with surrounding development.

- 10.4.1 Maintain and strengthen the architectural character of the city's various residential neighborhoods.
- 10.4.2 Promote the development of new housing that is compatible with existing development in the area and the best of the city's existing housing stock.
- 10.4.3 Advance the understanding of urban housing and retail design among members of the design and development community.



The street-level commercial at 26th & Nicollet draws pedestrians in by use of windows. Residents of owner-occupied condominiums in this medium-scale mixed use development benefit from having retail close by.





This infill development in downtown Minneapolis is an example of how new development can be sized and scaled to maximize compatibility with adjacent structures.

# Policy 10.5: Support the development of multi-family residential dwellings of appropriate form and scale.

- 10.5.1 Smaller-scale, multi-family residential development is more appropriate along Community Corridors and Neighborhood Commercial Nodes.
- 10.5.2 Medium-scale, multi-family residential development is more appropriate along Commercial Corridors, Activity Centers, Transit Station Areas and Growth Centers outside of Downtown Minneapolis.
- 10.5.3 Large-scale, high-rise, multi-family residential development is more appropriate in the Downtown Minneapolis Growth Center.

# Policy 10.6: New multi-family development or renovation should be designed in terms of traditional urban building form with pedestrian scale design features at the street level.

- 10.6.1 Design buildings to fulfill light, privacy, and view requirements for the subject building as well as for adjacent properties by building within required setbacks.
- 10.6.2 Promote the preservation and enhancement of view corridors that focus attention on natural or built features, such as the Downtown skyline, landmark buildings, significant open spaces or bodies of water.
- 10.6.3 Provide appropriate physical transition and separation using green space, setbacks or orientation, stepped down height, or ornamental fencing to improve the compatibility between higher density and lower density residential uses.
- 10.6.4 Orient buildings and building entrances to the street with pedestrian



- amenities like wider sidewalks and green spaces.
- 10.6.5 Street-level building walls should include an adequate distribution of windows and architectural features in order to create visual interest at the pedestrian level.
- 10.6.6 Integrate transit facilities and bicycle parking amenities into the site design.



Crescent Trace Condominiums in Sheridan Neighborhood are an example of development that takes advantage of nearby open space for natural light.

# Single-Family and Two-Family Residential

Each neighborhood in the city possesses a distinct character, made up of the houses, commercial buildings, open spaces, streets and alleys that organize patterns of activity happening in their midst. The elements that make these places special are similar, but their details vary tremendously. While this section addresses urban design of single and two-family residential areas, these policies may also apply to urban neighborhoods with a mix of higher density housing and appropriate non-residential land uses.

The roots of any neighborhood's physical character are found in its housing stock, streets and history. Recognizing these elements and using them to fortify neighborhood livability is central to revitalization efforts throughout the city.





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### Policy 10.7: Maintain and preserve the quality and unique character of the city's existing housing stock.

- 10.7.1 Rehabilitation of older and historic housing stock should be encouraged over demolition.
- 10.7.2 Encourage the use of high quality and durable materials for construction and historic preservation.
- 10.7.3 Encourage adaptive reuse, retrofit and renovation projects that make the city's housing stock competitive on the regional market.
- 10.7.4 Renovation of housing should reflect the setbacks, orientation, pattern, materials, height and scale of surrounding dwellings.
- 10.7.5 Provide the flexibility in the city's ordinances to improve and maintain existing structures.

New housing development, or infill development, is an opportunity to reinforce the urban character of specific areas of the city. Low density residential redevelopment in Minneapolis can occur on a grand scale such as the Humboldt Greenway or Heritage Park redevelopments.





Humboldt Greenway is a partnership between Hennepin County and the City of Minneapolis to construct a new greenway and housing on Humboldt Avenue North. The houses sit close to the street, on narrow lots, to create a comfortable, pedestrian-scaled environment. To accommodate the expectations of the new housing market, the houses are larger than typical older houses in Minneapolis, as well as the houses of the surrounding neighborhood. Shared side lots provide outdoor space, in lieu of larger backyards. Alleys and garage placement replicate the typical neighborhood feel of the city.

> Photos courtesy of Metropolitan Design Center University of Minnesota www.designcenter.umn.edu



More often, redevelopment of single family homes and duplexes is a result of demolition of obsolete or dilapidated structures. Even when redevelopment happens on a small scale, the new home has great potential to impact the surrounding neighborhood.

The size, scale and materials of new housing are vital to compatibility with existing homes and neighborhoods. The desirability of Minneapolis neighborhoods is enhanced when new homes are incorporated with the design of their neighborhoods.



Each of these pictures illustrates a design concept of traditional urban form. In the picture above, note the materials and style of the house in relation to the others pictured. This is an example of design not contributing to neighborhood character. The small home in the upper right picture illustrates building form and image being out of context with the surrounding structures. The picture to the immediate right is an example of building organization and function not serving traditional urban form. The attached garage breaks up back yard site lines and creates a scale of massing that breaks up the neighborhood context.







# Policy 10.8: Strengthen the character and desirability of the city's urban neighborhood residential areas while accommodating reinvestment through infill development.

- 10.8.1 Infill development shall reflect the setbacks, orientation, pattern, materials, height and scale of surrounding dwellings.
- 10.8.2 Infill development shall incorporate the traditional layout of residential development that includes a standard front and side yard setbacks, open space in the back yard, and detached garage along the alley or at back of lot.
- 10.8.3 Building features of infill development, such as windows and doors, height of floors, and exposed basements, shall reflect the scale of surrounding dwellings.
- 10.8.4 Detached garages are preferred over attached garages and should be accessory in size and use to the primary residential structure.
- 10.8.5 New driveways should be prohibited on blocks that have alley access and no existing driveways.
- 10.8.6 Traditional setbacks, orientations, pattern, height and scale of dwellings should be created in areas where no clear pattern exists.
- 10.8.7 Low density residential development proposals should be evaluated and compared to the form and density of the neighborhood.
- 10.8.8 Appropriate non-residential land uses, such as institutional, public and suitable commercial uses, should be integrated into low density residential areas through proper building location and design, landscaping, and other site improvements.

### Mixed-Use and Transit-Oriented Development

The term mixed-use can apply to a single structure or a set of buildings massed together as a unit. A mixed-use development in one building accommodates more than one use vertically, such as a multi-family residential building with office or retail on the ground floor. A mixed-use development may be horizontal; a series of single-use buildings, some commercial or office and others residential, next to each other. Transit-oriented development almost always includes mixed-use development and most mixed-use developments or areas will be transit-oriented. Transit-oriented development should be located not only in station areas along the regional LRT or BRT transitways, but also along the local Primary Transit Network corridors. Many of the urban design standards for mixed-use and transit-oriented development are the same as those found in other sections of this chapter – especially those for commercial and multi-family development – and should be utilized where relevant.





The location of the LRT station, such as this rendering of a station along the Hiawatha Corridor, provides an opportunity to complement its activity with a mix of housing and commercial activity. Higher density new development and rehabilitation of existing buildings will reinforce the station as a focal point for the neighborhood.

Policy 10.9: Support urban design standards that emphasize traditional urban form with pedestrian scale design features at the street level in mixed-use and transit-oriented development.



This mixed use development illustrates good built form and image. Pedestrian access to and from the building are clearly identified. Balconies are inserted and windows are oriented towards the park across the street. Shared parking and loading docks are located in the interior of this building.

- 10.9.1 Encourage both mixed-use buildings and a mix of uses in separate buildings where appropriate.
- 10.9.2 Promote building and site design that delineates between public and private spaces.
- 10.9.3 Provide safe, accessible, convenient, and lighted access and way finding to transit stops and transit stations along the Primary Transit Network bus and rail corridors.
- 10.9.4 Coordinate site designs and public right-of-way improvements to provide adequate sidewalk space for pedestrian movement, street trees, landscaping, street furniture, sidewalk cafes and other elements of active pedestrian areas.



### Commercial

Commercial buildings and uses provide needed amenities and services to communities. Their design and placement should be strategic so that negative impacts on surrounding uses, especially residential, are mitigated. A new commercial structure will be considered in terms of its size, scale, intensity of uses and relationship to the street, to users and to its neighbors. Consultations with project proponents combined with site plan review and other city regulatory tools help ensure that an intensive commercial development is well designed, attractive and pleasant, and withstands the test of time.

Successful commercial buildings and areas attract pedestrians by bringing their storefronts close to the sidewalk's edge, providing adequate sidewalk space for pedestrian movement and four season amenities, orienting building design to the street, and respecting traditional urban form by keeping building heights to a level that is compatible with the surrounding neighborhood. Auto-oriented uses will successfully manage the interests of vehicles, transit, and pedestrians, with safety and appropriate siting in mind. Auto-oriented uses will be discouraged where adjacent to single family neighborhoods, in areas targeted for pedestrian-oriented development, and on sites incapable of supporting the requirements of a successful auto-oriented use.



Note the use of lighting, plantings and the placement of storefronts close to the sidewalk edge. These features contribute to active and dynamic commercial areas.

Large-scale, big-box retailers can have a place in an urban environment as long as their design adheres to urban principles. Support for large-scale commercial at city locations like the downtown core, activity centers, transit station areas, and commercial corridors can be accomplished in three ways: 1) through adaptive reuse of existing structures; 2) through new construction of multi-level and multi-use buildings with structured, underground parking; and 3) through incorporation of traditional urban design principles in the renovation and redevelopment of older, existing suburban-style shopping areas. Through these approaches traditional big-box retailers can gain a foothold in the urban market without imposing a suburban, car-dependent model.



#### Policy 10.10: Support urban design standards that emphasize a traditional urban form in commercial areas.

- 10.10.1 Enhance the city's commercial districts by encouraging appropriate building forms and designs, historic preservation objectives, site plans that enhance the pedestrian environment, and by maintaining high quality four season public spaces and infrastructure.
- 10.10.2 Identify commercial areas in the city that reflect, or used to reflect, traditional urban form and develop appropriate standards and preservation or restoration objectives for these areas.





1101 West Broadway - Before

1101 West Broadway - After

- 10.10.3 Enhance pedestrian and transit-oriented commercial districts with street furniture, street plantings, plazas, water features, public art and improved transit and pedestrian and bicycle amenities.
- 10.10.4 Orient new buildings to the street to foster safe and successful commercial nodes and corridors.
- 10.10.5 Limit the visual impact of existing billboards in neighborhood commercial
- 10.10.6 Require storefront window transparency to assure both natural surveillance and an inviting pedestrian experience.
- 10.10.7 Encourage the renovation of existing commercial buildings.

### Policy 10.11: Seek new commercial development that is attractive, functional and adds value to the physical environment.

- 10.11.1 Require the location of new commercial development (office, research and development, and related light manufacturing) to take advantage of locational amenities and coexist with neighbors in mixed-use environments.
- 10.11.2 Ensure that new commercial developments maximize compatibility with surrounding neighborhoods.



- 10.11.3 Continue to curb the inefficient use of land by regulating minimum height, setbacks, build-to lines and parking through master planning methods and zoning code regulations.
- 10.11.4 Maximize the year round potential for public transit, biking, and walking in new developments.

### Industrial

Industrial land uses have their place in the city and are encouraged to locate in geographic areas designated as Industrial Employment Districts so as to minimize conflicts with residential uses. These districts are located close to major transportation corridors so as to minimize noise and traffic disruption. Industrial building design should adhere to the same principles as other development in having adequate windows, quality materials, architectural features and green space. Consolidation or shared parking between industrial users is encouraged to reduce surface water runoff and improve aesthetics. There should be a pedestrian connection between the industrial building and the sidewalk via walkways, and entrances should be oriented to the street.



Coloplast's North American Headquarters in north Minneapolis illustrates many concepts of urban industrial building design.

Policy 10.12: Design industrial uses with appropriate transitions and other design features which minimize negative impacts on surrounding residential uses.

- 10.12.1 Provide appropriate physical transition and separation using green space, fencing, setbacks or orientation between industrial uses and other surrounding uses.
- 10.12.2 Encourage site planning for new developments that orients the "back" of proposed buildings to the "back" of existing development.
- 10.12.3 Require additional screening and buffering for new developments next to residential areas.
- 10.12.4 Design industrial sites to ensure direct access to major truck routes and freeways as a way to minimize automobile and truck impacts on residential



streets and alleys.

- 10.12.5 Promote quality design and building orientation of industrial development that is appropriate with the surrounding neighborhoods.
- 10.12.6 Use the site plan review process to ensure that lighting and signage associated with industrial uses do not create negative impacts for residential properties.

### Institutional and Public Buildings

As educational institutions, public buildings, hospitals and corporations change, expand and increase their presence in city neighborhoods, residents and business owners have grappled with the challenge of accommodating these changes in a compatible, mutually advantageous way. Vital, healthy institutions bring stability and presence to any city neighborhood. Attention to transitions is one way to balance the location and expansion of these institutions, the scale and character of pedestrian or other street level activity and neighborhood livability.

The design of public buildings and facilitates can inspire, transform and catalyze communities. Institutions and public buildings and facilities should set the standard for urban design in Minneapolis, utilizing quality materials and site planning that are reflective of their prominence and importance to the community.



Large scale institutions, like Wells Fargo and the University of Minnesota can contribute to the quality of life in adjacent communities through sensitive design.



### Policy 10.13: Work with institutional and public partners to assure that the scale and form of new development or expansion will occur in a manner most compatible with the surrounding area.

- 10.13.1 Concentrate the greatest density and height in the interior of institutional campuses with stepped-down building design as it transitions to the neighborhood.
- 10.13.2 Develop building forms on the edges of institutional property which are most reflective of neighboring properties as the preferred option, while recognizing that in certain circumstances greater bulk and density may be preferable to expansion beyond existing campus boundaries.
- 10.13.3 Encourage institutional uses and public buildings and facilities to incorporate architectural and site design that is reflective of their civic importance and that identifies their role as focal points for the community.
- 10.13.4 Promote active uses at the ground floor level.

### **Public Spaces**

Public spaces in Winter Cities are successful when they are designed with people in mind for year round use. Those spaces tend to be popular and well-used because they are proximate to residences, like a city park, or businesses, like a downtown plaza. Maintaining and improving existing public spaces is essential to their continued use. New public spaces must be created with careful attention to location, accessibility and sustainability. New public spaces should be encouraged proximate to where there is already a lot of activity or where there is no public space currently available and where multiple forms of access are possible. A variety of uses and amenities for the public space should be explored to maximize interest and functionality. Public spaces may also be green spaces, valued not only for the respite they provide for city residents and workers, but also for the ecological functions they serve in terms of stormwater management and improving air quality. These spaces can be large-scaled, such as Gold Medal Park or smaller, green niches.



This green space on the roof of the Crown Plaza building is an example of a green niche. Greening in downtown provides a welcome respite from concrete and provides an ecological function by reducing the heat island effect.



#### Policy 10.14: Encourage development that provides functional and attractive gathering spaces.



Peavey Plaza in downtown Minneapolis is an example of a popular plaza and gathering space in the city.

access to and use of facilities and meeting spaces in parks, libraries, schools, and notfor-profit institutions and places of worship.

10.14.1 Increase resident

10.14.2 Investigate existing gathering spaces on publicly owned land that are underutilized and make recommendations about how they could be improved.

10.14.3 Encourage the creation of new parks and plazas.

10.14.4 Emphasize improving public access to and movement along the riverfront.

Peavey Plaza photo by PD Larson

10.14.5 Views of the river should favor vistas that try to give longer views of the river.

10.14.6 Develop public plaza standards that give specific guidance on preferred design and maintenance of seating, lighting, landscaping and other amenities utilizing climate sensitive design principles.



Broad sidewalks showcasing interesting land features or public art can be enhanced through strategic placement of seating, lighting and other amenities. Esther Short Park in Vancouver, WA is example of a public space attractive for family gatherings and special community events.



### Streets and Sidewalks

Street and sidewalk design is shaped by the relationships of land use, buildings, parking areas, sidewalks, landscaping and street furnishings. Recognizing that traditional street grid designs can result in a positive, greater impact to the economic vitality of a community, policies are developed to bring pedestrians and bicyclists back to the streets and reduce the impact of auto-oriented streets. It is the city's goal to provide these amenities and improve mobility, livability and sustainability through high-quality designs, adequate capacity, and reduced impervious surfaces.

### Policy 10.15: Wherever possible, restore and maintain the traditional street and sidewalk grid as part of new developments.

- 10.15.1 Consider street vacations as a last resort to preserve the network of city streets and arterials.
- 10.15.2 Integrate and/or reuse historic pavement materials for streets and sidewalk reconstruction, where appropriate.
- 10.15.3 Reduce street widths for safe and convenient pedestrian crossing by adding medians, boulevards, or bump-outs.
- 10.15.4 Improve access management and way-finding to and from all streets, sidewalks, and other pedestrian connections.
- 10.15.5 Explore options to redesign larger blocks through the reintroduction and extension of the urban street grid.

#### Policy 10.16: Design streets and sidewalks to ensure safety, pedestrian comfort and aesthetic appeal.

- 10.16.1 Encourage wider sidewalks in commercial nodes, activity centers, along community and commercial corridors and in growth centers such as Downtown and the University of Minnesota.
- 10.16.2 Provide streetscape amenities, including street furniture, trees, and landscaping, that buffer pedestrians from auto traffic, parking areas, and winter elements.



Historic cobblestone materials integrated in sidewalk construction

10.16.3 Integrate placement of street furniture and fixtures, including landscaping and lighting, to serve a function and not obstruct pedestrian pathways and



pedestrian flows.

10.16.4 Employ pedestrian-friendly features along streets, including street trees and landscaped boulevards that add interest and beauty while also managing storm water, appropriate lane widths, raised intersections, and high-visibility crosswalks.



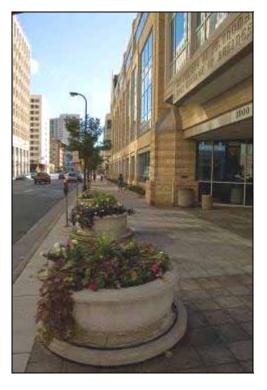
Plantings buffer pedestrians from adjacent traffic and add visual interest to the streetscape.



### Lighting



Over 40,700 street lights illuminate the City of Minneapolis. Different types of street lights include ornamental, shoebox, parkway, wood pole and those on state, county, or private property. City policy intends to provide positive social, economic and equitable benefits to residents, businesses and transportation users.



Lighting is an important element in the urban environment. The quality and quantity of lighting affects public health, safety, comfort, productivity and economy. The City, along with other public partners, owns and maintains lighting in the public realm. Additionally, the City regulates lighting produced on private property, particularly in relation to impacts on surrounding uses. The overall goal is to create a safe, comfortable, and attractive environment for residents, businesses, and visitors.

# Policy 10.17: Provide sufficient lighting to reflect community character, provide a comfortable environment in a northern city and promote environmentally friendly lighting systems.

- 10.17.1 Provide high-quality lighting fixture designs that are appropriate to street types and land use, and that provide pedestrian friendly illumination, but minimize glare and dark sky conditions, and other unnecessary light pollution.
- 10.17.2 Require circuit installations below grade for new developments.
- 10.17.3 Encourage pedestrian scale lighting throughout neighborhoods as well as in areas such as waterfronts, pathways, parks and plazas, and designated historic districts.
- 10.17.4 Ensure that all site lighting requirements and directional signs have

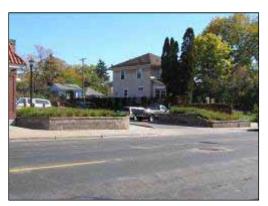


- appropriate illumination levels to comply with zoning and industry illumination standards.
- 10.17.5 Integrate exterior building lighting design to attune with building designs and landscaping.
- 10.17.6 Provide sufficient lighting for better way-finding and safe circulation within and around a development.
- 10.17.7 Encourage additional pedestrian-scale, exterior lighting in growth centers, activity centers, commercial nodes, pedestrian overlay districts and transit station areas.
- 10.17.8 Update city zoning code to reflect best available practices related to dark skies and the environmental benefits of strategic lighting management.



# **Parking Facilities**

Certain areas of the city generate demand far beyond their immediate boundaries, and need to accommodate significant automobile traffic through the provision of parking facilities. While clearly a necessary element in an urban setting, parking facilities can have serious negative visual effects on their surroundings if not designed carefully. Any parking facility, regardless of whether it is a surface parking lot or a structured parking ramp, should be designed so as to blend in with its surroundings.





A landscape buffer around a parking lot, as illustrated in the picture on the left, creates visual interest, preserves the streetscape, and adds a sense of safety for pedestrians. Parking lots without landscaping, such as those pictured on the right, are not visually appealing and do not provide an attractive or secure pedestrian environment.



Buffalo Rising is a uniquely urban LEED certified parking structure in Santa Monica that utilizes environmentally-friendly building materials. It's street level retail, Zen garden and translucency encourage pedestrian activity.

Photo courtesy of BuffaloRising.com





This parking structure use of materials, window fenestration, screening and active ground floor uses minimizes the visual impact



The impact of this parking structure is magnified by its sloped floors, lack of fenestration and lack of automobile screening

#### Policy 10.18: Reduce the visual impact of automobile parking facilities.

- 10.18.1 Require that parking lots meet or exceed the landscaping and screening requirements of the zoning code, especially along transit corridors, adjacent to residential areas, and areas of transition between land uses.
- 10.18.2 Parking lots should maintain the existing street face in developed areas and establish them in undeveloped areas through the use of fencing, walls, landscaping or a combination thereof along property lines.
- 10.18.3 Locate parking lots to the rear or interior of the site.
- 10.18.4 Provide walkways within parking lots in order to guide pedestrians through the site.
- 10.18.5 Design parking structures so sloping floors do not dominate the appearance of the walls.
- 10.18.6 The ground floor of parking structures should be designed with active uses along the street walls except where frontage is needed to provide for vehicular and pedestrian access.
- 10.18.17 Minimize the width of ingress and egress lanes along the public right of way in order to provide safe pedestrian access across large driveways.
- 10.18.18 Encourage appropriate land uses to share parking lots to reduce the size and visual impact of parking facilities.

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Creative, yet simple landscaping softens this

10-25



# Landscaping

A well-designed landscape will create and define spaces while softening the built environment. Landscaping provides beauty and visual interest, shade and environmental benefits, as well as screening and buffering of uses. It is important to consider the types of plants and trees and how they will tolerate and impact their surrounding environment. Design and maintenance of the landscaped areas are important factors as well. The following policy and implementation steps provide guidance for landscaped areas in the city.

Policy 10.19: Landscaping is encouraged in order to complement the scale of the site and its surroundings, enhance the built environment, create and define public and private spaces, buffer and screen, incorporate crime prevention principles, and provide shade, aesthetic appeal, and environmental benefits.

- 10.19.1 In general, larger, well-placed, contiguous planting areas that create and define public and private spaces shall be preferred to smaller, disconnected areas.
- 10.19.2 Plant and tree types should complement the surrounding area and should include a variety of species throughout the site that include seasonal interest. Species should be indigenous or proven adaptable to the local climate and should not be invasive on native species.
- 10.19.3 Landscaped areas should include plant and tree types that address ecological function, parking lot. including the interception and filtration of stormwater, reduction of the urban heat island effect, and preservation and restoration of natural amenities.



Example of landscaped median in a

- 10.19.4 Landscaped areas should be maintained in accordance with Crime Prevention Through Environmental Design (CPTED) principles, to allow views into and out of the site, to preserve view corridors and to maintain sight lines at vehicular and pedestrian intersections.
- 10.19.5 Landscaping plans should be designed to facilitate future maintenance including the consideration of irrigation systems, drought and salt-resistant species, ongoing performance of storm water treatment practices, snow storage, access to sun, proximity to buildings, paved surfaces and overhead utilities.



- 10.19.6 Green roofs, living walls, and porous pavement are encouraged but are not meant to be a substitute for ground-level landscaping of sites as landscaping provides both a natural amenity and aesthetic beauty to the urban landscape.
- 10.19.7 Boulevard landscaping and improvements, in accordance with applicable city polices, are encouraged.

# Signs





Example of signage that is appropriate to the scale and style of buildings.

Sign design needs to balance the desire to convey information with a need to maintain visual aesthetics so that signage is not intrusive. The scale of signage should be geared towards the pedestrian and less to the automobile. Unique signage that incorporates unusual materials or designs is encouraged.

# Policy 10.20: Promote an attractive environment by minimizing visual clutter and confusion caused by a proliferation of signage.

- 10.20.1 Location, size, height and spacing of off-premise advertising signs and billboards shall be regulated to minimize their visual blighting effects.
- 10.20.2 Master sign plans shall be submitted for multi-tenant buildings to ensure a complementary relationship between signage and the architecture of a building.
- 10.20.3 Develop incentives for exceptional sign design and style, including a special review process to ensure appropriate location, size, height and compatible design to the architecture of the building and other signage.
- 10.20.4 Develop a consistent, city-wide wayfinding signage design and maintenance plan for neighborhoods, trails, etc.



# Policy 10.21: Unique areas and neighborhoods within the city should have a special set of sign standards to allow for effective signage appropriate to the planned character of each area/neighborhood.

- 10.21.1 Supporting the regional draw of Downtown entertainment areas, larger scale signage shall be allowed in appropriate places (such as the Hennepin Avenue Downtown Entertainment Area and Nicollet Mall Overlay District).
- 10.21.2 To promote street life and activity, signs should be located and sized to be viewed by people on foot (not vehicles) in order to preserve and encourage the pedestrian character of commercial areas that have traditional urban form.
- 10.21.3 Encourage effective signage that is appropriate to the character of the city's historic districts and landmarks, and preserves the integrity of historic structures.

# Crime Prevention Through Environmental Design (CPTED) Principles

The four elements of Crime Prevention Through Environmental Design (CPTED) are: natural surveillance and visibility; lighting; territorial reinforcement and space delineation, and natural access control. The City of Minneapolis requires all new development to be designed using CPTED principles. This includes development projects that are both publicly and privately owned as well as those that impact the public realm such as open spaces and parks.

CPTED orients buildings, entrances, and circulation or movement patterns to the street to function as "eyes" that watch over street activity. The success in this approach often lies in the kind of activity that looks out over the street. For example, small scale neighborhood commercial uses located up to the sidewalk provide the most vigilant and alert security force available; owners have a vested interest in watching over their immediate surroundings. The daily presence of a manager or owner brings the stability and security of commercial activity to a neighborhood. Stores or services can turn isolated areas into hubs for local neighborhood residents.

Features of CPTED building design include incorporating lighting strategically into site and structure design, providing unobstructed views across the property and to and from the public realm, and unobstructed windows for visual surveillance. Expanses of blank walls are avoided and parking is placed behind the building, so as not separate the building from the street.





CPTED in open spaces and parks—the picture on the left exhibits characteristics of a CPTED site. There are clear sight lines, eyes on the street from nearby residences and fencing to secure the area from adjacent uses. The picture on the right (courtesy of the Metropolitan Design Center) illustrates conditions considered unsafe according to CPTED guidelines: poor lighting, hiding spots and isolation.



CPTED in commercial and residential areas—Factors that enhance safety include activity on the street and pedestrian-friendly environments, signage and access to help. As shown in the picture on the left conditions that contribute to unsafe places include poor lighting and isolation.

Policy 10.22: Use Crime Prevention Through Environmental Design (CPTED) principles when designing all projects that impact the public realm, including open spaces and parks, on publicly owned and private land.

- 10.22.1 Integrate "eyes on the street" into building design through the use of windows to foster safer and more successful commercial areas in the city.
- 10.22.2 Orient new housing to the street to foster safe neighborhoods.
- 10.22.3 Design the site, landscaping, and buildings to promote natural observation and maximize the opportunities for people to observe adjacent spaces and public sidewalks.
- 10.22.4 Provide on-site lighting at all building entrances and along walkways that maintains a minimum acceptable level of security while not creating glare or excessive lighting of the site.



- 10.22.5 Locate landscaping, sidewalks, lighting, fencing and building features to clearly guide pedestrian movement on or through the site and to control and restrict people to appropriate locations.
- 10.22.6 Use innovative building designs and landscaping to limit or eliminate the opportunity for graffiti tagging.
- 10.22.7 Locate entrances, exits, signs, fencing, landscaping, and lighting to distinguish between public and private areas, control access, and to guide people coming to and going from the site.

# Minneapolis, Winter City

Minneapolis, as a winter city, can use urban design to make winter into a community asset. Showcasing year-round livability and vibrancy is important for community health, sustainability and economic vitality. Urban design can be utilized to celebrate the winter months. By paying attention to patterns of wind and sunshine, buildings and public spaces can invite year-round activity, extending the seasons for things like public markets or concerts in public plazas. Some cities clear snow from sidewalks and bike lanes before clearing streets as a means of encouraging active lifestyles and for getting people out of their cars. Lighting is an effective means of creating ambience and framing a streetscape or business district that invites activity through the dark months of winter.



This picture illustrates a number of aspects of urban design in a winter city: lighting to create ambience and visual interest, and building design. Lighting on bridges creates visual interest. Note the Federal Reserve Bank on the right, that takes advantage of sun patterns and minimizes the effects of blustering winter winds with curved building faces.

One climate-sensitive design principle is preserving solar access so that pedestrian spaces remain sunny, even when the sun is at its lowest by locating taller buildings on the north side of streets or stepping them down to reduce shaded areas. A second climate-sensitive design principle is providing shelter from the wind; tall, isolated buildings increase wind speed at ground level. By stepping down buildings and



grouping them with others of similar heights, effects of winter winds are minimized. In addition, south-facing setbacks are opportunities for pocket parks that provide comfortable seating. Streetscaping, screens and buffers, as well and vegetation can also provide wind barriers. Appropriate colors, materials and lighting are climate-sensitive design considerations that can enhance winter living. Color can be introduced with plantings or temporary features such as banners, as well as through materials like colored cement and construction materials, street lighting and public art.

# Policy 10.23 Promote climate-sensitive design principles to make the winter environment safe, comfortable and enjoyable.

- 10.23.1 Consider solar access, shelter from wind and snow storage and removal in site design.
- 10.23.2 Locate pedestrian places on the sunny sides of streets and buildings to shelter from the wind and utilize the sun's warmth.
- 10.23.3 Consider building context, placement, and height to manage wind speeds.
- 10.23.4 Encourage snow removal and storage practices that promote pedestrian and bicycle activity and safety.
- 10.23.5 Utilize pedestrian lighting, seasonal lighting, and furniture to increase comfort and safety so that streets become places for people.
- 10.23.6 Encourage street tree plantings to reduce wind speed and provide separation between pedestrians and cars.
- 10.23.7 Consider topography and site grading so that snowmelt is directed away from roads and pedestrian areas to avoid icy conditions and from basements to avoid snowmelt infiltration.
- 10.23.8 Develop guidance that encourages climate-sensitive design for residential and commercial buildings, parking lots, and open spaces and parks.





By installing gas heaters and wind screens, business owners can extend their outdoor seasons, and residents and visitors can enjoy the cool, crisp fresh air during a Minneapolis winter.



Wider sidewalks, like those pictured on Nicollet Mall consider pedestrian movement as well as snow storage. Effective and efficient snow removal encourages pedestrian activity, and promotes safety for bicyclists and motorists.



Encourage outdoor activity with special events that draw participants and spectators.



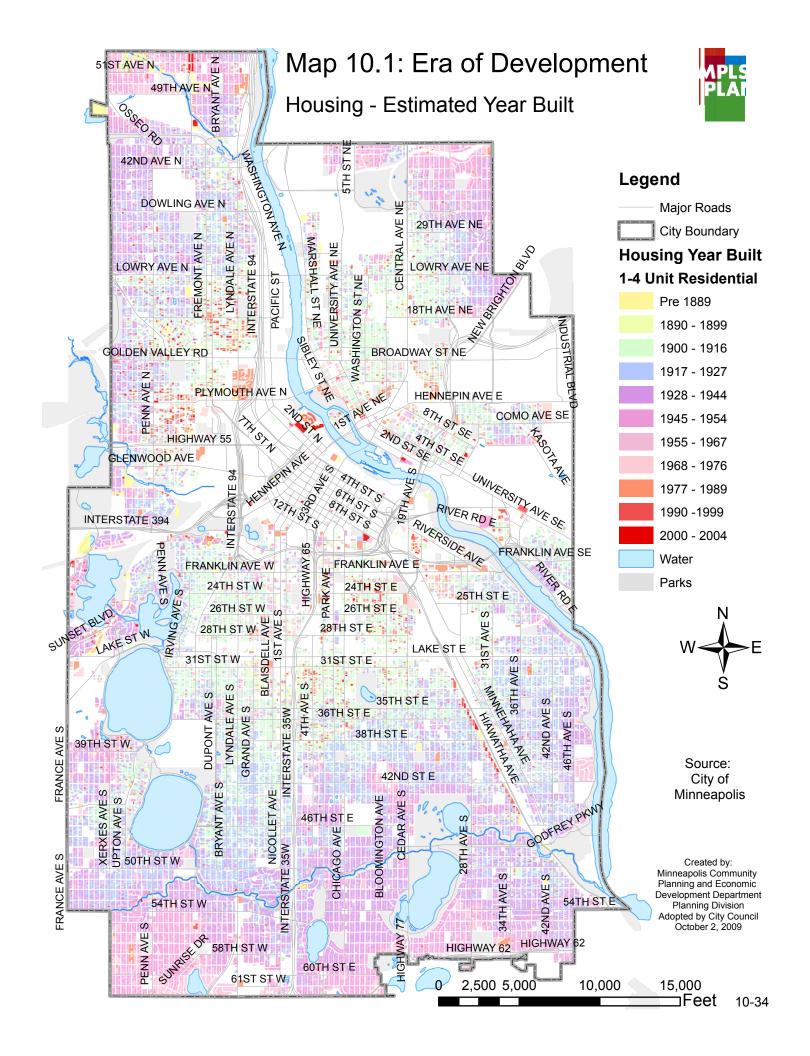
## Rivers, Lakes and Natural Features

Minneapolis (meaning "city of waters") got its name from the abundance of creeks, rivers, lakes, ponds and wetlands found within its boundaries. Since the city's first settlement and the work of the original parks designers, the lakes and creeks in particular proved to be important identifying features for the city.

The Mississippi River connects the entire city from Camden in the north to the Nokomis and Longfellow communities at Minnehaha Falls. It is playing a changing role in shaping the city's identity as the main modes of transportation and economic growth have shifted from river travel to freeway travel. Access to the river and its recreational uses varies considerably, based primarily on historic patterns of urban development. Planning and redevelopment activities along the river are also framed in the context of required planning, through the Mississippi River Critical Area Plan and are further enhanced by Minneapolis' participation in other multi-jurisdictional planning activities, such as the National Parks Service's Mississippi National River and Recreation Area Comprehensive Management Plan.

#### Policy 10.24: Preserve the natural ecology and the historical features that define Minneapolis' unique identity in the region.

- 10.24.1 Incorporate natural features and historic sites into planning and development in order to link the city with the river, the lakes and creeks.
- 10.24.2 Continue to revitalize the Central Riverfront and Upper River area as a residential, recreational, cultural and entertainment district.
- 10.24.3 Increase public access to, along and across the river in the form of parks, cyclist/pedestrian bridges, greenways, sidewalks and trails.
- 10.24.4 Ensure that future riverfront development will be consistent with the city's Mississippi River Critical Area Plan.
- 10.24.5 Improve land use aesthetics along the river.
- 10.24.6 Develop new housing near amenities located along the riverfront, lakes and creeks.
- 10.24.7 Complete the North Mississippi regional parks system and its connections to North Metro communities.





# 11. Implementation

The structure and resources to implement the policies of The Minneapolis Plan for Sustainable Growth are well developed. This structure includes a regional framework as provided by the state statute and Metropolitan Council policy, and City policies, programs and budgetary and regulatory tools.

While not a comprehensive guide to all city programs, policies, and budgetary tools, this chapter illustrates how the comprehensive plan is implemented in the city. It begins with a succinct overview of the regional policy framework and continues with the implementation framework specific to the City of Minneapolis. This chapter also includes a description of City of Minneapolis resources, including budgets, fiscal tools, regulations and plans, such as the Capital Improvement Program.

# The Regional Framework

The <u>regional framework</u> is established in state statute and regional policy as administered by the Metropolitan Council. Three criteria are used to evaluate this plan within the regional context:

**Conformance**—how the plan conforms to all metropolitan system policy plans for transportation, water resources and parks

**Consistency**—how the plan addresses every major statutory requirement and regional policies as outlined in the <u>2030 Regional Development Framework</u> and system plans. Consistency also extends to consideration in terms of the Mississippi River Critical Area Plan and the City's water supply plan, including emergency and conservation plans.

**Compatibility**—is the plan compatible with those of neighboring jurisdictions, including the Minneapolis School District.

The regional framework requires certain components and features in a comprehensive plan. These are contained in this chapter and include:

- Official Controls—"official controls" refers to ordinances, fiscal devices and other strategies used to implement the comprehensive plan.
- Capital Improvement Program—the five-year Capital Improvement Program (CIP) that details each capital project, the estimated cost and funding source.
- Housing Implementation Program—the official controls, programs and fiscal tools the City will use to implement its housing goals and policies.
- Consistency Between Plan and Local Controls—the ways the City of Minneapolis



works to ensure internal consistency between its official local controls and the comprehensive plan

Conformance, consistency and compatibility apply internally to the City of Minneapolis, across all levels of city government, including boards. The Minneapolis Plan for Sustainable Growth must demonstrate "The Three C's" on a local level as well as a regional level. This means that all other plans and City programs, policies, budgets and initiatives and department business plans need to demonstrate consistency with the policies contained in this plan.

# Implementing The Minneapolis Plan for Sustainable Growth

This plan provides a broad framework for City department business plans, adopted small area plans and other plans adopted by the City, including neighborhood master plans, area master plans and corridor plans; citywide topical plans such as those for housing, parks, public works and arts and culture, site-specific plans such as development objectives. The plan also provides a broad framework for the City's regulations, including ordinances and the zoning code. Consistency with the plan is an important consideration when the City is bonding for capital projects. Finally the plan is the umbrella for goals, strategies and specific programs located within departments of the city. Many of these are referenced below, with links to related documents for those who wish to know more details regarding plan implementation. Related plans and programs of particular relevance are included or summarized in the appendices.

The remainder of this chapter is divided into six sections. The first provides a quick overview of how the policy chapters in this plan will be implemented. It covers topics, beginning with land use and ending with urban design, outlining city departments responsible for implementing those policies. Look to the business plans for these departments to learn about specific benchmarks, schedules, funding allocations, or project priorities. The next four sections are required by state statute. The sixth section describes the variety of other approaches to implementation that are used city-wide.

Some departments, such as Finance, Communications, Human Resources, Business Information Services, City Clerk, and the offices of the Mayor and council members perform citywide services affecting all areas of government through oversight, financial management, and general guidance. While the roles of these departments tend to fall under general city operations rather than implementations of specific policies, they are vital to the implementation of any city plan. Other departments and organizations focus on specific topics. These general responsibilities are outlined by topic below.



## Table 11a: Primary Implementation Strategies by Topic

Short term -0 to 5 years (may also be ongoing throughout entire timeframe) Medium term -5 to 10 years Long term - more than 10 years

Chapter	Primary Implementation Strategies	Lead City Departments and Key Partner Agencies
Land Use		,
Short term	Zoning and subdivision ordinances – Continue to enforce existing ordinances, and make incremental changes as needed to respond to changing conditions and further implement policy. A text amendment incorporating airport safety zoning, height limitation and noise attenuation has been initiated and is expected to be acted on in 2008. Beyond that, no major changes are needed to ensure the ordinances are consistent with the comprehensive plan.	<ul> <li>Community Planning and Economic Development (CPED), Planning Division</li> <li>Department of City Assessor</li> </ul>
Short term	Development review process – Continue to use the development review process to ensure projects are consistent with the comprehensive plan and other city plans and ordinances. At this point, no major changes are need to ensure the process is consistent with the comprehensive plan.	<ul> <li>Community Planning and Economic Development (CPED), Planning Division</li> <li>Department of Regulatory Services</li> </ul>
Medium term	Small area planning – Conduct small area plans to provide more detailed land use and development guidance for targeted areas around the city, including growth centers, activity centers, and other areas facing growth or change	Community Planning and Economic Development (CPED), Planning Division
Transportation	n	
Short term	Capital improvements program funding process – Continue to review, prioritize and fund capital projects which are consistent with and implement the comprehensive plan, including new bicycle and pedestrian facilities and upgraded roads and bridges.	<ul><li>Department of Public Works</li><li>Hennepin County</li><li>Metropolitan Council</li></ul>
Short term	Operations and maintenance – Continue to fund and complete projects that maintain or improve the current level of service for various modes of transportation, including traffic operations and maintenances to roads, bridges, parking facilities, and bicycle and pedestrian facilities.	<ul> <li>Department of Public Works</li> <li>Hennepin County</li> <li>Metropolitan Council</li> </ul>
Short term	Parking— Evaluate existing parking supply and policy guidance in city and make	Department of Public Works



	changes as need to ensure consistency with comprehensive plan.	■ CPED – Planning
Medium term	Aviation – Work to ensure the city is represented in ongoing work on regional airport planning, including the upcoming MSP comprehensive plan update, TPP update and zoning and performance standards	■ CPED – Planning
Medium term	Multi-modal planning – Complete plans for city transportation infrastructure, including bicycle and pedestrian facilities, roads, and streetcars; coordinate with development of land use plans to ensure close compatibility between the two	<ul> <li>Department of Public Works</li> <li>Community Planning and Economic Development (CPED)</li> </ul>
Long term	Primary transit network – Plan for and implement projects which create a connected citywide and regional transit network, including light rail, commuter rail, buses, streetcars, and other modes	<ul><li>Department of Public Works</li><li>Hennepin County</li><li>Metropolitan Council</li></ul>
Housing		
Short term	Grant and loan programs – Implement comprehensive plan vision for housing through a portfolio of housing grant and loan programs, with focus on affordability, choice, and quality.	<ul> <li>CPED – Housing</li> <li>Department of Regulatory Services</li> </ul>
Short term	Code and related regulatory framework – Continue to enforce existing ordinances, and make incremental changes as needed to respond to changing conditions and further implement the comprehensive plan. At this time, no major changes are needed to implement the plan.	<ul> <li>CPED – Housing</li> <li>Department of Regulatory Services</li> </ul>
Short term	Coordinated response to foreclosures – Continue city focus on addressing recent issues with foreclosures, vacant and boarded homes, and other impacts on the community via the Five Point Strategy and other approaches.	<ul> <li>CPED – Housing</li> <li>Department of Regulatory Services</li> </ul>
Short term	Inspections – Continue to use inspections to ensure compliance with existing plans and ordinances, and to identify issues which need city attention.	<ul><li>CPED – Housing</li><li>Department of Regulatory Services</li></ul>
Long term	Affordable housing – Meet or exceed regional affordable housing goals for the city by supporting the development of a range of housing choices, particularly in areas without a concentration of low income housing	CPED – Housing
Economic Dev	relopment	
Short term	Technical assistance, grant, and loan	■ CPED – Economic



	programs – Continue to use portfolio of tools and programs linked to economic development goals to implement the comprehensive plan's vision.	Development, Employment and Training
Short term	Targeted redevelopment areas – Link economic development promotion and assistance to targeted areas throughout the city, including industrial and commercial districts and other growth areas	Community Planning and Economic Development (CPED)
Medium term	Community partnerships – Build strong, mutually beneficial partnerships with community organizations to support economic development goals, with a particular focus on Downtown and other employment centers	<ul> <li>CPED – Economic         Development, Employment and         Training</li> <li>Other public agencies –         Hennepin County, Minnesota         Department of Employment and         Economic Development         (DEED), Minnesota Pollution         Control Agency (MPCA),         Minneapolis Public Schools</li> <li>Higher education and vocational         institutions</li> </ul>
Public Service	s and Facilities	
Short term	Capital improvements program funding process – Continue to review, prioritize and fund capital projects which are consistent with and implement the comprehensive plan, including improvements to city-owned buildings and infrastructure.	<ul> <li>Department of Public Works</li> <li>Health and Family Support</li> <li>Fire Department</li> <li>Police Department</li> <li>Civil Rights</li> <li>Regulatory Services</li> <li>Communications</li> </ul>
Short term	Service provision – Continue to provide high quality city services to the community, including public safety, water, sanitation, health, and others	<ul> <li>Department of Public Works</li> <li>Health and Family Support</li> <li>Fire Department</li> <li>Police Department</li> <li>Civil Rights</li> <li>Regulatory Services</li> <li>Communications</li> </ul>
Medium term	Partnerships – Build partnerships with related agencies and boards to ensure implementation of comprehensive plan policies and goals. Support libraries through funding for capital improvements.	<ul> <li>Department of Public Works</li> <li>Health and Family Support</li> <li>Fire Department</li> <li>Police Department</li> <li>Civil Rights</li> <li>Regulatory Services</li> <li>Communications</li> <li>Minneapolis Public Schools</li> <li>Hennepin County Library</li> </ul>



Short term	Operations and maintenance – Continue to fund and complete projects that maintain or improve the current level of service for city maintained infrastructure, including water, wastewater, and transportation facilities	<ul> <li>Department of Public Works</li> <li>Health and Family Support</li> <li>Fire Department</li> <li>Police Department</li> <li>Civil Rights</li> <li>Regulatory Services</li> <li>Communications</li> </ul>
Environment		
Short term	Capital improvements program funding process – Continue to review, prioritize and fund capital projects which are consistent with and implement the comprehensive plan. Track process towards implementing the plan over time.	<ul> <li>Public Works</li> <li>Regulatory Services</li> <li>Health and Family Support</li> <li>City Coordinator's Office</li> </ul>
Short term	Service provision – Continue to provide high quality city services to the community, water, sanitation, health, and others	<ul> <li>Public Works</li> <li>Regulatory Services</li> <li>Health and Family Support</li> <li>City Coordinator's Office</li> </ul>
Medium term	City operations – Work to make incremental changes to city operations which are consistent with a vision of a sustainable city, and lead by example. Includes improvements in energy conservation and emissions reduction.	<ul><li>Public Works</li><li>Regulatory Services</li></ul>
Medium term	City's Sustainability Initiative – Continue to implement and strengthen the city's sustainability initiative consistent with the comprehensive plan. Track progress toward stated goals, and make changes as needed in response to changing conditions and opportunities.	<ul> <li>Public Works</li> <li>Regulatory Services</li> <li>Health and Family Support</li> <li>City Coordinator's Office</li> </ul>
Short term	Operations and maintenance – Continue to fund and complete projects that maintain or improve the current level of service for city maintained infrastructure, including stormwater, sewer, and water supply system maintenance.	<ul> <li>Public Works</li> <li>Regulatory Services</li> <li>Health and Family Support</li> <li>City Coordinator's Office</li> </ul>
Medium term	Review of zoning and other City ordinances – Review ordinances to ensure that they reflect the comprehensive plan's vision for a sustainable city, and make incremental changes as needed in response to changing conditions and opportunities. At this point, no major revisions are anticipated in the near future.	<ul> <li>Public Works</li> <li>Regulatory Services</li> <li>Health and Family Support</li> <li>City Coordinator's Office</li> </ul>
Open Space and Parks		
Short term	Zoning and subdivision ordinances –	■ CPED – Planning



	Continue to enforce existing ordinances, and make incremental changes as needed to respond to changing conditions and further implement policy. At this point, no major changes are needed to ensure the ordinances are consistent with the comprehensive plan.	<ul> <li>Minneapolis Park and Recreation Board</li> <li>Public Works</li> </ul>
Short term	Park Board operations – Continue to work with the Minneapolis Park and Recreation Board regarding maintaining and expanding the park system and its services, consistent with both the city's the MPRB's comprehensive plans.	<ul> <li>CPED – Planning</li> <li>Minneapolis Park and Recreation Board</li> <li>Public Works</li> </ul>
Short term	Operations and maintenance – Continue to fund and complete projects that maintain or improve the parks and open space system, in partnership with the MPRB. City role includes lighting, road maintenance, tree maintenance, and other improvements.	<ul> <li>CPED – Planning</li> <li>Minneapolis Park and Recreation Board</li> <li>Public Works</li> </ul>
Heritage Pres	ervation	
Short term	Historic preservation ordinance – Continue to enforce existing ordinance, and make incremental changes as needed to respond to changing conditions and further implement policy. At this point, no major changes are needed to ensure the ordinance is consistent with the comprehensive plan.	<ul> <li>CPED – Planning</li> <li>Hennepin County</li> <li>State Historic Preservation Office (SHPO)</li> </ul>
Short term	Historic design guidelines – Continue to enforce existing standards, and make incremental changes as needed to respond to changing conditions and further implement policy. At this point, no major changes are needed to ensure the ordinances are consistent with the comprehensive plan.	<ul> <li>CPED – Planning</li> <li>Hennepin County</li> <li>State Historic Preservation Office (SHPO)</li> </ul>
Medium term	Historic survey and context studies – Complete historic surveys and context studies throughout the city as needed to provide a comprehensive view of historical resources, and to further assist with ensuring their proper preservation	<ul> <li>CPED – Planning</li> <li>Hennepin County</li> <li>State Historic Preservation Office (SHPO)</li> </ul>
Medium term	Development review process – Continue to use the development review process to ensure projects are consistent with the comprehensive plan and other city plans and ordinances. At this point, no major changes are need to ensure the process is consistent with the comprehensive plan.	<ul> <li>CPED – Planning</li> <li>Hennepin County</li> <li>State Historic Preservation Office (SHPO)</li> </ul>
Arts and Cultu	are	
Short term	Film permitting and technical assistance  – Continue to provide film permitting and related technical assistance as needed,	CPED – Cultural Affairs



	including tracking progress	
Medium term	Public art program – Continue to implement the city's vision for public art, including developing a public art master plan	<ul><li>CPED – Cultural Affairs</li><li>Public Works (Public Art)</li></ul>
Short term	Capital improvements program – Continue to review, prioritize and fund capital projects which are consistent with and implement the comprehensive plan including public art projects.	<ul> <li>CPED – Cultural Affairs</li> <li>Public Works (Public Art)</li> </ul>
Urban Design		
Short term	Zoning and subdivision ordinances – Continue to enforce existing ordinances, and make incremental changes as needed to respond to changing conditions and further implement policy. At this point, no major changes are needed to ensure the ordinances are consistent with the comprehensive plan.	■ CPED – Planning
Short term	Development review process – Continue to use the development review process to ensure projects are consistent with the comprehensive plan and other city plans and ordinances. At this point, no major changes are need to ensure the process is consistent with the comprehensive plan.	■ CPED – Planning

## Official Controls

In this context, "official controls" refers to ordinances, fiscal devices and other strategies used to implement the comprehensive plan. The 2030 Development Framework encourages communities in the region to explore and use a variety of innovative ordinances and other official controls to implement their comprehensive plans. Minneapolis does that through its <u>code of ordinances</u>.

## **Zoning Ordinance**

The land use and urban design segments of The Minneapolis Plan are implemented through a local zoning ordinance. The City's existing zoning ordinance is largely consistent with the policy recommendations in the 2030 Development Framework, as shown below:

Accommodate growth forecasts through reinvestment at appropriate densities: 5 units
or more in developed areas and target higher density in locations with convenient access
to transportation corridors and with adequate sewer capacity

The City's zoning ordinance readily accommodates density. The least



dense residential district accommodates over 7 units per acre, and several mixed use districts allow for well over 100 units per acre. Furthermore, density and floor area ratio bonuses – for features such as underground parking, affordable housing, transit facilities, and public art – can allow for much higher densities for eligible development projects. Higher density zoning is located intentionally along major transit corridors and in walkable areas well-served by transit and other modes. An internal analysis indicates that the city has the capacity to accommodate significantly more than projected growth within these designated areas. Sewer capacity is considered as part of development review, and is generally not a major issue since the city is fully developed and served by public water and sewer.

 Approve and permit reinvestment projects that make cost effective use of infrastructure and increase density.

Virtually all development within the city occurs on parcels that are already well-served by existing infrastructure. Increased densities are encouraged through medium and high density residential and mixed use districts, planned unit developments, and cluster development tools that allow for higher densities, taller buildings, smaller lots, reduced yards, and shared green space.

 Adopt ordinances to accommodate growth and use land and infrastructure efficiently (examples: developing zoning techniques for mixed use development, transit oriented development, overlay districts, planned unit development provisions, and traditional neighborhood development overlay zones.)

All commercial districts in Minneapolis allow a mix of various residential densities and commercial uses. The <u>Industrial Overlay District</u> allows residential, commercial, and industrial mixes. The planned unit development ordinance language provides additional flexibility for larger developments. The City makes use of a number of overlay districts to promote other development objectives, including the Pedestrian-Oriented Overlay District, which was developed to preserve and protect the pedestrian character of designated areas.

 Support the conversion or reuse of underutilized lands in order to accommodate growth forecasts, ensure efficient utilization of existing infrastructure investments and meet community needs.

> Almost all new development in the city is located on lands that have been developed in the past and are served by existing infrastructure, and as a result many do take place on what could be termed underutilized lands. The zoning ordinance is designed to take into account existing site limitations and nonconformities.



The City' zoning districts include several main categories, listed below. A more complete account of this can be found in Appendix H.

- Residence districts Zoning districts R1, R1A, R2, R3, R4, R5, and R6 are
  primarily for residential uses. R1 districts tend to be single family, R2 and
  R3 small scale multi-family, and R4 and above larger multi-family
  development.
- Office residence districts Zoning districts OR1, OR2, and OR3 are mixed use districts, allowing primarily residential development with some smaller scale commercial. They range from neighborhood to institutional scale.
- Commercial districts Zoning districts C1, C2, C3A, C3S, an C4 are mixed use districts. They allow a range of commercial uses from neighborhood to large scale, and also accommodate residential uses.
- Downtown districts Zoning districts B4, B4S, and B4C are used just in Downtown Minneapolis. They are mixed use districts, which allow much higher densities and heights than allowed elsewhere in the city.
- Industrial districts Zoning districts I1, I2, and I3 accommodate primarily industrial uses. While some commercial uses are allowed, residential uses generally are not (without an overlay district).
- Overlay districts A series of special purpose overlay districts provide more specific guidance in designated areas throughout the city. These include Pedestrian Oriented Overlay District, Linden Hills Overlay District, Industrial Living Overlay District, Transitional Parking Overlay District, Shoreland Overlay District, Floodplain Overlay District, Mississippi River Critical Area Overlay District, Downtown Parking Overlay District, Downtown Housing Overlay District, Downtown Height Overlay District, Nicollet Mall Overlay District, Harmon Area Overlay District, and North Phillips Overlay District.

#### **Subdivision Ordinance**

<u>Chapter 598</u> of the Minneapolis Code of Ordinances establishes land subdivision regulations which are designed to facilitate and implement the subdivision and resubdivision of land consistent with the policies of the comprehensive plan and zoning regulations.

#### Heritage Preservation

Heritage Preservation Regulations are established within the Minneapolis Code of Ordinances, <u>Chapter 599</u> as authorized by state law <u>M.S. 471.193</u>, <u>Municipal Heritage Preservation</u>, as well as <u>Minnesota Historic District Act of 1971</u>. The Preservation Ordinance establishes the Heritage Preservation Commission to have the authority



to survey historic resources, designate historic resources, and review alterations to designated properties. One of the purposes of the Heritage Preservation Ordinance is to implement the policies of the comprehensive plan

In addition to the Preservation Ordinance, preservation policies are implemented through historic surveys and context studies, historic design guidelines, and the participation of preservation staff in the development review process. Historic surveys and context studies identify and evaluate types of properties and actual properties that should be designated historic. As authorized in the Preservation Ordinance, Heritage Preservation Design Guidelines are used in the review of alterations to designated properties, new construction in historic districts, and signage. CPED staff work with the <u>State Historic Preservation Office (SHPO)</u> for federal and state review, including the Section 106 process and environmental reviews.

#### **Fiscal Tools**

The City of Minneapolis uses a full range of available fiscal tools to support the city and the goals of The Minneapolis Plan. These include the property tax, special assessments, tax increment financing (TIF), fees and charges, bonding, and state and federal aid. The City's <u>annual budget document</u> provides a comprehensive look at how these fiscal tools are being used and for what purpose.

#### Water Treatment and Distribution

As described in Chapter 6, the City has a series of existing plans which provide guidance on its water supply and treatment policies and procedures. In addition, the City's regulatory framework provides specific guidance on the operation of its water supply operations.

<u>Chapter 509 of the Minneapolis Code of Ordinances</u> contains regulations governing the city's water treatment and distribution system. The services provided by the <u>Minneapolis Water Distribution and Treatment Division</u> include the supply, treatment and distribution of water. The City's product consistently meets higher standards than those set by local, state and federal regulatory agencies.

#### **Surface Water and Sewers**

Chapter 52 of the Minneapolis Code of Ordinances regulates erosion and sediment control for land disturbing activities. Chapter 54 regulates stormwater management for development and redevelopment activities. Chapter 510 governs the operation of the city's stormwater utility. Chapter 511 regulates sewers and sewage disposal. These regulations are implemented and enforced through the City's Department of Public Works, in cooperation with other city, county, regional, and state partners.

One of the primary concerns related to city and regional water resources is negative impacts from urban stormwater runoff. The City of Minneapolis enforces ordinances designed to minimize negative stormwater rate, volume, and pollutant impacts:



- Requiring erosion control for new developments, housing projects, and other land disturbing activities to reduce the amount of soil and contaminants leaving construction sites
- Requiring long-term stormwater management for new developments to manage stormwater on-site and minimize adverse effects of stormwater volume, rate, and contaminants on water resources
- Controlling the application of pesticides by licensing applicators and restricting the sale and use of fertilizers containing phosphorus
- Controlling hazardous spills and enforcing regulations that prohibit illegal dumping and improper disposal into the storm drain system
- Preventing violations of non-stormwater discharges (industrial byproducts that are clean or treated prior to discharge) by reviewing permit applications and renewals, and investigating complaints against existing permits
- Requiring removal of roof rainleader and other clearwater connections from the sanitary sewer system to eliminate Combined Sewer Overflows.

#### Critical Area Plan

The Minneapolis Mississippi River Critical Area Plan, and the various adopted ordinances that support it, are another component of the official controls that implement the comprehensive plan. The purposes of the state's Mississippi River Corridor Critical Area designation are to:

- protect and preserve a unique and valuable state and regional resource for the benefit of the health, safety, and welfare of the citizens for the state, region, and nation;
- prevent and mitigate irreversible damage to this state, regional, and national resource;
- preserve and enhance the corridor's natural, aesthetic, cultural, and historic values for the public use;
- protect and preserve the river as an essential element in the national, state, and regional transportation, sewer and water, and recreational systems; and
- protect and preserve the biological and ecological functions of the corridor.

Local units of government are required to adopt critical area plans and regulations



that comply with the Mississippi River Critical Area Program. Local units of government and regional and state agencies shall permit development in the corridor only in accordance with those adopted plans and regulations.

The current Minneapolis Critical Area Plan, adopted in 2006, is an update of the 1989 Critical Area Plan and includes additional policies. It documents the city's river corridor resources and sets forth those policies and implementation strategies the City has adopted to protect the natural, cultural, historic, commercial, and recreational value of the river corridor. The plan is implemented through a number of existing city ordinances.

# Capital Improvement Program

#### **Overview of Process**

The City has a <u>five-year capital improvement program (CIP)</u>. Annually, City departments and independent boards and commissions prepare new and/or modify existing capital improvement proposals. The Finance Department, the CPED Planning Division and the Capital Long-Range Improvement Committee (CLIC) review the capital improvement proposals.

The Capital Long-Range Improvement Committee is a citizen advisory committee to the Mayor and City Council. The committee is authorized to have 33 appointed members, composed of two members per Council Ward and seven at-large members for the Mayor. The committee elects a Chair and Vice Chair of the whole group and also breaks into two programmatic task forces with approximately an equal number of members in each. Each task force elects a Chair and Vice Chair. Collectively, these six elected members form the Executive Committee and represent CLIC in meetings with the Mayor and City Council.

The two task forces are officially titled "Transportation and Property Services" and "Government Management, Health and Safety and Human Development". They are commonly referred to as the Transportation task force and the Human Development task force. The task forces receive and review all Capital Budget Requests (CBR's) for their program areas as submitted by the various City departments, independent boards and commissions. During two all-day meetings, employees who prepared the CBR's formally present their needs and offer explanations for their requests. Task force members then rate all proposals using a rating system with several specific criteria and create a numerical rating for each project. Highest rated priorities are then balanced against available resources by year to arrive at a cohesive five year capital improvements program recommendation to the Mayor.

The Mayor takes the CLIC recommendations into consideration for his proposed budget that is submitted to the City Council. Finally, the City Council modifies and adopts its capital improvement program.



#### Areas Funded by CIP

Funding through the City's CIP supports City policies as established in The Minneapolis Plan, including the statutory requirements for funding transportation, wastewater, water supply, and parks and open space facilities. Included in the 2007-2011 CIP are funds for:

- Municipal Building Commission (City facilities)
- Library Board (library facilities and the Unified Library System)
- Park Board (parks and open space)
- Public Works, including:
  - Facility improvements
  - Street paving
  - Sidewalk program
  - Bridges
  - Traffic control and lighting
  - Bicycle trails
  - Stormwater conveyance and management
  - Sanitary sewer
  - Water
  - Parking
  - Solid waste
- Miscellaneous other projects, including:
  - Public art
  - Information technology
  - Public safety

A full version of the 2007-2011 CIP is included in Appendix H.



# Housing Implementation Program

The comprehensive plan is required to have a housing implementation program that identifies official controls, programs and fiscal tools the City will use to implement its housing goals and policies. These are outlined below with more detail provided in Appendix D.

The Metropolitan Council has recognized the regional need for the increased availability of affordable housing. In order to ensure an equitable distribution of affordable housing throughout the region and to meet a region-wide goal of 51,000 newly constructed affordable housing units, the Council set targets for each municipality to achieve between 2011 and 2020. The City of Minneapolis' share of this overall goal is 4,224 new affordable housing units. This is slightly larger than the share in the regional report on affordable housing, as it reflects revised forecasts for city growth, as depicted in this report.

The allocation of these goals by jurisdiction was determined by three factors:

- Proximity to low wage jobs compared to the number of local low wage workers
- Existing percentage of affordable housing
- Level of transit services

The City of Minneapolis acknowledges its share in the regional need for low- and moderate-income housing. It is committed to achieving the goal as stated above. Additionally, the City is committed to growing its housing stock at all income levels, consistent with projections.

### **Affordable Housing Programs and Fiscal Devices**

In 2004, the City Council adopted Resolution 2004R-260, the Affordable Housing Resolution with the desire to clarify and streamline existing City housing policies by adopting a unified document that consolidates various fragmented policies of the City in a manner consistent with The Minneapolis Plan. The Unified Housing Policies include general policy principles and also address affordable housing, Single-Room Occupancy Housing and the conditions where demolition may occur, senior housing, the preservation and stabilization of federally (HUD) subsidized rental housing, and homeless housing.

Housing policy implementation at the City of Minneapolis is managed primarily through the <u>CPED Housing Policy & Development Division</u>, in partnership with <u>Regulatory Services</u>, <u>Health and Family Support</u>, and other departments and partner agencies. The Housing Policy & Development Division administers a range of programs which develop and preserve affordable housing, eliminate blighting influences, encourage private market activities, and assist low income households in



purchasing and rehabilitating homes. These include direct assistance programs as well as various fiscal devices, and are funded through a variety of different sources. As of the date of this plan's adoption, these programs and devices include:

- Affordable Housing Trust Fund Program (AHTF)
- Affordable Ownership Housing Development Program
- Emergency Shelter Grant (ESG) Program
- Higher Density Corridor Housing Program
- Low-Income Housing Tax Credits (LIHTC)
- Multifamily Housing Revenue Bond (HRB) Program
- Nonprofit Development Assistance Program
- Tax Increment Financing (TIF)
- Capital Acquisition Revolving Fund (CARF)
- Century Homes Program
- Distressed Properties Vacant Housing Recycling Program
- The Home Ownership Program
- Home Ownership Works (HOW) Program
- Housing Replacement Tax Increment Districts
- Senior Housing Regeneration Program<sup>TM</sup> (SHRP)
- CityLiving Mortgage Loans
- Code Abatement Loans
- Home Repair Loans
- American Dream Downpayment Initiative Affordability Loan
- Minneapolis Advantage
- Don't Borrow Trouble
- Five-Point Strategy



#### Northside Home Fund

Details about specific progress on program objectives is described in the annual HUD Consolidated Plan for Housing and Community Development, and the Consolidated Annual Performance Report.

#### Official Controls

Housing regulations are addressed in Title 12 of the <u>Minneapolis Code of Ordinances</u>. In addition to housing code regulations, this section provides regulatory guidance for the housing programs described above – including rehabilitation grants, homeownership initiatives, and affordable housing development programs.

Zoning and subdivision ordinances are also supportive of housing goals. As a developed city and a city dedicated to sustainable growth, Minneapolis recognizes that affordable rehabilitation of its existing housing stock is crucial to the continuing vitality of its neighborhoods. Furthermore, City regulations are supportive of the construction of new affordable housing, with flexible design mechanisms such as higher allowed densities and planned unit development provisions.

The Minneapolis City Council enacts ordinances to regulate construction, maintenance, and remodeling so that the buildings where we live, work, and play will be safe. The city uses permits to make sure that the work is done in compliance with those ordinances.

The City of Minneapolis enforces national and international codes adopted by the State of Minnesota. These include the <u>State Building Code</u>, <u>State Electrical Code</u> and <u>State Plumbing Code</u>. Codes are available online or in print form at <u>Minnesota's Bookstore</u>.

The City's 311 system assists builders, contractors, developers and homeowners with the codes and permits required to build or remodel. 311 is the point of entry into the building process. Sometimes a site plan, a zoning site review, and an inspections plan review are required before a permit can be issued.

# Consistency Between Plan and Local Controls

The 1995 amendments to the <u>Metropolitan Land Planning Act</u> require that official local controls be consistent with the community's comprehensive plan. Communities may not adopt any new official controls that conflict with the comprehensive plan, or permit activity in conflict with metropolitan system plans.

The City of Minneapolis is well aware of this requirement and has made every effort to see that official local controls are consistent with The Minneapolis Plan. The City has established that existing local controls are consistent with the <u>2030 Regional</u> <u>Development Framework</u>, conform to the metropolitan system plans, and are



congruent with all other elements of the comprehensive plan. The City's zoning ordinance and zoning map were overhauled in 1999 in conjunction with adoption of The Minneapolis Plan. The map and ordinance continue to be revised as needed.

# Other Approaches to Implementation

While the tools listed above are important, there are many other approaches to implementation of policy in the city. These are described below:

City Council strategic planning—The City Council periodically reviews City progress and sets goals for upcoming years regarding top priorities. The most recent version of these goals is entitled Minneapolis 2020. While the goals are more narrowly focused than the scope of the comprehensive plan and reflect priorities for near-term implementation, they are consistent with the overall comprehensive plan policy direction. Appendix H shows the relationship between the Council's goals and the comprehensive plan, confirming that all the goals are linked to comprehensive plan policy, and vice versa. However, it should be noted that these are the goals of the current administration, and they may change in future years. Progress towards these goals is tracked through Results Minneapolis.

**Annual budget**—The City of Minneapolis <u>annual budget process</u> integrates information from city-wide priority setting, capital improvements program, annual infrastructure operation and maintenance costs, and departmental review processes to establish annual resource allocations. Budgetary priorities are reviewed for consistency with comprehensive plan policy.

**Department business plans**— The departments in City of Minneapolis government develop <u>annual business plans</u>, which direct the specific programs and activities in their jurisdiction. These business plans are linked to funding in the City's budgetary process. Business plans provide another way to review progress towards comprehensive plan policy goals.

Interdepartmental coordination—Many important issues are not contained within one department's purview. Minneapolis has designed several initiatives to improve interdepartmental coordination and to create a more user-friendly interface for those who do business with the city. An example is Minneapolis Development Review (MDR), which provides a "one stop" approach for those wishing to improve or develop property within the city. The Preliminary Development Review process brings together representatives from several departments to review significant development proposals early on, so that important issues can be identified and dealt with.

**Topical and area plans**—Many topic- and area-specific plans are cited throughout this document. These plans provide more specific guidance than the general policy in the comprehensive plan. The city will continue to develop, update, and implement these plans as needed. As with other regulations and policies, these plans will be



consistent with the comprehensive plan.

Since the comprehensive plan provides particular focus on land use planning, Appendix B contains a summary of recent small area land use plans adopted by the city, including land use maps.

Other plans that are used in the implementation of the comprehensive plan include historic surveys and context studies. The City undertakes these types of plans to identify and analyze types of properties and actual properties that should be designated historic.

Recent plans adopted in other departments include:

- Access Minneapolis—ten-year action plan that addresses a full range of transportation modes, options and issues
- Minneapolis Local Surface Water Management Plan—an adopted plan to guide the city in conserving, protecting, and managing its surface water resources
- Minneapolis Plan for Arts and Culture—a ten-year strategic plan that
  defines the role of the City of Minneapolis in supporting the arts and
  culture
- Community Health Services Plan—a four-year plan that highlights new initiatives and on-going services that protect and improve people's health by preventing illness, disease, and disability
- Mississippi River Critical Area Plan—a plan documenting the city's river corridor resources and setting forth policies and implementation strategies the city has adopted to protect the natural, cultural, historic, commercial, and recreational values of the Mississippi river corridor
- Heading Home Hennepin—a ten-year action plan, developed in a joint planning effort with Hennepin County, aimed at addressing and eliminating homelessness
- Minneapolis GreenPrint—a strategy to reduce the city's environmental footprint and integrate sustainability into city decision-making that tracks progress towards goals for ten key environmental indicators for the city
- Wireless Minneapolis—a recent initiative to supply wireless internet service citywide. When completed, it will provide residents, businesses and visitors with wireless broadband access anywhere in the city

**Internal boards and commissions**—The City of Minneapolis has more that 45 citizen advisory and regulator boards, commissions and committees. These



organizations, composed of citizen volunteers, advise the city on current issues and assist the city in policy development and administration of services. These boards and commissions include:

- Appeal boards—hear and act on citizen appeals concerning actions by city officials regarding their property
- Planning and development boards—assist the City in making sound development decisions that reflect the city's comprehensive planning efforts, historical preservation policies, neighborhood and community priorities, and zoning regulations
- General advisory boards—advise city elected officials on policy issues, some formally and some informally
- Other jurisdictional boards and commissions—not created or convened by the City, but including City representation in their membership
- Special service districts—defined areas within the city where special services are rendered, with costs paid from charges to the area; services may include maintenance of street furniture, plantings, lighting, and other amenities provided within a district
- Watershed management organizations—state-created boards for the four watersheds represented within the city

The City works closely to each of these, some of which have their own budgetary and planning processes, to ensure that important city-wide policies are being implemented.

Intergovernmental coordination—In Minneapolis, public schools, libraries, and parks and recreation are governed by separate entities – Minneapolis Public Schools, Hennepin County Library, and the Minneapolis Park and Recreation Board. Furthermore, the City works directly with other public agencies to implement shared goals, including Minnesota Department of Transportation, Hennepin County, and the Metropolitan Council. The relationship between the University of Minnesota and the City is a unique one, and has important implications from a number of perspectives, including education, economic development, and transportation. Policy and implementation documents for these bodies which relate to the comprehensive plan include:

- The Minneapolis Park and Recreation Comprehensive Plan
- Minneapolis Public Schools strategic planning
- Hennepin County/Minneapolis unified library system planning



To ensure consistency between plans, the City also convenes meetings with neighboring jurisdictions. This outreach promotes understanding across jurisdictional boundaries, sharing of information and best practices, and promotes goodwill.

Neighborhood organizations—Minneapolis contains 81 defined neighborhoods, each with their own unique identity, characteristics, and amenities. A strong network of neighborhood organizations links these neighborhoods to one another and the city as a whole. Since 1990, neighborhood planning, initiatives, and funding have been coordinated through the Neighborhood Revitalization Program (NRP). Through NRP, neighborhood associations have been identifying and helping to meet their neighborhood's housing, safety, economic development, recreation, health, social service, environment and transportation needs. In building the capacity of associations and residents to actively engage in civic life and implement solutions to local issues, NRP has helped rebuild communities in the city.

This program is facing a time of change, as its source of dedicated funding ends in 2009, after 20 years. City leadership is pursuing a multi-pronged strategy to study and address the issue. The city will continue to work with its neighborhoods regardless of the status of this program, particularly with regards to their important role in facilitating public participation and input. A Community Engagement Task Force is one aspect of this work. The Task Force is furthering discussions on community engagement, not only as it relates to neighborhoods but the entire city enterprise. See Appendix B for a summary of NRP planning efforts to date and how they relate to the comprehensive plan.

**Partnering with the private sector**—including both for-profit and nonprofit organizations is a valuable strategy in addressing complex issues. In particular, it can leverage limited resources and tap expertise on specific topics. The city will continue to identify and strengthen these partnerships to further shared goals for the public good.

**Mayoral initiatives**—Mayor Rybak has established a series of priorities for his terms as mayor of Minneapolis. These initiatives are consistent with comprehensive plan goals and strategies, focusing on some <u>top priorities</u> for implementation. They include:

- Closing the gaps between people and places
- Preparing the next generation for the future
- Reweaving the urban fabric
- Sustainability

While the person holding this office changes, the mayor provides policy direction and a platform to champion important causes for the city and its citizens.



Intergovernmental relations—Part of implementing a plan is an assessment of any regulatory barriers or fiscal constraints that would limit the ability to achieve an objective. The City's legislative agenda addresses priority issues at the regional, state, and federal levels. The agenda, which is reviewed annually and implemented continually, is coordinated through the City's Intergovernmental Relations Department. There is regular communication between federal, state, and local levels regarding issues that have an impact on the city.

Comprehensive plan update process. Work on the comprehensive plan will not end with its adoption. A variety of internal processes will track progress on the plan. The plan will be periodically reviewed and updated as needed to ensure that it is relevant and consistent. Periodic progress reports will be available to show how the city is doing in implementing its comprehensive plan.

# Implementation Challenges

One important consideration when proceeding with implementation of a plan is identifying potential obstacles which the City must address in order to implement the plan. These challenges have been identified across the various City departments, and are summarized below, along with a brief description of how the comprehensive plan addresses these issues:

- **Growing and changing population** As the city's population grows and changes—its racial and ethnic diversity and aging population—the needs and demands of government also change. Population trends were analyzed as part of the development of the comprehensive plan, and it is designed to be flexible to these changing needs.
- Evolving technology—The availability of upgraded technology can help accomplish tasks more quickly and efficiently. However, resources and training are needed to take advantage of advances in technology. The comprehensive plan does not get into the specifics of what is needed, but rather provides general policy support for using the best available technology.
- The city's changing role—The city's role in the region, and how it should work with other partners at the neighborhood, regional, state, and national levels, is changing in response to larger trends. The comprehensive plan addresses the needs for partnerships and interjurisdictional cooperation in various contexts.
- **Security concerns**—Issues around this topic fall into two major categories: improved strategies for dealing with public safety and crime in the city, as well as emergency preparedness and disaster response, including homeland security. These issues create an uncertain environment, and create the need for additional planning and



preparation. Safety and security issues are addressed in the Public Services and Facilities chapter.

- Limited resources—While resources are never unlimited, recent issues have impacted the city significantly. These include cuts in state aid, changes in how property is assessed, and increases in demands for services without corresponding increases in funding. The city's infrastructure and public facilities require ongoing maintenance and renewal which requires a dedicated and sustained investment of new and existing resources. The city increasingly recognizes the critical nexus between public works and economic development. A new and flexible funding source that can respond quickly to emerging needs and opportunities will help ensure that Minneapolis is a great city of the future. The comprehensive plan addresses generally the need for sustainable funding sources, including directly advocating for state and federal funding, strengthening financial partnerships, encouraging growth and investment that builds the tax base, and efficiencies in coordinating services.
- Climate change—Conducting city business and providing essential public services will have to be done in ways that minimize the ecological footprint of the city, invest in greening, energy efficiencies and public-private partnerships while encouraging smart urban design and promoting the city as a prime location for living, working and playing.

The intention of the City is that the Minneapolis Plan for Sustainable Growth will remain a living document. As it is implemented, it will be regularly reviewed and updated as needed to adjust for changing conditions. Although the long-term vision for the city will remain, the details may change. In this way, the plan will continue to provide strong, relevant guidance for the city in the coming years.

## Amending the Plan

During the life of the comprehensive plan, it may become necessary from time to time to amend the document, particularly when new information becomes available regarding conditions and opportunities within the city. While the City would like to minimize the necessity of amending the plan, it realizes that this is a necessary strategy to ensure that the plan remains relevant and useful throughout its life.

The City has the ability to amend the comprehensive plan, in compliance with the Metropolitan Council's <u>prescribed process</u>. In the previous version of the plan, several amendments were originated by the city and approved. No procedure existed for anyone else to originate a request for a comprehensive plan amendment.

With the addition of several new elements to the plan – in particular, a detailed future land use map – the City determined it would be useful to have an option for



others to request a plan amendment. Similar to other jurisdictions in the region, this is designed primarily to allow those with an interest in a property to request an amendment to the future land use designation, alongside other development approvals necessary for a proposed development. This will not replace or alter the Metropolitan Council's prescribed process, but may relieve some of the City's burden in processing these requests, while also ensuring these decisions are made in a timely and consistent manner.

The City will retain discretion over the details of this process, including distinguishing those linked to a specific development proposal from others which may be less time sensitive. The City also retains the right to amend the plan as needed through an internal process, without initiation by an external applicant.

Information on the City's amendment process will be available through the planning department.



## Appendix A: Glossary

## Arts and Culture

**Creative industries** – industries that focus on creating and exploiting intellectual property products; such as the arts, films, games or fashion designs, or providing business-to-business creative services such as advertising.

**Public art** – works of art in any media that have been planned and executed with the specific intention of being sited or staged in the public domain, usually outside and accessible to all

## **Economic Development**

**Bioscience Zone** – a state-designated growth and expansion zone for biotechnology and health sciences industries, providing technical and financial support to qualifying businesses located within the zone

**Communications infrastructure** – Organizations, personnel, procedures, facilities and networks employed to transmit and receive information by electrical or electronic means

Empowerment Zone – a federally-designated area in the city which offers incentives for business location and expansion within the zone, in order to create sustainable communities through economic growth, affordable housing, safety, education, job training and community services.

**Good jobs** – As defined by the Governor's Workforce Development Council, a "good job" pays a family sustaining wage, provides a benefits package, and opportunities for advancement.

**Green technology** – application of the environmental sciences to conserve the natural environment and resources, and by curbing the negative impacts of human involvement

**Industrial Employment District** – employment districts in the city designated as appropriate areas for the retention and expansion of existing industry, as well as the development of new industry.

**Labor force** – all the people in an area available to work, regardless of level of employment

**Living wage/livable wage** – a wage sufficient to meet the basic needs of a worker and any dependents; the City of Minneapolis defines the living wage standard by ordinance and applies it to city contractors and businesses receiving qualifying



subsidies

**Megastructure** – Large campuses or institutions with buildings of a style that detract from the pedestrian environment, usually spanning multiple city blocks. In the early 1970's, megastructures were considered an inventive architectural solution to the challenge of building large institutional or commercial complexes within the heart of U.S. cities.

*Opportunity* industrial employers – industries characterized by lower educational requirements and starting pay than 21<sup>st</sup> Century employers. These jobs often provide workers with entry level positions where they can continue to develop skills and move up economically. Examples: Building Equipment Contractors, General Freight Trucking, and Building Finishing Contractors.

21<sup>t</sup> Century industrial employers – industries characterized by higher educational requirements, linkages to scientific and university-based research, higher pay scale, and higher employment densities. Examples: Pharmaceutical and Medicine Manufacturing, • Scientific Research and Development Services, and Architectural, Engineering, and Related Services.

## **Environment**

**Airport influence area** – all property located within a specified distance of a public airport, subject to noise, safety and other related concerns; may also be known as airport coordination area

**Bio-fuel** – gas or liquid fuel made from plant material (biomass) rather than fossil fuels; examples include ethanol and biodiesel

**Day-Night Equivalent Sound Level (DNL) line** – a line around an airport at which the ambient sound level generated by aviation traffic is equal to a specified decibel range

**District energy system** – systems that produce steam, hot water or chilled water at a central plant and then pipe that energy out to buildings in the district for space heating, hot water heating and air conditioning. The arrangement provides more flexibility and economies of scale than if all buildings had their own individual systems.

Ecological/environmental footprint – a resource management tool that measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology.

Environmental justice – a goal which is achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work



**Green building** – the practice of creating healthier and more resource-efficient models of construction, renovation, operation, maintenance, and demolition

**Greenhouse gases** – gases that trap heat in the atmosphere, contributing to the greenhouse effect. They include water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

**Impervious surface** – Any material which significantly reduces or prevents natural absorption of stormwater into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow. Impervious surfaces include, but are not limited to, buildings and surfaces paved with traditional concrete, asphalt, or pavers.

**Life-cycle assessment** – an objective process to evaluate the environmental burdens associated with a product, process, or activity by identifying energy and materials used and wastes released to the environment, and to evaluate and implement opportunities to affect environmental improvements

MCBS Sites of Biodiversity Significance – as designated by the Minnesota County Biological Survey (MCBS), areas with varying levels of native biodiversity that may contain high quality native plant communities, rare plants, rare animals, and/or animal aggregations

**Metro Conservation Corridors** – as designated by the Minnesota Department of Natural Resources, a strategy for accelerating and enhancing habitat protection by targeting limited funds toward high-priority focus areas and better coordinating the efforts of conservation organizations

Non-point source pollution – pollution that occurs when rainfall, snowmelt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into ground water

**Regionally Significant Ecological Areas** – A landscape-scale assessment of the seven-county metro area by the Minnesota Department of Natural Resources to identify ecologically significant terrestrial and wetland areas. Areas include places where intact native plant communities and/or native animal habitat are still found in the region and continue to provide important ecological functions.

Renewable energy/fuel – energy derived from resources that are regenerative or for all practical purposes cannot be depleted, including wind, water, bio-fuels, and solar energy

**Sustainability** – meeting current needs without compromising the ability of future generations to meet their own needs

**Volatile Organic Compound (VOC)** – chemicals which are emitted as gases from certain solids or liquids, and are major contributors to air pollution. Sources include:



paints, paint strippers, aerosol sprays, cleansers, stored fuels, and automotive products.

**Watershed** – the specific land area that drains water into a river system or other body of water.

**Wetland** - land where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface

Wind energy conversion systems – any device, such as a wind charger, windmill, or wind turbine, and associated facilities, that converts wind energy to electrical energy

## Heritage Preservation

**Conservation district** - preservation areas intended to conserve distinctive places and structures by providing for review by a neighborhood-specific group of any changes to the district's buildings that would permanently alter their character

**Contributing structure** – any property, structure or object that adds to the historical integrity or architectural qualities that make the historic district, listed locally or federally, significant

**Design guidelines** – criteria and standards which a heritage preservation commission must consider in determining the appropriateness of proposed work within a historic district

**Heritage Preservation Commission** – a citizen advisory body to the Minneapolis City Council; dedicated to the preservation and celebration of our local and national heritage

**Historic/cultural resource** – a building, structure, site, district or object, which is significant in an area's history, architecture, archaeology, engineering and culture

**Historic designation** – a form of protection for significant properties and districts; once designated, a property cannot be modified or removed without review by heritage preservation officials

**Historic landmark/district** – a building, district, site, structure, or object, officially recognized by local, state, or federal government for its historical significance

**Historic site survey** – survey of properties within a designated area, with the purpose of identifying historic resources

**Non-contributing structure** – a structure located within the boundaries of a designated historic district but which itself is not historic and does not contribute to



the historical attributes of the district as a whole

**Period of significance** – the span of time during which a property attained the significance that makes it eligible for historic designation

Secretary of Interior's Standards for Rehabilitation – standards established by the US Department of the Interior for all programs under departmental authority and for advising federal agencies on the preservation of historic properties listed in or eligible for listing in the National Register of Historic Places.

## Housing

Affordable housing – Housing for which the occupant is paying no more than 30 percent of his or her income for gross housing costs, including utilities. Defined in Zoning Code as housing affordable to households whose income does not exceed fifty (50) percent of the metropolitan median household income, as determined by the U.S. Department of Housing and Urban Development. Housing must remain affordable continuously for a period of not less than fifteen (15) years to qualify as affordable housing

Homeless – based on the definition established by the U.S. Congress in the McKinney-Vento legislation, someone is homeless if they (1) lack a fixed, regular and adequate nighttime residence; or (2) has a primary nighttime residence that is a supervised, publicly or privately operated temporary living accommodation, including shelters, transitional housing, and battered women's shelters or (3) has a nighttime residence in any place not meant for human habitation, such as under bridges or in cars. For children and youth, this definition is extended to also include children and youth under 18 who are (1) sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason (sometimes referred to as "doubled-up"); or (2) living in motels, hotels, trailer parks, or (3) camping grounds due to lack of alternative adequate accommodations; abandoned in hospitals; or awaiting foster care placement.

**Impacted communities** – areas within the city with a high percentage of low income residents and other factors which may necessitate intervention for community well-being

**Low income** – a person or household with income between 50-80% of the area median income

**Single room occupancy housing** – multi-unit housing for very-low-income persons that typically consists of a single room and shared bath and also may include a shared common kitchen and common activity area

**Supportive housing** – affordable housing linked with services that help people live more stable, productive lives; defined in Zoning Code as a facility that provides housing for twenty-four (24) hours per day and programs or services designed to



assist residents with improving daily living skills, securing employment or obtaining permanent housing

**Transitional housing** – time-limited supportive housing designed to help those experiencing homelessness to obtain and maintain long term housing

**Very low income** – a person or household with income that is less than 50% of the area median income

## Implementation

**Capital Improvement Plan (CIP)** – A five-year plan for proposed capital improvements. The first year of the CIP is formally adopted as the Capital Budget.

**Clearwater** – any surface flow, runoff, and drainage that does not contain any hazardous substance or sewage. This includes but is not limited to NPDES permitted discharges, stormwater and water from foundation and footing drains and basement sump pumps

**CLIC** – Capital Long-Range Improvement Committee – a committee of 33 private citizens appointed by the 13 Council members (2 per ward) and Mayor (7). The committee reviews Capital proposals and recommends priorities for capital spending within specified resource parameters

**Combined sewer** – a sewer that must handle flow of both sanitary wastewater and stormwater in a single pipeline

**Combined sewer overflow (CSO)** – occurs when excessive amounts of rainfall enter a sanitary sewer system. The result is a volume of rainwater and sanitary wastewater, which exceeds the system's capacity. Combined rainwater and sewage is forced to overflow into area streams and rivers through outfalls

**EZ** – Empowerment Zone, a federal designation which the City received from the U.S. Department of Housing and Urban Development in 1999

**Hazardous substances** – material which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed

**NRP** – Neighborhood Revitalization Program, established in 1990, a joint powers agreement of the City to undertake neighborhood programs

**Rainleader** – any conduit that conveys stormwater from a rooftop to a point of discharge



Sanitary sewer system – pipelines, pumping stations, force mains, and all other constructions, devices, and appliances appurtenant thereto, used for conveying sewage or industrial waste or other wastes to a point of ultimate disposal

**Stormwater** – any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation

## Land Use

**Activity center** – designated Minneapolis land use features which tend to have a concentration of higher density and destination uses which promote activity all day long and into the evening; for more detail see Chapter 1 Land Use

**Adaptive reuse** – renovation of a building or site to include elements that allow a particular use or uses to occupy a space that originally was intended for a different use

**Auto-oriented use** – commercial uses which serve primarily automobiles, including gas stations, car washes, auto repair shops, auto sales, drive-through facilities and similar uses

**Commercial corridor** – designated Minneapolis streets which tend to have high traffic volumes, predominantly commercial uses, and which serve as destinations; for more detail see Chapter 1 Land Use

**Community corridor** – designated Minneapolis streets which tend to have moderate traffic volume, and land uses that are primarily residential with commercial uses concentrated at nodes; for more detail see Chapter 1 Land Use

**Destination use** – a land use that draws visitors, customers, or patrons from a larger area than the immediately surrounding neighborhoods

**Industrial employment districts** – designated Minneapolis land use feature which serve to protect prime industrial space, as well as providing an opportunity for the city to support targeted industries and redevelop underutilized sites

**Massing** – the overall bulk, size, physical volume, or magnitude of a structure or project

**Mixed use** – multiple land uses in the same structure or same general area of a community.

**Neighborhood commercial node** – designated Minneapolis land use features which tend to have a concentration of commercial and mixed uses around an intersection, and which generally serve the surrounding neighborhood; for more detail see Chapter 1 Land Use



Overlay districts – designated areas within the City, in addition to base zoning, established to preserve and protect the natural environment, to encourage pedestrian-oriented design, to promote redevelopment and rehabilitation, to promote mixed-use development, and to protect the public health, safety and welfare by preserving the unique character of existing areas for future use and development

**Planned unit development** – two or more principal buildings or uses developed or to be developed under unified ownership or control, the development of which is unique and of a different character than the surrounding area.

**Site plan review** – standards established to promote development that is compatible with nearby properties, neighborhood character, natural features and plans adopted by the city council, to minimize pedestrian and vehicular conflict, to reinforce public spaces, to promote public safety, and to visually enhance development

**Siting** – positioning of a building on land, in relation to elevation, orientation, and view

**Transit station area** – designated Minneapolis land use features which set standards for development surrounding light rail transit (LRT) stations within the city; for more detail see Chapter 1 Land Use

**Transit supportive density** – development density levels which concentrate a substantial amount of development within walking distance of a transit line, to enable the transit line to have a viable level of ridership

Use – the purpose or activity for which the land or buildings thereon are designed, arranged, intended, occupied or maintained

**Zoning district** – an area or areas within the limits of the city within which uniform regulations and requirements govern the use, placement, spacing and size of land and structures

## Open Space and Parks

**Street trees** – publicly maintained trees planted along streets within the public right-of-way

**Community gardens** – community spaces that are communally cultivated and cared for; these spaces may consist of individually-worked plots, multiple person caretaker areas, sitting areas, and small-scale children play areas

**Open/green space** – undeveloped land or common areas reserved for parks, walking paths or other natural uses

**Parkways** – green public spaces which connect natural, civic, and recreational amenities; most are integrated with the local road network and have low traffic



volumes traveling at slow speeds

**Regional Park System** – a system of parks and trails throughout the seven-county metropolitan area; improvements are coordinated through the Metropolitan Council, although parks are owned and operated by sub-regional agencies

## **Public Services**

**Community based policing** – an approach to policing that promotes a strong partnership between the community and its police service

**Development Review** – the processes undertaken by city staff, boards, commissions, and the City Council to approve or deny an application for development

**EMS** – Emergency Medical Services

Emergency Operations Plan - a broad plan that establishes response protocol and a chain of command for serious emergencies that threaten the health and safety of a community

**Infrastructure** – Long-lived capital assets that normally are stationary in nature and normally can be preserved for a significantly greater number of years than most capital assets. Examples of infrastructure assets include roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems.

**Protected class** – a group of persons that is specifically protected by law against discrimination; factors considered in determining protected classes include race, color, religion, ancestry, national origin, sex, affectional preference, disability, age, marital status, and status with regard to public assistance

**Safe routes to school** – initiative aimed at making walking and bicycling to school safer for children and increasing the number of children who choose to walk and bicycle

**Special Service District -** a defined area where special services are rendered, the costs of which are paid from revenues collected from service charges imposed within that area

## **Transportation**

**Access management** – strategies designed to balance access to developed land while ensuring a safe, efficient transportation system.

**Bus rapid transit (BRT)** – a flexible, rubber-tired rapid-transit mode that combines stations, vehicles, services, running ways, and Intelligent Transportation System (ITS) elements into an integrated system



**Car sharing** – a system under which either through cooperative ownership or through some other mechanism multiple households share a pool of automobiles and sometimes other vehicles

**Commuter rail** – passenger trains operated on main line railroad track to carry riders to and from work in city centers

**Light rail transit (LRT)** – a metropolitan electric railway system characterized by its ability to operate single cars or short trains along exclusive rights of way at ground level, on aerial structures, in subways, or in streets, and to board and discharge passengers at track or car-floor level

**Multimodal transportation** – incorporating multiple modes of transportation into a connected and integrated system

**Park and ride** – facilities that allow commuters to leave their personal vehicles in a parking lot and transfer to a bus, rail system, or carpool for the rest of their trip

**Primary transit network (PTN)** – is a permanent network of all transit lines, regardless of mode or agency, that operates every 15 minutes or better all day for at least 18 hours every day

Streetcar, modern – modern streetcars are a hybrid combining features of traditional downtown streetcar lines and light rail; their lines tend to follow traditional streetcar routes in urban areas; however, the cars are a new design that is essentially a smaller version of a light rail car

**Streetscaping** – planning and placing distinctive lighting, furniture, art, trees, other landscaping, etc. along streets and at intersections

**Traffic analysis zone (TAZ)** – unit of geography most commonly used in conventional transportation planning models; size varies based on the density of an area's population and its transportation network

**Transit oriented development (TOD)** – a mixed-use community within walking distance of a transit stop that mixes residential, retail, office, open space, and public uses in a way that makes it convenient to travel on foot or by public transportation instead of by car

**Travel demand management plan (TDM)** – a set of actions or strategies, the goal of which is to encourage travelers to use alternatives to driving alone, especially at the most congested times of the day

**Travel forecasting** – a set of methodologies, frequently using computerized models, to forecast future traffic patterns and levels on a defined transportation network



## **Urban Design**

Crime Prevention Through Environmental Design (CPTED) – design and use of the built environment in a way that can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life

Eyes on the street – natural surveillance of street activity based on the orientation of development, particularly through the placement of windows, active uses, and outdoor gathering places overlooking the street

**Infill development** – the practice of building on vacant lots or undeveloped parcels within the older parts of an urban area or already developed area

**Pedestrian scale/orientation** – designing neighborhoods at a human scale, which are walkable and accessible to the pedestrian

**Pervious surface** – an outdoor surface which will allow rain and snowmelt to flow into the ground and prevent runoff except in very heavy rains

Setback – the distance between a property boundary and a building

**Traditional urban form** – urban design reminiscent of pre-WWII cities, which includes wide sidewalks, shade trees, well-marked crosswalks, good lighting and visibility, buildings that have entrances and windows facing the street, and stretches of storefronts uninterrupted by parking lots

**Urban design** – the practice of determining how buildings fit together to create valuable spaces



## Appendix B: Land Use and Planning

## Overview

This appendix contains the population, household, and employment calculations required by the Metropolitan Council. Additionally, it has tables showing how the City plans to accommodate this projected growth into the future.

As noted elsewhere in the plan, the City of Minneapolis is a developed community, which has been fully urbanized. Additionally, land around its borders has been completely annexed by other municipalities, basically prohibiting its territorial expansion.

As a result, new population and employment growth will occur on the sites of previously developed acreage. As a result, the total land area dedicated to development will change very little. The main difference will be the increase in densities, which will allow the City to accommodate more people and jobs on the same amount of land.

Although these charts do not show this, the planned growth and increase in densities is not evenly spread across the City. Instead, it is concentrated along designated corridors, nodes, and other centers of activity. The Development Density map in this appendix illustrates generally how density would be distributed throughout the city along an in these land use features. These areas correspond to the land use features described in Chapter 1 Land Use. This ensures that new growth and density is located in places which already have excellent transit access, as well as a range of shopping, employment, and other urban amenities nearby.

Naturally, these calculations are not precise. It is impossible to know exactly how much land will develop and the precise numbers of people and jobs that will occupy it in the future. However, this exercise is useful in demonstrating that the growth projections are realistic given the City's ability to accommodate them.

The City is confident it will be able to accommodate the full amount of growth projected, and more. Furthermore, the City provides the most sustainable location for this growth in the region, given its strategic location and existing infrastructure. The range of housing types, levels of affordability, and access to a full range of urban amenities make this an attractive location as well. The City will continue to advocate for infrastructure investments which support this growth and development.

## **Net Residential Density Worksheet**

# Table Calculating Net Density of Residential Development

lable calculating the Delisity of Residential D	y or residential	Development							
				Acres	Acres	Acres	Acres		
			Acres	Wetland	Public	Arterial	Other	Net	Net
	Single Family	Multi Family #	Gross	& water-	Parks &	Roads	Undevel-	Residential	Density
Land Use	# of Units	of Units	Resid.	bodies	Open	ROW	obed	Acres	<b>Units/Acre</b>
	А	В	C	D	Е	Ь	g	H=C-D-E-F-G	(A+B)/H
Low density residential	75,650	24,786	12,202	0	0	0	0	12,202	8
Medium density residential	929	21,887	747	0	0	0	0	747	30
High density residential	0	32,624	485	0	0	0	0	485	29
Very high density residential	0	14,170	68	0	0	0	0	68	159
Congregate living	0	0	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	0	0	0	0
Mixed use**	0	1,741	27	0	0	0	0	27	64
Public institutional	0	0	0	0	0	0	0	0	0
Cultural entertainment	0	0	0	0	0	0	0	0	0
Trans/comm/utilities	0	0	0	0	0	0	0	0	0
Industrial	0	0	0	0	0	0	0	0	0
Parks and open space	0	0	0	0	0	0	0	0	0
Vacant	0	0	0	0	0	0	0	0	0
TOTAL	76,325	95,208	13,550	0	0	0	0	13,550	13

<sup>\*</sup> Describe on a separate page any other undeveloped land that does not fall under wetlands and water, public parks or arterial roads, including steep slopes or outlots for future or commercial development.

Based on existing land use.

May also be used in lieu of existing planned land use for 2020 (which was not included in City's comprehensive plan adopted in 2000).

<sup>\*\*</sup> Acres of residential calculated based just on mixed use development lots which include residential units



### LAND USE TABLE IN 5-YEAR STAGES

**Existing and Planned Land Use Table (in acres)** 

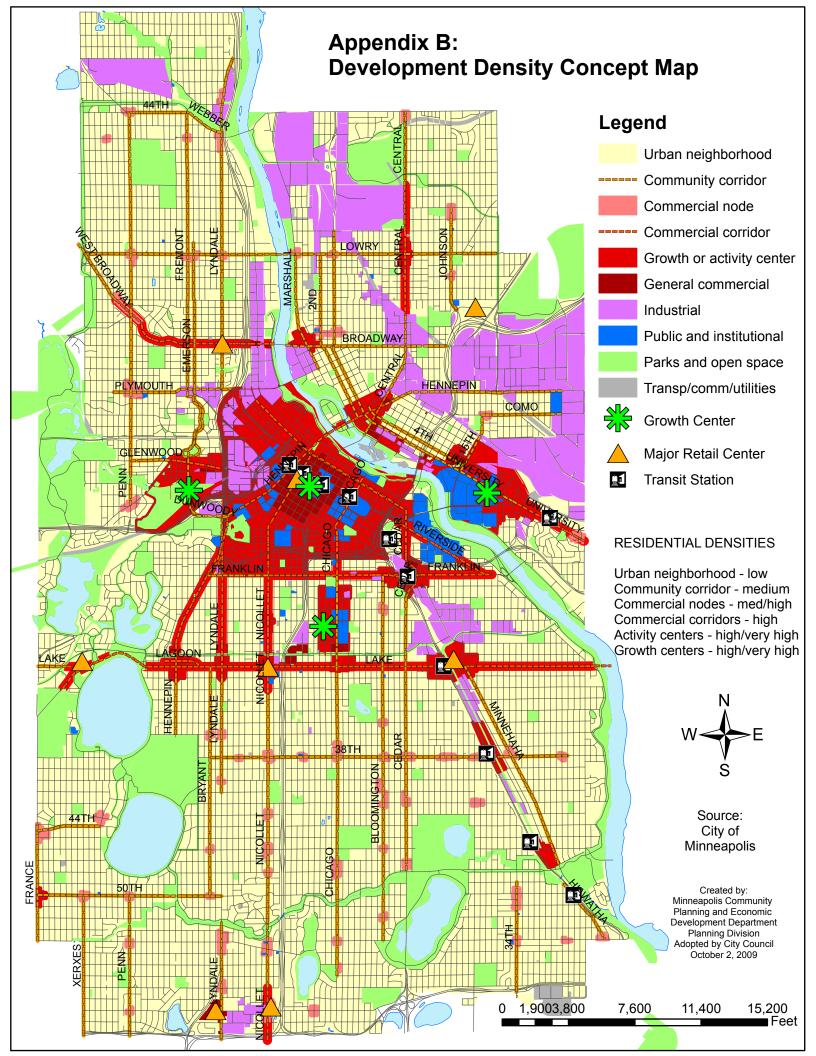
Existing and Flanned Land Use 1	Average De		Existing						Change
	Housing L		(2000)	2010	2015	2020	2025	2030	2000-2030
Within Urban Service Area	Minimum	Maximum							
Residential Land Uses*									
Urban Neighborhood (low density)	8	20	14,328	14,162	13,997	13,831	13,665	13,499	-829
Community Corridor (medium densi		50	704	869	1,034	1,199	1,364	1,529	825
Commercial Node (medium-high de	20	120	54	128	201	275	348	422	368
Commercial Corridor (high density)	50	120	473	481	489	497	506	514	40
Activity/Growth Centers (high-very h	50	200	89	348	606	865	1,124	1,383	1,295
C/I Land Uses**	Est. Emplo	yees/Acre							
General commercial	3.3	33	1,927	1,586	1,246	906	565	225	-1,702
Industrial	2.3	31	2,112	2,250	2,389	2,527	2,666	2,805	693
Public/Semi Public Land Uses									
Public/Institutional***			485	485	485	485	485	485	0
Parks and Open Space			2,202	2,202	2,202	2,202	2,202	2,202	0
Transportation/Comm/Utilities			1,052	1,052	1,052	1,052	1,052	1,052	0
Roadway Rights of Way			10,042	10,042	10,042	10,042	10,042	10,042	0
Subtotal Sewered			33,467	33,605	33,743	33,881	34,019	34,157	690
	Minimum lot	Maximum	Existing						Change
Outside Urban Service Area	size	lot size	(2000)	2010	2015	2020	2025	2030	2000-2030
Rural Residential 2.5 acres or less									0
Rural Residential 2.5 -10 acres									0
Rural Residential 10-40 acres									0
Agricultural 40+ acres									0
Subtotal Unsewered									
Vacant land (has sewer access)			952	814	676	538	400	262	-690
Wetlands and water bodies		-	2,344	2,344	2,344	2,344	2,344	2,344	0
Total			36,763	36,763	36,763	36,763	36,763	36,763	0

<sup>\*</sup> All residential areas allow and incorporate mixed use

Notes: Average densities represent approximate range - not directly linked to ordinance requirements. Scenario represents a way of incorporating planned growth within a fully developed city with minimal vacant land available, representing increased housing/jobs densities. While development activity will be guided by underlying plan policies, actual densities and acreages may vary significantly in practice.

<sup>\*\*</sup> Remainder of jobs incorporated in mixed use areas

<sup>\*\*\*</sup> Does not include smaller scale institutional uses; these are included within urban neighborhood designation





## MINNEAPOLIS TRAFFIC ANALYSIS ZONES (TAZ)

Allocation of Forecasts to Traffic Analysis Zones (TAZ)

Allocatio		2000			2010	<u>,</u>		2020			2030	
TAZ #*	Pop	HH	Emp	Pop	HH	Emp	Pop	HH	Emp	Pop	HH	Emp
311	562	101	420	888	252	864	1,022	291	923	889	310	944
313	260	99	0	396	150	0	342	136	0	316	128	0
314	6,677	3,093	828	7,040	3,227	657	7,676	3,059	607	7,325	3,280	612
315	4,902	2,174	288	4,982	2,187	243	5,070	2,021	219	4,698	1,993	225
316	2,951	1,295	84	2,995	1,301	88	3,002	1,197	91	2,782	1,180	92
317	5,751	2,431	932	5,857	2,453	862	5,746	2,290	843	5,431	2,202	865
318	4,258	1,827	196	4,314	1,834	181	4,249	1,694	184	3,938	1,596	187
319	1,988	853	543	2,005	852	507	2,020	805	501	1,835	780	511
320	2,526	1,069	392	2,568	1,077	237	2,513	1,002	278	2,382	966	291
321	3,525	1,457	568	3,091	1,428	695	3,132	1,488	695	3235	1,376	710
322	2,734	1,014	267	2,140	989	343	2,144	1,019	358	2209	882	373
323	3,032	1,387	1,113	2,948	1,361	991	3,099	1,435	1,133	3250	1,468	1,091
324	2,459	1,066	2,093	2,582	1,140	3,025	2,646	1,257	3,066	2742	1,206	3,119
325	6,832	3,030	719	6,367	2,941	874	6,559	3,116	805	6673	2,943	819
326	3,327	1,568	257	3,245	1,499	385	3,250	1,544	454	3127	1,425	472
327	1,688	817	356	1,745	806	416	1,778	845	431	2029	923	439
328	2,523	1,238	765	2,706	1,250	835	2,773	1,317	785	2839	1,337	792
329	1,930	862	157	1,800	832	115	1,864	885	112	2053	912	114
330	2,692	1,228	391	2,575	1,190	420	2,580	1,226	405	2572	1,131	414
331	4,976	2,441	657	5,186	2,395	707	5,258	2,508	708	5488	2,599	724
332	1,865	1,334	594	2,887	1,365	858	2,958	1,405	841	2839	1,536	862
333	2,545	1,300	906	2,654	1,334	943	3,030	1,413	908	3,197	1,487	930
334	4,720	2,734	1,419	4,736	2,737	1,940	5,414	2,926	1,724	6,114	3,130	1,745
335	5,186	2,470	1,301	5,161	2,384	1,332	5,170	2,456	1,374	5731	2,616	1,407
336	6,056	2,695	630	5,673	2,620	813	5,779	2,745	771	6200	2,845	792
337	6,561	2,870	308	6,688	2,908	1,749	7,034	2,993	1,739	7,285	3,100	1,766
338	4,980	1,400	406	5,194	1,454	451	3,642	1,452	414	3,927	1,049	422
339	5,959	1,901	634	6,018	1,909	427	4,728	1,885	428	4,489	1,487	437
340	2,889	1,268	536	2,747	1,290	447	2,782	1,322	449	2825	1,213	456
341	2,489	914	339	2,558	933	226	2,186	871	206	1,941	764	215
342	2,347	1,051	118	2,390	1,059	126	2,457	979	135	2,277	923	139
343	6,958	2,833	535	7,039	2,841	531	6,839	2,726	534	6,550	2,655	546
344	5,605	1,996	657	5,574	1,971	797	4,833	1,926	902	5,211	1,880	940
345	3,385	1,212	643	3,573	1,271	811	3,180	1,267	934	3,639	1,302	947
346	2,672	990	407	2,827	1,042	671	2,547	1,015	528	2,724	1,021	528
347	4,390	1,952	257	4,398	1,936	350	4,562	1,818	305	4,169	1,757	308
348	2,076	943	109	2,122	954	114	2,245	895	120	2,186	1,000	122
349	1,035	408	243	1,267	495	242	1,262	503	253	1,328	538	258
350	3,048	1,524	746	3,785	1,871	836	5,178	2,064	773	5,996	2,486	863
351	3,967	1,793	873	4,419	1,977	912	5,546	2,210	899	5,776	2,450	876
352	3,610	1,673	330	3,682	1,688	214	4,052	1,615	214	3,720	1,706	219
353	6,759	3,037	1,677	6,872	3,056	1,865	7,433	2,962	1,821	6,978	3,137	1,865
354	3,604	1,676	872	3,756	1,728	888	4,078	1,625	856	3,991	1,843	880
355	1,064	438	665	1,030	416	571	1,266	433	557	1270	490	567
356	2,386	1,043	796	2,534	1,103	810	2,757	1,178	764	2,816	1,154	778
357	802	156	2,032	592	73	2,993	736	140	6,114	1,214	333	5,410



		2000			2010			2020			2030	
TAZ #*	Pop	НН	Emp	Pop	НН	Emp	Pop	НН	Emp	Pop	НН	Emp
358	273	49	769	513	86	1,184	757	236	2,213	1120	377	1,922
359	690	68	9,643	978	170	629	1,011	214	579	1067	232	583
360	5,230	812	10,539	7,242	1,518	16,486	6,983	1,596	16,708	6960	1,543	17,149
361	881	547	1,595	1,169	721	499	1,425	843	530	1630	918	545
362	1,291	177	6,539	1,297	175	6,885	1,335	225	6,928	2437	856	7,093
363	1,503	301	1,379	1,684	344	1,134	1,587	429	1,064	1712	494	1,087
364	3,552	1,814	1,904	3,568	1,800	2,104	4,300	1,714	1,923	3,819	1,914	1,965
365	2,884	1,523	3,923	3,226	1,682	4,060	4,951	1,973	3,992	6,469	2,721	4,644
366	3,889	1,824	337	3,351	1,564	459	2,835	1,677	432	4162	2,087	447
367	8,294	2,581	3,445	9,262	2,891	6,186	7,052	2,811	4,426	6,643	2,061	4,453
368	2,332	611	675	2,747	718	1,123	1,947	776	727	2,623	806	734
369	2,170	606	1,170	3,969	1,121	2,449	3,014	1,201	1,306	2,953	1,097	1,300
370	4,009	1,374	2,041	4,524	1,563	2,151	3,855	1,536	1,883	3,573	1,179	1,912
371	7,230	4,004	3,447	8,734	4,101	3,209	10,003	4,779	3,099	9772	4,807	3,178
372	3,000	1,161	8,011	2,912	1,112	8,548	2,812	1,121	8,400	2,819	1,063	8,636
373	6,339	2,542	1,808	6,811	2,697	2,346	7,628	2,882	2,108	7,779	2,947	2,135
374	5,626	3,108	1,263	5,803	3,050	1,203	7,042	3,345	1,091	6528	3,427	1,117
375	5,912	3,560	2,860	7,593	4,354	3,147	9,939	4,969	2,999	10,126	5,063	3,075
376	7,136	4,144	3,226	7,191	4,157	2,430	7,841	4,332	2,429	8,906	4,687	2,509
377	2,917	1,558	1,447	3,467	1,758	1,210	4,526	2,057	1,202	4,700	2,136	1,236
378	2,065	831	2,262	1,879	868	2,444	2,003	951	2,609	2,204	1,014	2,690
379	2,214	876	759	1,863	860	764	1,896	901	762	2,473	979	774
380	2,121	743	879	2,295	811	2,093	3,054	956	3,210	4,104	1,378	1,791
381	171	132	1,099	0	0	1,174	0	0	1,133	0	0	1,162
382	1,870	579	1,134	2,683	832	1,226	2,494	780	1,104	2,789	937	1,124
383	3,830	1,082	1,950	4,337	1,230	2,216	3,729	1,023	2,187	3,561	1,024	2,225
384	4,757	1,474	144	4,456	1,382	119	3,599	1,126	110	3,389	1,138	111
385	2,531	803	5	2,426	770	62	2,060	691	69	2,019	659	69
386	3,245	929	531	3,282	941	848	2,535	813	848	2,513	735	861
387	1,837	742	478	1,814	732	1,037	1,984	665	859	2,002	842	864
388	15	10	2,477	508	341	2,444	1,014	673	2,541	2,024	1,320	2,537
389	97	11	3,250	969	495	3,124	1,660	1,049 2,599	3,589	1,983	1,242	2,932
390	644	446	1,562	2,545	1,775	1,674	3,917		2,823	4,558	2,971	2,521
391	155 1,291	105	9,147	448	306	2,390	759	504	2,211	1,296	845	1,936
392 393	339	963 314	1,975 7,413	1,521 729	1,149 678	8,092 6,489	2,125 1,608	1,372 1,067	8,429 7,122	2,375 1,728	1,512 1,126	9,329 9,679
393	500	0		0	0/8	1,299	0	0	1,221	-		
395	268	70	1,242 1,359	382	137	766	349	131	771	500 344	0 128	1,358 1,042
395	956	697	257	1,005	737	226	1,194	793	545	1,387	904	289
397	2,017	1,475	2,480	2,205	1,623	2,594	2,812	1,866	2,371	3,124	2,036	2,804
398	2,499	1,473	753	2,686	2,089	963	3,281	2,121	943	3,384	2,152	969
399	2,499	1,538	2,531	2,000	1,527	2,470	2,716	1,780	2,580	3,029	1,953	2,650
400	74	70	2,977	63	60	3,307	366	243	3,569	430	280	7,164
401	571	241	1,386	558	232	1,820	730	317	1,670	789	353	1,710
402	400	313	35,391	682	540	39,042	1,307	863	39,227	1,430	928	42,311
403	0	0	78	002	0	141	0	000	130	0	0	131
404	2,270	1,088	520	2,277	1,101	554	2,407	1,334	632	2,923	1,653	650
405	1,978	886	7,975	2,820	1,513	3,566	3,900	2,066	3,377	4,193	2,231	3,466
406	118	0	10,641	692	258	2,208	994	580	6,020	1,187	697	6,069
407	0	0	27,420	49	22	27,928	230	152	30,929	363	237	32,284
			· , · - •			,			,			,

		2000			2010			2020			2030	
TAZ#*	Pop	НН	Emp	Pop	H	Emp	Pop	HH	Emp	Pop	H	Emp
408	393	279	11,688	392	280	10,855	1,012	671	13,223	1,342	875	14,142
409	588	0	10,721	871	126	11,123	1,372	513	14,308	1,692	721	14,652
410	2,387	934	2,615	2,521	1,031	3,157	3,000	1,286	3,295	3,232	1,428	3,220
411	20	8	2,584	138	56	3,614	175	116	3,710	853	556	4,512
412	592	396	1,090	1,394	996	1,842	2,287	1,479	2,226	2,604	1,660	2,009
413	629	330	1,451	1,574	824	1,731	2,038	858	1,429	2,202	842	1,459
414	4,747	2,447	1,684	4,391	2,251	2,148	5,572	2,346	2,075	4,322	2,268	2,124
415	3,481	1,423	1,474	3,147	1,257	5,473	4,184	1,581	5,394	4,389	1,832	5,486
416	0	0	1,843	0	0	1,918	0	0	2,171	0	0	2,269
417	122	46	1,230	53	20	1,391	45	19	1,334	42	17	1,362
418	3,737	1,527	1,162	3,435	1,403	1,316	3,269	1,377	1,202	3,251	1,303	1,231
419	1,836	771	457	2,084	874	397	2,156	908	413	2,118	929	425
420	11	6	11,463	51	28	8,611	146	61	8,878	274	110	8,973
421	0	0	1,215	0	0	3,389	0	0	3,760	0	0	3,756
422	0	0	3,254	210	93	3,544	314	132	4,073	335	134	4,120
423	1,323	496	559	1,401	525	896	1,364	574	967	1,516	565	883
424	3,252	1,694	1,578	3,408	1,771	1,107	4,646	1,956	1,090	4,972	2,100	1,116
425	144	82	88	133	75	1,493	173	73	1,416	161	102	1,444
426	1,372	781	1,673	1,890	1,073	1,729	2,791	1,176	1,609	3,180	1,214	1,641
427	825	303	1,417	559	172	1,561	574	169	1,435	539	151	1,457
428	0	0	1,053	0	4	1,276	9	3	1,145	8	3	1,165
429	1,876	549	98	1,978	580	219	1,631	513	229	1,671	464	231
430	5,733	2,152	96	5,261	1,974	118	5,151	1,727	114	4,890	1,596	119
431	796	270	106	761	258	107	678	227	107	651	212	109
432	5,047	1,613	49	4,748	1,519	78	3,968	1,330	61	3,778	1,233	61
433	6,324	1,673	264	6,361	1,685	557	4,489	1,455	492	4,359	1,316	490
434	7,272	2,070	786	7,249	2,065	1,089	5,608	1,861	999	5,526	1,683	1,017
435	4,942	1,501	545	4,744	1,442	586	4,246	1,325	637	4,790	1,337	657
436	2,416	780	716	2,287	739	765	2,225	746	731	2,584	843	751
437	1,344	590	3,090	1,597	700	2,945	1,689	711	2,801	1,576	650	2,853
438	554	243	134	538	236	131	543	229	122	507	203	123
439	10	10	2,260	55	54	2,184	728	244	2,099	1,578	515	2,136
440	2,844	1,284	1,345	4,060	1,831	1,653	4,664	1,964	1,541	4,503	1,745	1,571
441	6,266	2,692	4,831	6,851	2,942	4,782	7,369	3,103	4,424	7,196	3,222	4,534
442	2,728	1,121	998	2,486	1,017	923	2,543	1,071	1,523	2,532	1,015	1,315
443	10,461	4,648	866	10,777	4,783	954	11,221	4,725	906	10,815	4,728	927
444	6,237	2,912	2,154	6,344	2,958	2,238	7,195	3,030	2,049	7,012	3,140	2,085
445	430	202	463	431	202	31	473	199	33	455	209	34
449	1	1	1,090	0	0	1,601	0	0	1,604	0	0	1,639
450	3,210	1,120	575	2,901	1,012	1,135	2,618	878	692	2,453	801	684
451	5,106	2,130	715	4,731	1,972	719	5,136	1,722	766	4,864	2,046	779
452	4,448	1,646	537	4,594	1,701	732	4,427	1,484	628	4,183	1,365	641
453	99	38	0	100	38	0	87	35	0	81	33	0
TOTAL	382,174	162,139	307,172	405,329	172,735	317,000	425,797	181,975	332,500	441,143	189,398	346,500

<sup>\*</sup> For maps of TAZ's, see Community Data Profile (maps 0.1, 0.2, and 0.3) and Chapter 2 (maps 2.1, 2.2, and 2.3).

Pop = Population forecasts
HH = Households forecasts
Emp = Employment forecasts



## Appendix B: Small Area Plans

## Overview

While the comprehensive plan does provide policy direction for the entire city, sometimes more specific guidance is needed for certain areas. These are typically developed for a defined geographic area, and are known as small area plans. These areas may be corridors, neighborhoods, commercial districts, or any other defined area with common issues and themes.

Just as with the comprehensive plan, small area plans are typically reviewed and adopted via City Council action. However, the policies in these plans tend to be more specific and detailed than comprehensive plan policy, and they are often followed by implementation plans, including rezoning studies and public investments through the capital improvements process.

This appendix summarizes the process by which small area plans are selected and completed. Additionally, it provides a summary of recent small area plans which provide relevant supplementary guidance to the comprehensive plan policies. These plans should be consulted when making policy decisions within the specified geographic area.

A couple caveats should be considered when reviewing small area plans:

- A number of older small area plans completed by the City are not referenced in this chapter. While some of these may still have some valid analysis and direction, it has been determined that they are superseded by more up-to-date policy direction.
- Though every effort has been made to ensure consistency between the comprehensive plan and small area plans, there are occasionally discrepancies. Most are intentional, with the comprehensive plan reflecting updated direction that has been put into place since the small area plan was adopted. By statute, when there is a discrepancy, the comprehensive plan's guidance is considered legally to overrule the other.

## Plan Development

## Purpose of Plan

Small area plans are initiated for a number of reasons. Some of the main considerations are listed below:

• Area of growth or change. Areas of the city experiencing higher than average rates of growth or change are often prime targets for small area



plans. More stable neighborhoods are unlikely to need much additional guidance, where as an are that is rapidly transitioning is likely to need specifics on where it should be headed. Areas with a major land use feature, such as an activity center, growth center, or commercial corridor, may fall into this category.

- Areas targeted for investment. A prime example of this is the Hiawatha LRT corridor, where the prospect of major public investment in light rail infrastructure sparked a series of small area plans around station areas. Other possibilities may include areas needing significant redevelopment or revitalization.
- Areas with strong local interest. Some of the small area plans were actually initiated by neighborhood groups interested in developing a vision for their area. The city will work with neighborhoods on this, particularly focusing on ensuring the process and product is consistent with broader city policy. However, the city budget will not always allow additional financial participation by the city in neighborhood-initiated processes.
- Areas reflecting a larger policy issue. Some plans are initiated to address a policy issue which impacts certain areas throughout the city, which needs further direction for future action. An example of this is the Industrial Land Use Study, which provided guidance for industrial areas citywide.
- Updates to existing plans. After a plan is developed, there is sometimes a need to update the plan, based on either changing conditions or new opportunities. These updates provide additional guidance for implementation.

## **The Planning Process**

The planning process for small area plans varies somewhat, depending on the scope and nature of the plan. Key elements of the planning process include:

- Formation of a steering committee for the plan
- Identification of staffing for the plan, e.g. city staff or consultants
- Public involvement and review throughout process
- Development of plan, including survey of existing conditions and proposed changes
- Review and adoption by applicable organizations, including Planning Commission and City Council



- Amendment into the comprehensive plan, requiring Metropolitan Council review and approval
- Implementation phase of the project, which may include rezoning studies or other strategies

Small area plans tend to have a similar life span to a comprehensive plan – between 10-15 years. The actual useful life of the plan will vary, depending on subsequent changes in the area and in city policy, as well as the extent the vision for the area remains consistent over time. There is generally no mandate to update the small area plans at a certain point, though this may be done as needed.

## **Adopted Plans**

The table below provides a brief summary of small area plans. As noted above, these are official adopted city policy, although they do not overrule the comprehensive plan. For the plans that have land use guidance, maps are included at the end of this appendix section. The <u>full text of all these plans</u> is available online.

Table 1: Adopted Small Area Plans

Plan Title	Area	Date	Summary
38 <sup>th</sup> Street and Chicago Avenue Small Area/Corridor Framework Plan	Bancroft, Bryant, Central, Powderhorn Park	3/21/08	The purpose of the 38th Street and Chicago Avenue Small Area / Corridor Framework Plan is to support the ongoing improvement and revitalization of the area of 38th Street and Chicago Avenue by proposing specific policies and strategies to guide its evolution. In general terms, this plan seeks to intensify land uses in the project area by promoting increased residential and commercial density along the Chicago Avenue and 38th Street transit corridors.
38th Street Station Area Master Plan	Corcoran, Hiawatha, Howe, Longfellow, Standish	10/20/06	The 38th Street Station Area Master Plan gives land use policy guidance to the area surrounding the 38th Street light rail station. As a designated Transit Station Area, the master plan proposed redevelopment organized by a series of commercial, residential, and mixed use districts. Along Hiawatha, the plans include redevelopment of former milling facilities and reconfiguration of street patterns. Redevelopment is proposed at a density and scale to support a vibrant transitoriented community.



46th and Hiawatha Station Area Master Plan	Hiawatha, Ericsson, Howe, Standish	12/28/01	The 46th Street Station Area Master Plan gives land use policy guidance to the area surrounding the 46th Street light rail station. As a designated Transit Station Area, the master plan proposed increasing multifamily housing options, a greater mix of uses, and the replacement of many autoriented retail businesses with mixed residential and commercial uses. Infrastructure recommendations include the extension of Snelling Avenue, the creation of a town square, and enhancements to the pedestrian environment including a safer crossing of Hiawatha Avenue.
Above The Falls - A Master Plan for the Upper River in Minneapolis	Camden Industrial Area, North River Industrial Area, Hawthorne, Near North, St. Anthony West, Sheridan, Bottineau, Marshall Terrace, Columbia Park	6/9/00	The Above the Falls Master Plan gives land use policy guidance to the Mississippi River in North and Northeast Minneapolis. It envisions the transformation of this area featuring a regional park amenity. Plan objectives include: providing public access to river, creating a system of Riverway Streets, enhancing the ecological function of river corridor, linking Upper River to Grand Rounds parkway system, realizing the area's potential for economic development, and establishing urban design guidelines.
Southeast Minneapolis Industrial (SEMI)/Bridal Veil Area Refined Master Plan, Alternative Urban Areawide Review (AUAR)	Como, Marcy- Holmes, Prospect Park East River Road, University of Minnesota	7/13/01	The SEMI Refined Master Plan gives land use policy guidance to the Southeast Minneapolis Industrial area located between University Avenue SE, 15th Avenue SE, Elm Street SE and the Minneapolis/St. Paul border. As a designated Growth Center, the SEMI area is proposed for redevelopment in order to provide jobs and housing. The primary land use proposed for this area is light industrial with housing and commercial proposed along the University Avenue SE corridor. The plan also gives detailed direction for bridge and roadway infrastructure improvements, storm water management infrastructure and park components.



Audubon Park Neighborhood Master Plan	Audubon Park	5/16/08	The Audubon Park neighborhood undertook a planning process to develop a small area plan to guide the type and scale of future development and articulate preferred design elements that complement their area. The planning process built on the existing policy direction given by the City's Comprehensive Plan for focusing new development along major corridors such as Central Avenue NE and Johnson Street NE and at neighborhood commercial nodes such as 29th & Johnson.
Bassett Creek Valley Master Plan 2006	Harrison, Bryn Mawr, Sumner- Glenwood	1/12/07	The Bassett Creek Valley Master Plan 2006 is an action-oriented update to a plan for the same area adopted in 2000. It envisions the creation of an intensively developed area with high density offices and housing, a neighborhood retail area, beautiful park amenities and excellent connections to the city's transportation, transit and trail networks. Major themes emphasized in this plan include connectivity, affordability, and access to good jobs.
Bryn Mawr Neighborhood Land Use Plan	Bryn Mawr	9/23/05	The Bryn Mawr Neighborhood Land Use Plan gives land use and development guidance for the Bryn Mawr neighborhood. Land use policy included protecting residential areas, diversifying the residential mix, preserving the Downtown Bryn Mawr commercial node, and promoting redevelopment of specific sites with appropriate uses. Additional guidance is provided for open space and transportation improvements.
Cedar Riverside Small Area Plan	Cedar Riverside	4/18/08	A land use and development plan for the Cedar Riverside neighborhood. Key policy areas include land use and urban design, economic development and transportation. The plan focuses on building connections within the neighborhood and between the neighborhood and surrounding areas and institutions.



Central Avenue Small Area Plan	Audubon Park, Beltrami, Columbia Park, Holland, Logan Park, Marcy Holmes, Nicollet Island East Bank, Northeast Park, St Anthony East, Windom Park	6/20/08	The "Making Central Avenue Great Plan" was prepared in 1997 and has been used by the Northeast neighborhoods that line Central Avenue running from 7th Avenue NE to 37th Avenue NE. The existing plan was never formally adopted by the City of Minneapolis and is not part of the City's comprehensive plan. An update for this plan was done to add a future land use plan, give detailed scale and massing preferences for new development, and incorporate additional Central Avenue planning documents for adoption by the City Council and incorporation into the City's comprehensive plan.
Corcoran Midtown Revival Plan	Corcoran	10/11/02	The Corcoran Midtown Revival Plan gives land use policy guidance for the Corcoran neighborhood in the vicinity of the Lake Street/Midtown LRT Station. The plan recommends mixed use along the Lake Street corridor, with higher density residential and commercial nearer to the LRT station. Lower intensity uses are proposed to transition from the Lake Street corridor to surrounding neighborhoods.
Critical Area Plan	All areas along Mississippi River corridor	6/16/06	The Critical Area Plan contains policies and strategies to protect the natural, cultural, historic, commercial, and recreational value of the river corridor. The plan's general land use policies emphasize improving public access to and movement along the banks of the river, creating more park space, enhancing river-oriented recreation opportunities, reducing the amount of industry and open storage, attracting development that is compatible with the river, protecting natural features, and reducing adverse visual impacts.



Development Objectives for North Nicollet Mall	Downtown West	9/29/00	The Development Objectives for North Nicollet Mall provides land use and development guidance for a roughly 10-block area at the north end of Nicollet Mall. The plan discusses guidelines for development, including land uses, transportation, design, and various redevelopment activities. The plan presents four alternative redevelopment schemes, though none is presented as the recommended scenario. A variety of land uses are considered feasible, including residential, commercial retail, commercial office, hotel, cultural and entertainment, and parks and open space.
Development Objectives for the Hi-Lake Center	Mid-Town Phillips, Phillips East, Corcoran, Longfellow	12/14/01	Development Objectives for the Hi-Lake Center provided guidance for redevelopment of an area within the Hiawatha/Lake Station Area Master Plan, and are based on Guidelines for Transit-Oriented Development at Hi-Lake Center. The plan calls for strengthening the commercial mix, adding residential uses, and reinforcing pedestrian-friendly urban design.
Downtown East/North Loop Master Plan	North Loop, Downtown East	10/10/03	The Downtown East/North Loop Master Plan provides direction for how growth should occur in the underdeveloped areas of Downtown Minneapolis surrounding rail transit stations. The plan includes recommendations for land use, infrastructure, transportation, parking, urban design, and streetscape. Recommendations also promote downtown living by forging Complete Communities that include a mixture of transit stations, commercial office, retail, housing, and parks/plazas. It proposes redevelopment for Downtown East and North Loop neighborhoods, while supporting and expanding the downtown core.



Elliot Park Neighborhood Master Plan	Elliot Park	4/4/03	The Elliot Park Neighborhood Master Plan provides land use and redevelopment guidance for the Elliot Park neighborhood. The focus of the plan is not on large-scale change, but rather on careful infill and adaptive reuse, with a focus on a mix of incomes, uses, and cultures. The plan defines a series of districts within the neighborhood and discusses appropriate redevelopment in each area. Transportation, open space, and cultural preservation recommendations are included.
Franklin/ Cedar/ Riverside Transit- Oriented Development Master Plan	Ventura Village, Seward, Cedar- Riverside	12/28/01	The Franklin-Cedar/Riverside Transit-Oriented Development Master Plan gives land use policy guidance to the areas surrounding the Franklin and Cedar/Riverside light rail stations. As two designated Transit Station Areas, the master plan proposed land uses within ½ mile of each station that provide opportunities for higher density housing, high employment work places, and other high activity uses (schools, entertainment, retail) which maximize the benefits of the LRT system. The plan also highlights the importance of improving pedestrian paths to the stations and better connections between the neighborhoods.
Grain Belt Brewery Area Development Objectives	Sheridan	9/13/96; amended 8/11/00	The Grain Belt Brewery Area Development Objectives provides guidance for redevelopment of the historic Grain Belt complex in Northeast Minneapolis. A varied but cohesive mix of land uses, compatible with the historic character of the brewery, are proposed. These may include might include neighborhood commercial services, residential uses, arts and arts-related uses, light industrial uses, a corporate headquarters complex, and a public riverfront attraction. Design should be compatible with the historic character of the area as well as the restrictions associated with shoreline development.



Hiawatha/ Lake Station Area Master Plan	East Phillips, Corcoran, Longfellow, Seward	5/18/01	The Hiawatha/Lake Station Area Master Plan gives land use policy guidance to the area surrounding the Lake Street/Midtown light rail station. As a designated Transit Station Area, the master plan proposed transforming the area from an automobile oriented shopping center into a higher density pedestrian-oriented district with a mix of uses, including housing and smaller-scale commercial uses. The plan also includes recommendations for infill development on underutilized sites as well as infrastructure changes.
Industrial Land Use and Employment Policy Plan	Industrial areas citywide	11/3/06	The Industrial Land Use and Employment Policy Plan provides policy direction for industrial land uses and industrial sector employment in Minneapolis. Key recommendations include adopting Employment Districts for industrial uses, protecting industrial areas from redevelopment, and pursuing economic development strategies for fostering industrial job growth and city resident employment.
Lowry Avenue Corridor Plan	Cleveland, Folwell, McKinley, Jordan, Hawthorne, Marshall Terrace, Bottineau, Holland, Audubon Park, and Windom Park	7/12/02	The Lowry Avenue Corridor Plan provides a comprehensive redevelopment strategy for the entire length of Lowry Avenue within the city. The plan includes recommendations for roadway, bicycle, and pedestrian facilities. It also has redevelopment guidelines for areas along Lowry Avenue, generally oriented around major intersections and commercial nodes. Commercial uses are directed to be concentrated at nodes, with residential in between. Open space improvements are also recommended.



Lowry Avenue Strategic Plan	Cleveland, Folwell, Hawthorne, Jordan, McKinley	12/17/10	The Lowry Avenue Strategic Plan is intended to serve as a companion and update to the Lowry Avenue Corridor Plan. It focuses on the part of Lowry Avenue that is west of the Mississippi River. It offers land use and development guidance for Lowry Avenue, and offers a menu of implementation strategies that can be pursued for attracting commercial and housing development along and near Lowry Avenue, as well as for invigorating the retail areas.
Lyn-Lake Small Area Plan	CARAG, Lowry Hill East, Lyndale, Whittier	6/26/09	The Lyn-Lake Small Area Plan is a vision for the business center, focusing primarily on Lyndale Avenue between 26th Street and 31st Street and Lake Street between Bryant Avenue South and Blaisdell Avenue South. The plan contains a series of recommendations designed to strengthen the business core, provide design considerations in the case that rail service is implemented within the Midtown Greenway, further historic preservation efforts, encourage incremental additions of green space, and provide guidance on building scale and design.
Lyndale Avenue: A Vision	Lowry Hill East, Whittier, CARAG, Lyndale, East Harriet, Kingfield, Lynnhurst, Tangletown, Kenny, Windom	4/11/97	Lyndale Avenue: A Vision is primarily a road improvement plan for the Lyndale Avenue corridor between Franklin Ave and 56th Street. The corridor was divided into five sections, with specific recommendations around each. The plan included guidance roadway width, on-street parking, bicycle and pedestrian facilities, and streetscape improvments. General comments on urban design and aesthetics are included.



Master Plan for the Marcy- Holmes Neighborhood	Marcy- Holmes	12/15/03 suppleme nt 1/26/07	The Master Plan for the Marcy-Holmes Neighborhood provides land use guidance for the Marcy-Holmes neighborhood. Land use direction includes preserving the residential core of the neighborhood while protecting it from encroachment from other uses; encouraging multi-family development only on the outer edge of the residential core; promoting the development of commercial, industrial, and institutional uses in appropriate areas; and opening up the riverfront increasingly for public use. The Marcy-Holmes Master Plan Supplement provides detailed redevelopment guidance for specific sites within the neighborhood, including sites located at: 14th & 15th Avenue SE, Central Ave & Hennepin Ave, University Ave SE & I-35W, the low density residential core, and various scattered sites.
Midtown Greenway Land Use and Development Plan	CARAG, Cedar Isles Dean, Central, Corcoran, East Isles, East Phillips, ECCO, Lowry Hill East, Lyndale, Midtown Phillips, Phillips West, Powderhorn Park, West Calhoun, Whittier	2/23/07	The Midtown Greenway Land Use and Development Plan sets policy direction for land use and development in the Midtown Greenway corridor, excluding the Midtown Minneapolis plan study area. Land use guidance includes concentrating commercial uses at nodes and along designated corridors, directing industrial site redevelopment in a compatible manner, and placing the highest density residential along commercial corridors and near proposed transit stations.
Midtown Minneapolis Land Use and Development Plan	Central, Lyndale, Midtown Phillips, Phillips West, Powderhorn Park, Whittier	12/23/05	The Midtown Minneapolis Land Use and Development Plan sets policy direction for land use and development in a corridor along Lake Street between Blaisdell and 11th Ave. Land use guidance included two high intensity mixed use nodes at the I-35W interchange and the Chicago-Midtown Exchange district, with lower intensity development in the area between the two. Generally, the area was planned for transitoriented, mixed use urban development.



Minneapolis Near Northside Master Plan (aka Heritage Park)	Sumner Glenwood, Harrison, Near North	3/24/00	The Minneapolis Near Northside Master Plan guides the creation of a brand new urban neighborhood in North Minneapolis-now called Heritage Park. The goal is to build an attractive and sustainable development that is mixed-income, mixed-density, culturally diverse, and amenity-rich. This development replaces the North Minneapolis "Projects", which had been comprised of a dozen blocks of exclusively public housing. Heritage Park also includes two new parks, and a boulevard style street that creates a new connection between North Minneapolis and Interstate 394.
Nicollet Avenue: The Revitalization of Minneapolis Main Street	Stevens Square, Whittier, Lyndale, Kingfield, Tangletown, Windom	4/7/00	Nicollet Avenue: The Revitalization of Minneapolis Main Street provides recommendations for redeveloping and investing in commercial nodes, promoting good urban design and pedestrian-friendly scale, and mitigating traffic impacts along Nicollet Avenue. Primarily a corridor redevelopment strategy, land use guidance in this plan is fairly general.
Nokomis East Station Area Plan	Minnehaha	1/12/07	The Nokomis East Station Area Plan gives land use policy guidance to the area surrounding the 50th Street and VA Medical Center light rail stations, along the west side of the Hiawatha LRT. As a designated Transit Station Area, the plan proposed increased commercial services through the creation of mixed use nodes near each station. The nodes are connected by residential areas along Old Hiawatha and Minnehaha, with high density housing closer to the nodes. The southernmost end of the study area serves as a gateway into the city, and should be developed and designed as such.
North Loop Small Area Plan	North Loop	4/16/11	The North Loop Small Area Plan is intended to serve as a companion and update to the Downtown East/North Loop Master Plan. It focuses primarily on the remainder of the neighborhood not included in the original plan. The plan examines the current conditions of the area, develops a future vision of what community members want the neighborhood to become and then formulates specific goals, objectives, and policies that will help implement that vision. Of particular focus are the infrastructure improvements required to improve connectivity for all modes of transportation



			within the neighborhood and to nearby amenities.
Northside Jobs Park Design Guidelines Development Framework	North Loop	3/28/97	The Northside Jobs Park Design Guidelines and Development Framework provides guidance regarding the redevelopment of an underutilized industrial area. It sets design standards for new industrial buildings, and establishes employment goals related to job density and employing city residents.
Phillips West Master Land Use Plan	Phillips West	7/17/09	Phillips West Master Land Use Plan serves as a guide for investment and future land use changes within the boundaries of the Phillips West neighborhood. Recommendations for sensitive economic growth, infill and stabilization of neighborhoods, enhanced transportation access, and improved streetscape.
Seward and Longfellow Greenway Area Land Use and Pre- Development Study	Longfellow, Seward	2/9/07	The Seward and Longfellow Greenway Area Land Use and Pre-Development Study provides policy direction for land use and development along Phase 3 of the Midtown Greenway - from Hiawatha Avenue to the city's eastern border. The plan focuses on balancing industrial and residential uses along the corridor, and encouraging compatible redevelopment. There is also a focus on enhancing urban green space in the study area.



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South Lyndale Corridor Master Plan	Kenny, Lynnhurst, Tangletown, Windom	1/27/06	The South Lyndale Corridor Master Plan provides land use and development guidance along South Lyndale Avenue from Minnehaha Creek to Highway 62. Land use policy supports a mix of uses, with commercial uses oriented primarily around nodes and with new open space added. Transportation improvements, in line with the planned reconstruction of Lyndale and the possible reconstruction of TH 121, are also given, along with district design guidelines and potential redevelopment opportunities.
University Avenue SE & 29th Avenue SE Development Objectives and Design Guidelines	Prospect Park	2/9/07	University Avenue SE & 29th Avenue SE Development Objectives and Design Guidelines provides guidance for the University & 29th transit corridor. The intent is to provide guidance for transit-supportive redevelopment of this corridor. Land use guidance is for a mix of uses, including a variety of residential, commercial, and open space. Built form and site development urban design guidelines are also included.
Update to Historic Mills District Master Plan	Downtown East	9/14/01	The Update to Historic Mills District Master Plan was occasioned by several major development projects that had occurred since the former plan had been completed several years earlier. The update included a development alternative showing the location of the new Guthrie Theatre, which had not been anticipated earlier. Additionally, it provided updated design guidelines for the district, and addressed transportation issues - including traffic management, parking, and other issues. Additional policy guidance comes from the original 1998 Historic Mills District Master Plan.
Uptown Small Area Plan	CARAG, East Isles, ECCO, Lowry Hill East,	2/1/08	A land use and development plan for the Uptown area that prioritizes protecting established neighborhoods, values well-designed density, celebrates Uptown's primary amenities, prioritizes streets for social interaction and urban activity, and accepts Uptown's dual role as regional attraction and local community.
West Broadway Alive	Hawthorne, Jordan, Near North, Willard Hay	3/21/08	The purpose of the West Broadway Alive! (WBA) plan and planning process is to lay the groundwork for the revitalization of West Broadway as a recognized and cherished place and the center of commercial and



	community activity in north Minneapolis. The plan seeks to provide a roadmap for improving the corridor as well as better understanding the strengths and opportunities within this unique section of Minneapolis. Recommendations address redevelopment, business improvements, and design issues.
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## Land Use Mapping

A future land use map is often one of the central features of the recommendations in a small area plan. However, the categories and approaches for these maps has varied somewhat over time, so they cannot always be compared directly to one another.

In coordination with this comprehensive plan update, a unified approach to mapping for small area plans is being developed. This will be used in future small area plans to provide more consistent policy guidance. Since a higher level of detail than the comprehensive plan map provides is desirable, these categories are not the same as for the comprehensive plan. The table below shows the relationship between comprehensive plan future land use categories and small area plan ones.

When small area plans are adopted, the land use recommendations shown on the plan's future land use map will be converted to the more general comprehensive plan categories, and then incorporated by amendment into the comprehensive plan's official future land use map.



Table 2: Relationship Between Comprehensive Plan and Small Area Plan Future Land Use Maps

Comprehensive Plan		Small Area Plans	
Land Use	Description	Land Use	Description
Urban Neighborhood	Residential area with a range of densities, with highest density to be concentrated around identified nodes and corridors. May include some other small-scale uses, including neighborhood-serving commercial and institutional and semipublic uses (e.g.	Low density residential	Primarily single family and two family residential, with less than 20 dwelling units/acre
		Medium density residential	Primarily smaller scale multi-family residential, with 20-50 units/acre
		High density residential	Primarily higher intensity multi-family housing, with 50-120 units/acre
	community centers, churches, etc.).	Very high density residential	Primarily very high intensity multi-family, with more than 120 units/acre
		Congregate living	Group living which cannot be classified by the standard units/acre, including nursing homes, dormitories, boarding houses, and other such uses
Commercial	Includes a broad range of commercial uses. This designation is reserved for areas that are less suited for mixed use development that includes residential, including the downtown office core.	Commercial	General commercial uses, including retail, services, and some office. Specific scale and uses dependent on context.
		Office	Provides for office employment uses with limited, complementary retail uses.
Mixed Use	Allows for mixed use development, including mixed use with residential. Mixed use may be horizontal as well as vertical, so there is no requirement that every building be mixed.	Mixed Use	Similar to general plan category, but may be more specific with desired mix. Emphasis on active uses (e.g. retail) on the ground floor, particular at key intersections.



Public and Institutional	Accommodates public and semi-public uses, including schools,	Public/ Institutional	Similar to general plan category in scope and content.
	libraries, emergency services, hospitals, civic uses, college campuses, and airports. Note that some smaller uses may be incorporated into Urban Residential, where they are generally permitted.	Cultural/ Entertainment	Depending on specific plan context, these may be identified separately. May include auditoriums, stadiums, museums, and places of worship.
Parks and Open Space	Applies to land or water areas generally free from development. Primarily used for park and recreation purposes, natural resource conservation, or historic or scenic purposes.	Parks and Open Space	Similar to general plan category in scope and content. May make a distinction between public parks and other publicly accessible open space.
Industrial	Includes areas suited for industrial development and limited supporting commercial uses. Generally found within Industrial Employment Districts.	Light Industrial	Low impact industrial uses which produce little or no noise, odor, vibration, glare or other objectionable influences and which have little or no adverse effect on surrounding properties.
		General Industrial	Industrial uses with moderate or high impacts on the environment and surrounding properties.
Transitional Industrial	Industrial areas located outside of Industrial Employment Districts will be labeled "transitional" since they may eventually transition to another use. Although they may remain industrial for some time, they will not have the same level of policy protection as areas within districts.	Same as Industrial, though may be labeled Transitional Industrial	



## Appendix B: Neighborhood Revitalization Program Summary

## Background

The Neighborhood Revitalization Program (NRP) was developed by the City in the late 1980's to address concerns related to neighborhood decline. It involves all 84 of Minneapolis' neighborhoods. The NRP was designed to "protect" fundamentally sound neighborhoods, "revitalize" those showing signs of decline and "redirect" those with extensive problems. The program was designed with a strong focus on involving residents directly in the priority-setting processes of the five jurisdictions that function within the City of Minneapolis (the City, Hennepin County, Minneapolis Public Schools, Minneapolis Public Library and the Minneapolis Park and Recreation Board).

Neighborhood-based priority setting, planning, and implementation are NRP's core. Residents and other neighborhood stakeholders create Neighborhood Action Plans (NAPs) that describe the neighborhood they want in the future and the goals, objectives and specific strategies that will help accomplish their vision. Each neighborhood was provided with a specific allocation of NRP funds to help implement their approved NAP. Implementing the plans frequently involves partnerships with other City departments, jurisdictions, and agencies.

The major goals of NRP include:

- Building neighborhood capacity to address change and make things happen.
- Redesigning public services to better align with neighborhood priorities, opportunities and needs.
- Increase inter-governmental and intra-governmental collaboration, including increased communication and coordination of services.
- Creating a sense of community.

## **Impact**

Since it was established in 1990, the NRP has supported the development of numerous neighborhood plans and subsequent implementation of these plans. Areas being addressed include housing, economic development, community building, crime prevention and safety, transportation and infrastructure, environment, parks and recreation, human services, and schools and libraries.



A summary by topic of the many accomplishments of NRP in its first 17 years is included in this appendix.

### Relationship to Comprehensive Plan

The comprehensive plan and neighborhood-level NRP plans share a concern for improving conditions for neighborhood residents and businesses. Their approaches to making this happen are different, but complementary:

- NRP plans generally focus on building a neighborhood internally, strengthening its character and connections and helping it to build capacity as a healthy, diverse entity. The comprehensive plan is more focused on considering the neighborhood in the context of the City and region, as part of a larger system, while still supporting the preservation of unique character and assets.
- While NRP plans do create broad visions for the future of their respective neighborhoods, their implementation frequently focuses on specific, concrete strategies that generate measurable results. In contrast, the comprehensive plan is an overall policy plan, which provides general guidelines for how future activities should happen in citywide – covering a wider range of activities than NRP plans, but without the level of detail.
- NRP plans include a focus on funding projects and programs directly, through allocation of funds to carefully considered neighborhood priorities. The comprehensive plan is focused on funding improvements indirectly, through identifying City priorities for public funding mechanisms and through directing private investment in positive directions.
- As with all official City plans, NRP plans adopted by the City Council are required to be consistent with the overall goals and policies of the comprehensive plan. They are reviewed for consistency when they are reviewed for adoption.

One very important relationship between the NRP and the comprehensive plan is the role it has played in empowering citizens and neighborhood organizations to be actively involved in public decision making at the City level. The input and priorities of these citizens has certainly impacted City policy in both the existing and previous comprehensive plans – as well as in many other plans, programs, and resources. An active, engaged citizenry is an important contribution to the City's continued success.

### **Future**

As the funding mechanism for the NRP is set to expire at the end of 2009, the City has taken this opportunity to set the direction for the program into the future.



In December 2007, the City Council and mayor were presented with a proposed "Framework for the Future" of the Neighborhood Revitalization Program (NRP). This was followed by a series of public meetings to gather input on the framework.

These recommendations were designed to preserve neighborhood groups' autonomy and provide funding to those groups for administrative support and discretionary funding. The recommendations also call for more resident oversight of the City's community participation efforts and reworking the City's organizational structure toward a greater alignment of neighborhoods' visions and City goals and processes.

In September 2008, the Council and mayor approved establishing a Neighborhood and Community Engagement Commission (NCEC) and a Neighborhood and Community Relations Department. Together the new commission and City department will collaborate to support the ongoing work of the Neighborhood Revitalization Program (NRP), partner with neighborhoods to promote resident participation in City decision-making, and support the community engagement work of City departments.

As of June 2009, representatives on the NCEC had been appointed by the Mayor, City Council, Minneapolis Park and Recreation Board, and Minneapolis neighborhoods.

There is still much work to be done regarding this new structure and the NRP. However, regardless of the future of this program, the City will certainly continue to work to strengthen its neighborhoods and empower its citizenry.

# A Summary of NRP Neighborhood Investments

### 1991-2007

### **Introduction**

Now in its seventeenth year, the Minneapolis Neighborhood Revitalization Program (NRP) is a unique effort to change the future of the City's neighborhoods, making them better places to live, work, learn and play. Neighborhood-based planning and priority setting are the heart of the NRP.

Residents and other neighborhood stakeholders identify and address neighborhood concerns in partnership with government and others by developing a Neighborhood Action Plan. The partnerships created through involvement in the NRP have been as varied as the people and interests involved in the planning process. Residents have learned to work with City, County, Park, Library and School staff to tap new resources in their neighborhoods.

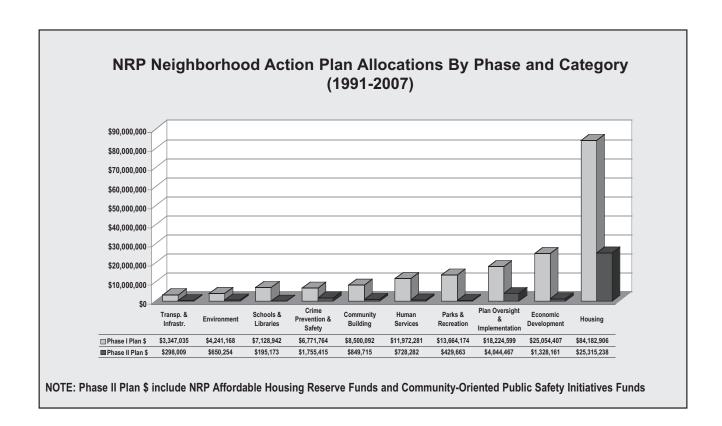
Thousands of Minneapolis residents have used the NRP planning process to identify and meet their neighborhoods' housing, safety, economic development, recreation, health, social service, environment and transportation needs. They build a foundation for their future by organizing residents, gathering information, prioritizing needs, brainstorming solutions and implementing the Neighborhood Action Plans that they develop.

### **About this Report**

This report summarizes how Minneapolis neighborhoods have prioritized and invested their NRP resources since the program began in 1991. Given the volume and breadth of activity undertaken through neighborhood plans, it is difficult to fully capture the program's impact on the people and character of the city. This report provides a sense of the scale and variety of activity carried out through the program and gives examples to help illustrate that variety.

The table below provides a general summary of the categories of investment made through neighborhood plans during Phase I and Phase II of NRP. The pages that follow provide a more detailed look at each of these broad categories.

**Note regarding Phase II:** As of September 30, 2007, there have been 37 Phase II plans approved out of a potential 72 citywide. Information about Phase II allocations included in this report is shown at 100% of the allocations approved by the NRP Policy Board on April 19, 2004. Based on subsequent revenue projections, however, the Policy Board directed that neighborhoods may only expend up to 70% of their plans' approved allocations in the first three years after plan approval.



## Housing

## Some Quick Stats About NRP Housing Investments:

### Housing Education / Counseling / Referral

Residents in 35 neighborhoods have prioritized the need for housing education, counseling and referrals through 75 plan strategies. In Phase I, 6 of those neighborhoods allocated \$318,575 of NRP funds for these efforts. In Phase II, 10 neighborhoods have allocated \$414,500 for this purpose.

#### Financial Assistance for Home Purchase

Thirty-five (35) neighborhoods have included 64 strategies in their plans that aim to help people purchase homes. In Phase I, 17 neighborhoods allocated \$5,549,110 for financial assistance for home purchases. In Phase II, 8 neighborhoods have allocated \$540,196 for this pupose.

### **Home Improvement Loans and Grants**

Through 254 strategies, 60 neighborhoods have prioritized the need for home improvement assistance (for structures of 3 or fewer dwelling units). In Phase I, 59 of these neighborhoods allocated \$50,150,086 for home improvements. In Phase II, 33

neighborhoods have allocated \$7,845,321 for such assistance.

### **New Housing Construction**

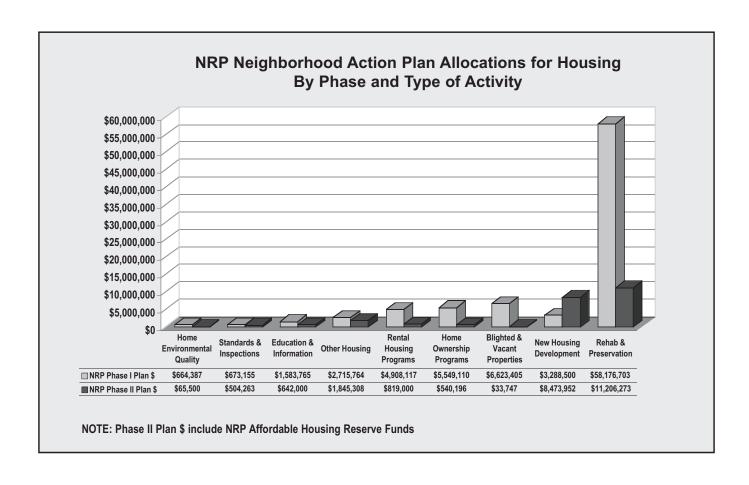
In 38 NRP plans, residents have included 72 strategies that call for development of new housing. In Phase I, 9 neighborhoods allocated \$3,288,500 for new housing construction. In Phase II, 20 neighborhoods have allocated \$7,105,325 for such projects.

### Mixed-Use Development

Seventeen (17) neighborhoods included 26 strategies in their plans calling for mixed-use development. In Phase I, 1 neighborhood allocated \$362,854 for mixed-use housing. In Phase II, 5 neighborhoods have allocated \$338,627 for these projects.

### Rental Housing

In Phase I, 5 neighborhoods allocated \$204,400 to support a renters association or landlord/tenant organization or work with rental property owners. In Phase II, 1 neighborhood has allocated \$20,000 for this purpose.



## Examples of NRP-Funded Housing Initiatives:

Whittier Housing Programs - During Phase I of the NRP, the Whittier neighborhood invested \$4.5 million, or 58% of the neighborhood's overall NRP allocation, in rental and homeownership housing initiatives. The results of this investment are significant, and home ownership in the Whittier neighborhood has increased nearly 15 percent since the launch of the NRP.

Corcoran Roof Replacement Education Program - The Corcoran Neighborhood Organization conducted a major public education and outreach campaign to inform residents that their roofs may have been damaged in a 1998 hailstorm. Because the entire neighborhood was declared a Catastrophic Area by the insurance industry, 70 percent of the roofs - including all owner-occupied homes, rental properties and churches - were replaced.

**Hawthorne Homestead Program** - Under this NRP supported initiative, 25 new homes were built for owner occupants in a neighborhood in which little new construction had previously occurred.

East Village Apartments - Elliot Park invested \$500,000 of NRP funds to help jump-start a new \$30 million mixed-income, mixed-use housing development. Among East Village's 179 units, forty are affordable to households with incomes at or below 50 percent of the Metro Median Income. East Village was the first market-rate housing built in Elliot Park in decades.

**Shingle Creek Commons -** Using \$250,000 of their NRP funds, Camden community neighborhoods partnered to support the construction of 75 units of senior housing at Shingle Creek Commons on the Humboldt Greenway.

**HOMS Initiative -** The HOMS Initiative brought neighborhood groups, foundations and non-profit developers together to create affordable home ownership opportunities in South Minneapolis. Neighborhoods contributed \$400,000 of NRP funds toward the \$2.6 million project, which produced 150 affordable housing units.

Stevens Community Apartments - Stevens Square invested \$500,000 of NRP funds and teamed with private property owners to renovate and rehabilitate 618 units in 23 low-income apartment buildings. The neighborhood leveraged nearly \$15 million in additional private and public monies to assure that quality affordable housing would remain in one of the most densely populated neighborhoods in the city.

Jordan Housing Programs - Nearly \$8 million in NRP funds has been invested in Jordan's housing stock through revolving loans, purchase/rehab loans and grants, and major housing redevelopment efforts. Jordan's NRP funds have been used to improve over

Types of Housing Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

	# of Neighborhoods	% of Neighborhoods
Rehab & Preservation	63	90%
Education & Information	48	69%
Rental Housing Programs	39	56%
Blighted & Vacant Properties	38	54%
New Housing Development	38	54%
Standards & Inspections	35	50%
Home Ownership Programs	35	50%
Other Housing	28	40%
Home Environmental Quality	13	19%

400 properties. The program is structured so that it helps those who need it most; recipient annual income has averaged under \$30.000.

**Audubon Home Improvement Programs -** The Audubon Neighborhood Association (ANA) invested 60% of its Phase I NRP funds in its housing programs. Over \$1.2 million of its NRP funds have been invested in home improvements.

**Columbia Park Home Improvement Program** - Columbia Park invested \$200,000 of their NRP funds in a home improvement program that leveraged an additional \$125,000 of private investment. Eighty-six homes were improved through the program, with improvements ranging from new roofs and siding to sidewalk and foundation repairs.

**Lind-Bohanon Housing Programs -** Lind-Bohanon neighborhood residents invested nearly \$400,000 in home improvement programs and senior housing construction. These programs helped stabilize the neighborhood's supply of affordable housing.

#### Near North-Willard Hay Home Improvement Loans -

Neighborhood Housing Services has used \$1.2 million dollars of Near North Willard Hay NRP funds to make \$5 million in home improvement loans to neighborhood residents. The 325 loans, which average about \$15,000 per home, have generated approximately \$3.3 million in exterior improvements to single family homes, \$1.5 million in interior improvements to single family homes, and \$200,000 in improvements to multi-family properties.

## **Economic Development**

## Some Quick Stats About NRP Economic Development Investments:

#### **Commercial Corridors**

Fifty-eight (58) neighborhoods included a total of 157 strategies in their NRP plans for improving commercial corridors. In Phase I, 37 neighborhoods allocated \$4,998,142 toward improving commercial corridors. In Phase II, 11 neighborhoods have allocated \$455,331 toward improving the corridors.

### **Commercial Rehab**

Thirty-eight (38) neighborhoods included a total of 70 strategies that prioritize the improvement of commercial buildings. In Phase I, 28 neighborhoods allocated \$4,075,164 for improvements to these buildings. In Phase II, 11 neighborhoods have allocated \$365,859 for such improvements.

### **Business Associations**

Twenty-six (26) neighborhoods have included strategies to support business associations and development councils. In

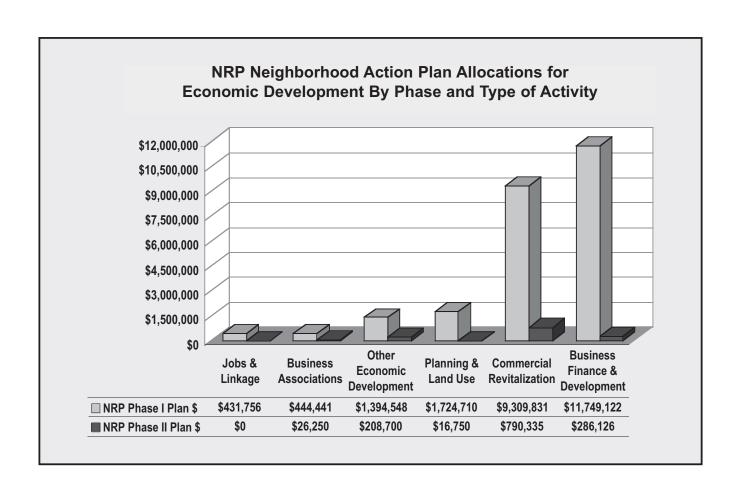
Phase I, 12 neighborhoods approved \$497,440 to promote neighborhood businesses - including business directories, business associations and development councils. In Phase II, 8 neighborhoods have approved \$55,395 for these efforts.

#### **Business Development**

In 146 plan strategies, 42 neighborhoods have addressed business development activities. In Phase I, 27 neighborhoods approved \$9,219,492 for business development activities. In Phase II, 5 neighborhoods have approved \$107,512 for such activities.

### **Home Based Businesses**

Residents in 27 different neighborhoods have addressed the needs of home-based businesses through 45 NRP Neighborhood Action Plan strategies.



## Examples of NRP-Funded Economic Development Initiatives:

Ancient Traders Market - NRP funds were used to help acquire and renovate a building at 1113 E. Franklin Avenue. The building, now known as Ancient Trader's Market, serves as a retail mall/small business incubator housing American Indian and other multi-cultural businesses.

**Camden Physicians Clinic** - The Webber-Camden, Lind-Bohanon, Folwell, Victory, and Cleveland neighborhoods contributed a total of \$260,000 of their NRP funds to assist with the relocation of the Camden Physicians Clinic to the old Camden Theater site on Lyndale Avenue North. This action kept the only private practice clinic located in Camden from going to the suburbs.

Mercado Central -The Powderhorn Park and Phillips neighborhoods invested \$327,000 of their NRP funds in Mercado Central — a cooperative marketplace owned and operated by 47 Latino merchants. The Mercado creates an exciting marketplace atmosphere and attracts larger crowds than any single business could on its own. Mercado merchants also have access to a number of in-house business and technical support services.

Midtown YWCA - Residents of five neighborhoods invested more than \$1 million of NRP funds in the construction of a new \$21 million Midtown YWCA Community and Urban Sports Center that provides youth activities, childcare and fitness programs to thousands of residents. Construction of the YWCA has spurred development on this previously neglected stretch of Lake Street.

**Central Avenue Improvements -** Audubon, Holland and Windom Park invested NRP funds in pedestrian lighting for Central Avenue, a Business Watch Program to keep crime down, and banners with a new Central Avenue logo. Perhaps the most visible of the improvements are the 95 low-level pedestrian scale street lights that span from 18th to 27th avenues NE - creating a safe, pedestrian environment and a link to rear parking areas.

Hennepin Ave. Revitalization - Lowry Hill organized a 7-neighborhood planning process that resulted in the Hennepin Avenue Strategic Plan and over \$550,000 of NRP investments along the Avenue, from Douglas to 28th Street. Hennepin Avenue has been a major priority for nearby neighborhoods. Improvements included new pedestrian-level lighting, tree grates, benches, sidewalk improvements, and reconfigured entry points to the Avenue. The Hennepin Ave Strategic Plan also provides a detailed vision for the corridor to guide future development.

**Franklin Avenue Streetscape -** Residents in the Phillips neighborhood invested \$300,000 of NRP funds in a \$3.8 million Franklin Avenue Streetscape renewal project for the blocks from

Types of Economic Development Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

	# of Neighborhoods	% of Neighborhoods
Commercial Revitalization	58	83%
Business Finance & Development	48	69%
Planning & Land Use	36	51%
Other Economic Development	28	40%
Business Associations	20	29%
Jobs & Linkage	3	4%

Chicago to 16th Avenues. The project includes new pedestrian lighting, 80 new trees, benches, perennial flowerbeds, bike racks and widened sidewalks inlaid with colorful graphic designs depicting the many cultures represented in the Phillips neighborhood. The streetscape improvements have already stimulated additional development in the area.

Nicollet Avenue Streetscape: EAT STREET - The Whittier, Loring Park, and Stevens Square neighborhoods invested \$287,000 in NRP funds in planning for and marketing the renovation of Nicollet Avenue from 15th Street to 28th Street. The investment leveraged additional public and private funds that brought new trees, new sidewalks, decorative iron and brick railings, and pedestrian level street lighting to a 1.2 mile stretch of Nicollet Avenue. When EAT STREET officially opened in 1997, it completely changed the Avenue into one of the hottest restaurant and food-oriented corridors in all of Minneapolis.

Nicollet Island-East Bank Storefront Matching Grant Program
The Nicollet Island-East Bank neighborhood established the
St. Anthony Heritage Storefront Improvement Fund using
\$155,748 in NRP funds. Improvements were made to more than
twenty businesses. The funds acted as seed money and the
resulting improvements encouraged other development. The
commercial area has boomed ever since.

### Stinson Marketplace/Rose Court Townhomes Project -

The "Stinson Marketplace" and 32 "Rose Court" town homes are now located on the former site of the Rosacker's greenhouse in Northeast Minneapolis as the result of a \$25,000 grant for land acquisition/demolition, \$100,000 in low interest loans, and a \$500,000 loan guarantee from Windom Park. The land's former zoning designation would have allowed uses ranging from the originally proposed three-story apartment building to an adult entertainment establishment. Neighborhood involvement created a development benefiting both the neighborhood and the city.

## **Community Building**

## Some Quick Stats About NRP Community Building Investments:

#### **Block Clubs**

Fifty-three (53) neighborhoods have addressed block clubs and block club projects through 128 NRP plan strategies. In Phase I, 28 neighborhoods approved \$1,097,763 for block clubs and block club projects. In Phase II, 6 neighborhoods have approved \$171,630 for block club efforts.

### Gateway Projects, Kiosks, and Signs

Sixty-nine (69) plan strategies in 49 neighborhoods have called for projects involving neighborhood gateways, kiosks, or signs. In Phase I, 32 neighborhoods approved \$722,964 for gateway projects, kiosks, and signs. In Phase II, one neighborhood has approved \$12,500 for such projects.

### **Welcome Programs**

Thirty (30) neighborhoods have developed 36 strategies to provide programs and materials to welcome new residents. In Phase I, 18 neighborhoods approved \$52,530 for programs and

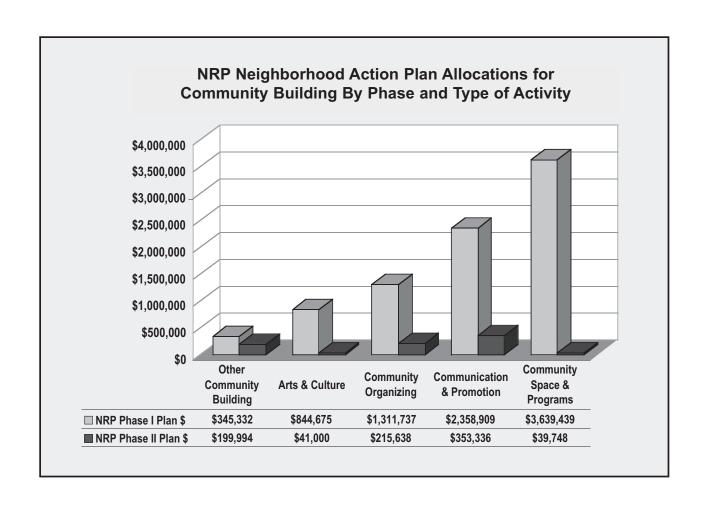
materials aimed at welcoming new residents. In Phase II, 4 neighborhoods have approved \$11,000 for such programs and materials.

### **Neighborhood History**

Residents in 26 neighborhoods have included 44 strategies in their NRP plans to preserve neighborhood history. In Phase I, 9 neighborhoods allocated \$470,099 for preserving neighborhood history. In Phase II, 2 neighborhoods have allocated \$15,000 for these preservation efforts.

### **Arts and Culture Programming**

Thirty-two (32) neighborhoods have created 70 plan strategies to address arts and culture programming. In Phase I, 20 neighborhoods allocated \$611,125 for arts and culture programming. In Phase II, 5 neighborhoods have allocated \$29,000 for such programming.



## Examples of NRP-Funded Community Building Initiatives:

Washburn Water Tower - The Tangletown Neighborhood Association (TNA) invested \$35,000 of NRP funds to renovate the water tower grounds with landscaping, decorative iron fencing, gardens, and benches. The Tower is a prominent historical feature in the neighborhood. It had also, however, been a target of graffiti and source of late night problems. Neighborhood volunteers invested thousands of hours over a three-year period to convert this site to a beautiful and safe neighborhood destination.

Van Dusen Mansion Renovation - Stevens Square saved the Van Dusen mansion from demolition - investing \$300,000 of NRP funds to help renovate this historic landmark. Built in 1894 by home to a host of private owners. Nearly a century after its construction, this landmark was scheduled for demolition - deemed too costly to renovate. The site had sat vacant for over a decade, vandals stripped the abandoned property, and it had fallen quietly into ruin. The project received a 1997 Heritage Preservation Award, and a record-breaking 5,000 visitors toured the mansion during the Tenth Annual Minneapolis-St. Paul Home Tour. Once slated for the wrecking ball, the Van Dusen now sits proudly on the National Registry of Historic Places. Turning around this single property contributed greatly to the neighborhood's revitalization.

**Building a Sense of Community -** Fulton initiated a major effort to increase residents' awareness of the neighborhood and connect residents to each other. The effort included the expansion of the Fulton Neighborhood Newsletter, installation of neighborhood signs, distribution of information and welcome packets, an annual Fulton Festival, an annual volunteer recognition program called "Friends of Fulton," formation of the Fulton Safety Committee, and development of a network of block contacts.

**Windom History Book** - Windom secured a Center for Urban and Regional Affairs (CURA) grant to fund a journalism student who interviewed neighborhood elders and compiled a history book with photos and stories about the early settlers in the area. The book was printed using \$1,341 in NRP funds and distributed to local residents, realtors and businesses.

Harrison Community Center - Harrison residents collaborated with the Minneapolis Public Schools and the Park Board to raise funds for construction of a new Level 5 school and a single building to house programs of all three partners. The facility is three times the size of the partners' original facilities, and joint use allowed unification of the park and more green and play space for residents. The building is home to the Harrison Neighborhood Association for the next 20 years. Harrison allocated \$300,000 of its NRP dollars for the project and conducted a capital campaign that raised an additional \$400,000 from private sources.

Types of Community Building Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

	# of	% of
	Neighborhoods	Neighborhoods
Communication & Promotion	56	80%
Community Organizing	52	74%
Community Space & Programs	40	57%
Arts & Culture	32	46%
Other Community Building	17	24%

**Bethlehem Stewart Community Center** - In order to create additional space for older neighborhood youth, Whittier invested \$250,000 of NRP funds to assist Loring Nicollet-Bethlehem Community Center with its expansion to and renovation of the Bethlehem Stewart Community Center.

Windom Community Center - Windom invested \$1.7 million of NRP funds in a \$3 million Windom Community Center. The project provided new classrooms, meeting rooms, media center, gymnasium, and park multi purpose rooms. The Center, a dream come true for neighborhood residents, resulted from a partnership between the Windom Community Council, the Minneapolis Public Schools, the Windom Open School Site Based Management Team, the Park Board, and the Volunteers of America. The design and final construction produced a beautiful, historically compatible addition to Windom Open School.

Folwell Fun Factory - The Folwell Fun Factory is a small, closed trailer packed with active game and sports equipment that is delivered by staff and a Special Projects Team to block parties within the neighborhood. The Fun Factory was designed as an icebreaker to facilitate resident communication and community building. It provides a significant opportunity for multi-generational and diverse resident interaction. Residents in the Folwell neighborhood invested \$11,500 of NRP funds in the Folwell Fun Factory.

*Picnic in the Park -* Picnic in the Park is a summer celebration of the Hale, Page, and Diamond Lake (HPDL) neighborhoods that draws 2,500 - 3,000 people each year to Pearl Park to enjoy live bands, great food, and kids' games and attractions. The Picnic is a partnership between Pearl Park, the Pearl Improvement and Recreation Council, and the HPDL Community Association. Businesses, non-profits, churches, and committees sponsor booths. More than 40 businesses, churches, and non-profits participate in the event and over sixty volunteers from the community help put it on.

## **Crime Prevention & Safety**

## Some Quick Stats About NRP Crime Prevention & Safety Investments:

### Police Services and Community Policing

Fifty-nine (59) neighborhoods have included 136 strategies to address the need for additional police services and community policing - including police "buy-back," "cops on bikes" and police substations. In Phase I, 26 neighborhoods allocated \$1,440,145 for additional police services. In Phase II, 45 neighborhoods have allocated \$1,419,040 for these activities. (The Phase II allocation includes \$954,062 for Community Oriented Public Safety Incentive Reserve Fund, COPSIRF).

#### Citizen Patrols

Thirty-nine 39 strategies in 29 neighborhoods include citizen patrol efforts. In Phase I, 19 neighborhoods allocated \$544,320 for citizen patrols. In Phase II, 5 neighborhoods have allocated \$76,171 for citizen patrols.

### **Crime Prevention Education**

Residents in 45 neighborhoods included 86 strategies aimed at

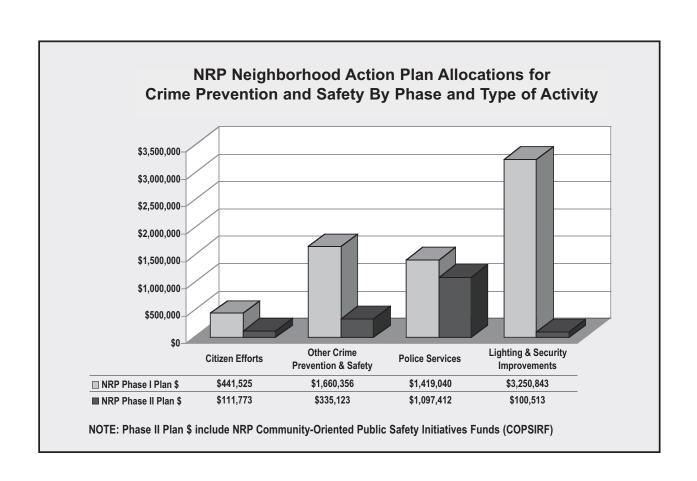
producing and distributing crime prevention education and information in their Neighborhood Action Plans. In Phase I, 11 neighborhoods allocated \$128,747 for these projects. In Phase II, 5 neighborhoods have allocated \$52,762 for this crime prevention activity.

### Graffiti Removal

Thirty-one (31) neighborhoods' plans include graffiti removal strategies. In Phase I, 9 neighborhoods allocated \$64,110 for graffiti removal efforts. In Phase II, 3 neighborhoods have allocated \$58,500 for graffiti removal efforts.

### <u>Lighting and Security Improvements</u>

One hundred fifty (150) strategies in 57 neighborhoods address lighting and other security improvements. In Phase I, 23 neighborhoods allocated \$3,250,843 towards these improvements. In Phase II, 6 neighborhoods have allocated \$100,513 toward lighting and other security improvements.



## Examples of NRP-Funded Crime Prevention & Safety Initiatives:

**Cops on Bikes -** The Northeast Cops on Bikes program was created by the St. Anthony West, St. Anthony East and Nicollet Island-East Bank neighborhoods with over \$95,000 of NRP funds. Residents identify neighborhood "hot spots," and police on bicycles get to know residents while working to address neighborhood-identified problems.

Central Cities Neighborhood Partnership Community
Conferencing Program - Stevens Square initiated a multineighborhood collaboration with Loring Park and Elliot Park
that resulted in the creation of a restorative justice program
called Community Conferencing. Restorative justice programs
are based on the belief that the community is one of the victims
when a crime occurs. Justice can be served when the community and the victim hold offenders accountable for their actions.
The NRP-supported neighborhood organizations and boards
have given the program visibility and credibility and it has been
copied in other neighborhoods.

Crime Prevention Matching Grant Program - Community Crime Prevention/S.A.F.E. administered a Crime Prevention Matching Grant Program on behalf of the Standish-Ericsson neighborhoods. \$59,087 helped residents receive reimbursement of up to 50% (maximum \$25) on the purchase of auto theft deterrence devices, and up to 50% (maximum \$300) of the pre-tax cost on the purchase and installation of approved home security devices.

Jordan Community Garden - When crime rates began climbing, residents invested a small portion of their NRP crime and safety funds in improving a vacant lot bordering 26th Avenue, an especially troubled corridor. The garden they established has become a neighborhood gathering spot and a symbol of hope.

**15th Avenue Street Lighting -** When University of Minnesota students voiced safety concerns, residents in Southeast Como and Marcy-Holmes invested \$6,000 of their NRP funds and worked with the University and the City to install pedestrian level street lights along 15th Avenue Southeast—a common route to the U.

**Neighborhood Cop Shop** - Windom neighborhood volunteers worked with Minneapolis Police to close a "massage parlor" located on Nicollet Avenue South. When the owners indicated that they intended to re-open the business, the neighborhood dedicated some of its NRP administrative funds to rent a small, nearby office space. Police officers were invited to use the office as a cop shop, a place to interview people or to write

Types of Crime Prevention & Safety Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

	# of Neighborhoods	% of Neighborhoods
	Neighborhoods	Neighborhoods
Other Crime Prevention & Safety	64	91%
Police Services	59	84%
Lighting & Security Improvements	57	81%
Citizen Efforts	39	56%

reports, and to take lunch breaks. Neighborhood residents provided treats and kept the office and restroom available for police use. The unwanted business did not like the attention of the police, who frequently used the office, and eventually sold the property to a legitimate business-property owner.

**Prostitution Reduction Program -** Corcoran worked in partnership with an agency whose sole purpose was to alleviate the prostitution problem in Powderhorn Park and Corcoran. Volunteers patrolled areas known for prostitution, took down license numbers, and CCP/SAFE sent "Dear John" letters to inform the cars' owners that their car had been observed in an area known for prostitution. In addition, they counseled known prostitutes on how they could stop, and helped connect those interested with services that would help them.

**Safety Cameras -** Working with corporate partners and the police department, the Downtown East and West neighborhoods provided \$25,000 of NRP funds to the Minneapolis Downtown Council to support the installation of a wireless, digital camera network in the Downtown Minneapolis SafeZone District.

Thermal Imaging Equipment - The Downtown neighborhoods provided funds to the Minneapolis Fire Department to enable them to purchase thermal imaging equipment. Currently, fire fighters who do not have this equipment have to crawl on the outer exterior of a room and feel around to see if there are people or pets in that room. The thermal imaging equipment allows them to see through the smoke and determine the exact locations of the persons or pets in that room. It also enables them to identify if there is a person or pet in a particular room in the house so they can make their room sweeps more quickly and increase the safety for the fire fighters.

## Transportation & Infrastructure

## Some Quick Stats About NRP Transportation & Infrastructure Investments:

### Bicycle, Pedestrian and Transit Activities

One hundred seventy-seven (177) strategies in 52 neighborhoods' action plans address pedestrian, bicycle and transit concerns. In Phase I, 27 neighborhoods allocated \$1,152,384 for bicycle, pedestrian and transit activities. In Phase II, 8 neighborhoods have allocated \$106,509 for these efforts.

### Transportation and Traffic Studies

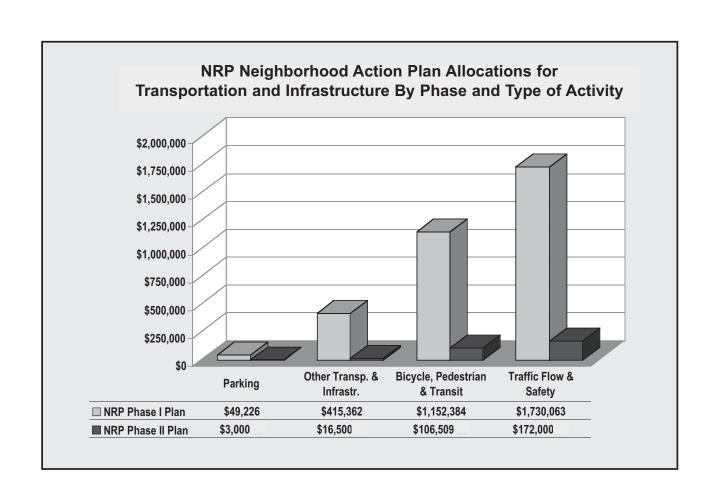
Residents in 47 neighborhoods include 97 strategies that call for traffic or transportation studies in their NRP plans. In Phase I, 18 neighborhoods allocated \$520,359 for such studies. In Phase II, one neighborhood has allocated \$30,500 for transportation and traffic studies.

### Traffic Calming Improvements

Fifty-four (54) strategies in 37 neighborhoods work toward implementing specific traffic calming improvements. In Phase I, 20 neighborhoods allocated \$1,267,924 for implementing these improvements. In Phase II, 4 neighborhoods have allocated \$101,500 for implementing traffic calming improvements.

### **Parking**

Twenty-seven (27) neighborhoods have created 37 strategies to address parking issues. In Phase I, 6 neighborhoods allocated \$49,226 to this issue. In Phase II, one neighborhood has allocated \$3,000 to address parking issues.



## Examples of NRP-Funded Transportation & Infrastructure Initiatives:

#### Midtown Greenway Bicycle and Pedestrian Path -

Six Minneapolis neighborhoods contributed about \$215,000 of NRP funds toward planning and construction of segments and amenities along the 2.8-mile Midtown Greenway Bicycle and Pedestrian Path. The Greenway is nearly complete and extends all the way from Minneapolis' western border to the Mississippi River along 29th Street.

Excelsior Boulevard Master Plan and West Calhoun Village Center Public Improvements - West Calhoun used its NRP funds to develop a plan for the important intersection of Excelsior Boulevard and West Calhoun Parkway. They also set aside funds for implementing complementary improvements. NRP funds were used for landscaping, brick detailing, burying overhead power lines, and other streetscape improvements. The result is a shopping area that's pedestrian- and bicyclist-friendly as well as useful to area shoppers.

Neighbors for Safe Driving Campaign - Traffic calming measures aimed at reducing traffic speeds and volume are a priority in 36 NRP Neighborhood Action Plans. One of the most innovative and visible of these traffic calming projects was the highly successful "Neighbors for Safe Driving" campaign launched by residents in the Fulton and Lynnhurst neighborhoods along 50th Street South. Developed in collaboration with the Minneapolis Police Department, this education and enforcement campaign used lawn signs, billboards, bumper stickers, newsletters, and a radar gun to encourage drivers to slow down. The campaign changed driver behavior along 50th Street South and helped build a greater sense of community.

**Street Pavers on Nicollet Island -** The Nicollet Island-East Bank neighborhood invested \$62,000 of their NRP funds to install street pavers on the island. The neighborhood investment supplemented Park Board funds used to reconstruct the streets of the island.

Nicollet Avenue Bridge - The neighborhood invested \$130,000 to slow traffic on the bridge and to increase pedestrian safety. The Nicollet Avenue bridge over Minnehaha Creek had the reputation of being the fastest bridge in the City, with recorded vehicle speeds reaching 60 mph. This project reduced the bridge driving lanes from 4 lanes to 2, widened the sidewalks, installed new bridge lighting and added 4 pediments with the Tangletown "T" logo. Pedestrian scale streetlights were added in 2003-2004 to Nicollet Avenue with an NRP investment of \$53,000 to complete the streetscape.

Types of Transportation & Infrastructure Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

		-
	# of Neighborhoods	% of Neighborhoods
Bicycle, Pedestrian & Transit	52	74%
Traffic Flow & Safety	47	67%
Other Transp. & Infrastr.	44	63%
Parking	27	39%

**43rd and Upton/Sheridan Improvements -** NRP funds were used to make "downtown Linden Hills" greener and safer for both drivers and pedestrians. The results were traffic circles and planted medians that helped reduce vehicle speeds and increase pedestrian safety.

**40th Street Greenway -** The neighborhood invested \$290,000 of its NRP funds to plan and begin construction of a bike- and pedestrian-friendly greenway along 40th Street that would connect Lake Harriet and the Mississippi River. The project is a collaboration between Kingfield and the neighborhoods along the rest of the greenway route.

**Phelps Park Community Center -** Bancroft, Powderhorn Park and Bryant neighborhoods worked together to create a joint-use facility shared by the Boys and Girls Club of Minneapolis and the Park Board. The neighborhoods funded construction of the new gymnasium and computer center with the Boys and Girls Club. Both the Boys and Girls Club and the Park Board provide staff and programming at the facility.

**Pedestrian Safety -** When Phelps Park was improved with a new community center, the Bryant, Bancroft and Powderhorn Park neighborhoods also realized that many of the road crossings to get to the park were dangerous. The new center successfully attracted children to the park, but they had to cross two of the City's busiest streets. Crosswalk improvements on Chicago and Park Avenues were incorporated into the project to increase pedestrian safety. Bancroft's NRP investment in the park renovation and crosswalk improvements for safe crossing on Chicago and Park Avenues (1995-96) was \$220,000. Bryant and Powderhorn Park contributed \$40,000.

**Bancroft Safe Crossing** - Bancroft provided \$20,000 of NRP money for a safe crossing near Bancroft School by installing four way stops at 13th and 14th Avenue and 39th Street.

## **Environment**

### Some Quick Stats About NRP Environmental Investments:

### Tree Planting

Residents in 36 neighborhoods have created 64 strategies that provide for the planting of trees, bushes, wildflowers, native grasses and other plantings. In Phase I, 25 neighborhoods allocated \$973,086 for such plantings. In Phase II, 9 neighborhoods have allocated \$153,525 for plantings.

### "Blooming Boulevards" and Community Gardens

Sixty-nine (69) strategies in 43 neighborhoods include community gardens or "Blooming Boulevards." In Phase I, 22 neighborhoods allocated \$304,558 for "Blooming Boulevards" and community gardens. In Phase II, 7 neighborhoods have allocated \$42,093 for this activity.

### Recycling and Solid Waste Reduction

Forty-five (45) strategies in 28 neighborhoods address recycling needs and solid waste reduction efforts. In Phase I, 5 neighborhoods allocated \$37,656 for these efforts. In Phase II, one

neighborhood has allocated \$10,500 for recycling and solid waste reduction efforts.

### Wildlife Habitat and Natural Vegetation

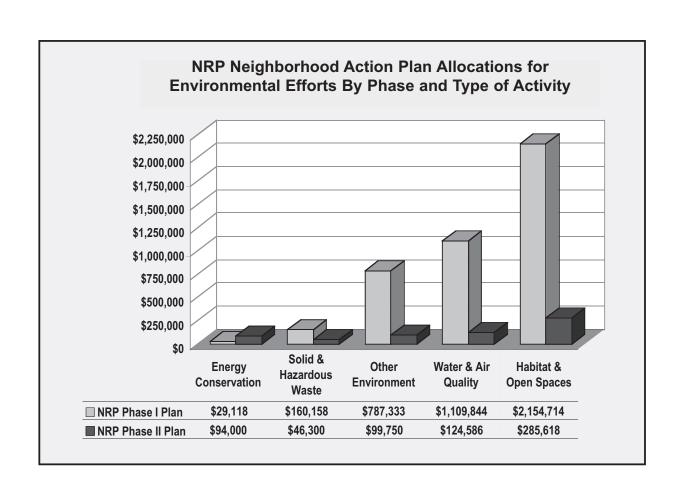
Resident in 11 neighborhoods have created strategies aimed at restoring and protecting the natural habitat.

### Neighborhood "Clean Sweeps"

Twenty-eight (28) neighborhoods included neighborhood clean-up events (or "clean sweeps") in their plans.

### Water Quality Improvements

NRP Neighborhood Action Plans include 71 strategies that address water quality projects. In Phase I, 17 neighborhoods allocated \$705,152 for creating wetlands, reducing pollutants in storm water runoff, and other efforts to improve water quality. In Phase II, 7 neighborhoods have allocated \$91,000 for these improvements.



## Examples of NRP-Funded Environmental Initiatives:

Southeast Pollution Prevention Project - Surrounded by industry and freeways, Como residents take a particular interest in air quality. Como's environmental efforts have resulted in two Good Neighbor Agreements that reduce or eliminate more than 730 tons of solvents from entering the neighborhood and \$1 billion in pollution equipment upgrades at area power plants. The neighborhood has also produced the first Minneapolis on-line environmental inventory. The inventory identifies the environmental impacts of over 70 facilities in and around Southeast Minneapolis.

Lake of the Isles Improvements - East Isles invested \$375,000 to help fund rehabilitation of flood damaged areas around Lake of the Isles and support improvements to the Iake and surrounding park grounds - specifically shoreline restoration, tree planting, pathway reconstruction, flood prevention and control measures, landscaping and wildlife habitat improvement measures. East Isles was one of the major partners in the multi faceted program to improve the walking and biking paths, stabilize the shoreline and plant appropriate trees.

Kenny Environmental Program - The Kenny neighborhood invested \$12,240 in NRP funds and raised another \$60,000 from DNR, MN OEA, CURA and the Minneapolis Foundation to develop a wetland management plan for Grass Lake. Grass Lake, a Public Works asset, is an important hydrological and environmental amenity in Kenny. Many volunteer hours were spent removing buckthorn, other non-native trees and vegetation as part of the plan. The neighborhood made an additional investment of \$10,000 in NRP funds for new plantings in 2003-2004.

**Kenilworth Lagoon -** Kenwood residents invested NRP funds to improve the shoreline and adjacent area along the north side of Kenilworth lagoon near Lake of the Isles.

**Milfoil Harvester -** Linden Hills and Fulton used \$67,000 of NRP funds to purchase a milfoil harvester to address the quality of Lake Harriet. The Park Board has used the Milfoil harvester keep this important and frequently used lake from being overrun with invasive vegetation.

Lake Nokomis Improvement Project - The Nokomis East area invested \$350,000 of NRP funds to carry out several environmental initiatives. They established the Blue Water Commission in partnership with other neighborhood groups, the City of Minneapolis, the Minneapolis Park and Recreation Board, the Minnehaha Creek Watershed District, and Hennepin County to oversee these efforts. The Commission issued a report that has served as the blueprint for addressing Lake Nokomis water quality

Types of Environmental Activity Addressed	
by Neighborhoods in NRP Plans (By Nur	nber and Percent)

	# of	% of
	Neighborhoods	Neighborhoods
Habitat & Open Spaces	55	79%
Water & Air Quality	40	57%
Solid & Hazardous Waste	36	51%
Other Environment	29	41%
Energy Conservation	9	13%

concerns. Three wetland ponds were constructed near the southwest part of Lake Nokomis to help capture contaminated runoff before it enters the lake. Neighborhood volunteers also reintroduced native plants, grasses, and wildflowers in three gardens and on the shoreline around Lake Nokomis to improve water quality through erosion control. The gardens are a major source of pride for residents responsible for their maintenance.

**Minnehaha Creek Wetland** - Standish-Ericsson used \$78,000 of NRP funds to create a pilot storm water wetland along Minnehaha Creek. The Park Board excavated the wetland, provided the design and supervised the plantings by neighborhood volunteers. The Minnehaha wetlands help improve the water quality of the creek. This project won a CUE award.

GHAR Square - The Lind-Bohanon neighborhood used \$112,162 of NRP funds to clean up and landscape a blighted and polluted site along 6th Street North. Numerous trees were planted to make this former eyesore a green and shady urban forest. The square is named for George Hill, a long time resident and neighborhood leader, and Alice Rainville, a former City Council member who served North Minneapolis for more than 30 years.

**Tree Planting -** Lynnhurst invested over \$52,000 of their NRP funds for tree plantings on parkland in the neighborhood. The prospects for survival were enhanced by volunteers who participated in the "Adopt a Tree" program and watered the new trees.

Community Landscapes, Greening and Park Projects - With projects ranging from the "BRYN MAWR" hedge to the Blooming Bryn Mawr Garden Tour (which drew 300 visitors in its first year) to the long awaited Luce Line Trail, Bryn Mawr residents have worked tirelessly to establish and tend community gardens. Their NRP investment makes up just a small percentage of the overall contributions to these projects. Residents note that "the highlight of these gardening projects was the community building."

## Parks and Recreation

### Some Quick Stats About NRP Parks & Recreation Investments:

### Park Buildings, Playgrounds and Fields

One hundred seventy-three (173) strategies in 51 neighborhoods support improvements to park buildings, playgrounds, and fields. In Phase I, 40 neighborhoods allocated \$9,354,696 for these park improvements. In Phase II, 5 neighborhoods have allocated \$178,163 for improvements to park buildings, playgrounds, and fields.

### Park Landscaping, Green Space, Lighting and Safety

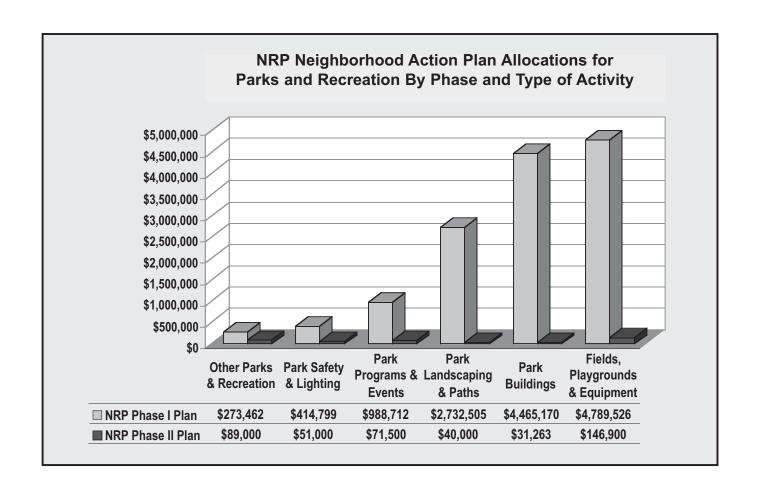
One hundred forty-three (143) neighborhood action plans include 107 strategies for park landscaping, green space, paths, lighting and safety. In Phase I, 23 neighborhoods allocated \$3,147,304 for these park improvements. In Phase II, 4 neighborhoods have allocated \$91,00 for park landscaping, green space, lighting and safety.

### Park Programming and Events

Residents in 41 neighborhoods have created 95 strategies addressing park programming. In Phase I, 24 neighborhoods allocated \$988,712 for park programming and events. In Phase II, 8 neighborhoods have allocated \$71,500 for park programming and events.

### **Non-sports Programming in Parks**

Twenty-two (22) neighborhood action plans contain strategies supporting non-sports activities / program in parks.



## Examples of NRP-Funded Parks & Recreation Initiatives:

Loring Park Renovation - Residents in the Loring Park neighborhood invested \$1.1 million of NRP funds to renovate Loring Park. The improvements included: revitalizing the pond to stop it from losing water; safer bike and pedestrian paths; new lights, benches and landscaping; relocation and renovation of the historic office of the Park Board's first superintendent; and creation of a formal "Garden of the Seasons" at the park's center. The hundreds of people empowered through NRP to create a vision for the Park and see that vision become reality did so for the enjoyment of all the residents of Minneapolis who use and visit the park.

**Thomas Lowry Park Improvements -** Lowry Hill NRP invested \$265,000 in improvements to Thomas Lowry Park that included: major repairs to the "7 Pools" fountain, repaving of pathways, installation of new lighting and benches, and refurbishing of the perennial beds.

**Van Cleve Park Improvements -** NRP funds made possible a variety of improvements to Van Cleve Park, the park building and the pool. New playground equipment was installed, along with benches, a sign, a computer lab, and increased programming.

Lake Hiawatha Park - The Standish-Ericsson neighborhoods invested \$359,500 in developing a Master Plan and implementing a completely renovated playground at Lake Hiawatha Park that is accessible to all of the children of the neighborhood. They also invested \$145,000 in shoreline stabilization and plantings.

**Beltrami Park Improvements -** NRP funds paid for major improvements to Beltrami Park. Improvements included new playground equipment, a soccer field, and a ventilation system for the Beltrami Park building.

**Farview Park Improvements** - Farview is one of Minneapolis' busiest parks. The Hawthorne neighborhood has invested NRP funds in sports programs, computers, lighting, air conditioning and added staffing at this popular gathering spot for kids.

**MLK Park** - Kingfield invested \$152,016 of NRP funds to rehabilitate the park building and to make the multi-purpose room suitable for meeting space with improved acoustics and ventilation.

Brackett Park Recreation Center and Park Renovations - Longfellow residents invested \$677,000 of NRP funds to help bring a new \$1.2 million recreation center to Brackett Park. The 5,300 square-foot recreation center replaced a 70-year old park structure that was in need of major renovation. In addition, the neighborhood used NRP funds to create and support community

Types of Parks & Recreation Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

	# of Neighborhoods	% of Neighborhoods
Fields, Playgrounds & Equipment	38	54%
Park Programs & Events	41	59%
Park Buildings	31	44%
Other Parks & Recreation	25	36%
Park Landscaping & Paths	24	34%
Park Safety & Lighting	19	27%

programs for children, families, and seniors at Brackett Park.

Matthews Park/Seward Montessori School - The Seward neighborhood invested \$370,000 of NRP funds to enhance the facilities and equipment available at this Park/ School complex. The facility is a hub of community activity in the neighborhood. NRP dollars were used to improve: lighting, drainage and circulation in the parking lot; and the storage facilities, circulation, and accessibility at the recreation center. Seward also paid for a new floor in the gymnasium, new volleyball and other equipment for the park, and video and computer equipment for the media center.

Columbia Park Improvements - Columbia Park residents invested \$142,000 of NRP funds in improvements to the Columbia Park playground and nearby ball fields. With \$100,000 from the Park Board, and a \$70,000 Youth Initiative Grant, the total investment exceeded \$300,000. Improvements included new playground equipment, a half basketball court, a junior softball field, a rugby/soccer field and a big red slide.

Kenny Park and School Playground Renovation - The Kenny neighborhood invested \$185,297 of NRP funds with \$117,500 in Park Board funds to do a complete renovation of the Kenny Park and School playground. Funds were used to install new playground equipment, landscape the playground area so that it would be accessible to children with special needs, improve site grading, and upgrade lighting, play surfaces, and seating.

*Victory Park Improvements* - Residents in the Victory neighborhood proved just how committed they are to the City by investing their time, energy, and \$195,000 of NRP funds in a project to renovate their neighborhood park. The Victory neighborhood partnered with the Park Board and the Minneapolis Schools to: purchase new playground equipment, make major field improvements and design and implement a major landscape redesign.

## **Human Services**

### Some Quick Stats About NRP Human Services Investments:

### Families, Childcare and Parenting

Seventy-five (75) strategies in 28 neighborhoods address family, childcare and parenting concerns. In Phase I, 12 neighborhoods allocated \$982,891 for this purpose. In Phase II, 2 neighborhoods have allocated \$7,024 for these activities.

### Youth and Teens

One hundred eighty-nine (189) strategies in 48 neighborhoods address youth and teen issues (excluding park/school related activities). In Phase I, 28 neighborhoods allocated \$2,401,962 to these issues. In Phase II, 12 neighborhoods have allocated \$482,078 to address youth and teen issues.

### **Employment**

Through 147 strategies, 24 neighborhoods have prioritized job training and job placement activities. (Job placement is graphed in the Economic Development section). In Phase I, 11 neighbor-

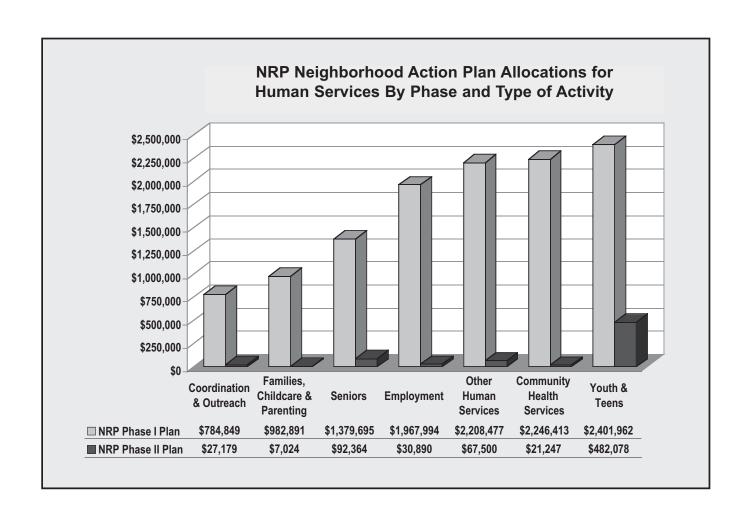
hoods allocated \$2,399,750 to address these employment issues. In Phase II, 2 neighborhoods have allocated \$30,890 for job placement and job training activities.

### **Community Health Clinics**

Residents in 12 neighborhoods have created 19 strategies that call for community health clinics. In Phase I, 8 neighborhoods allocated \$2,000,554 for clinics. In Phase II, 3 neighborhoods allocated \$21,247 for community health clinics.

### Senior Activities and Programs

Thirty-five (35) neighborhood plans include strategies supporting senior activities and programs. In Phase I, 17 neighborhoods allocated \$1,379,695 for senior activities and programs. In Phase I, 5 neighborhoods have allocated \$92,364 in support of seniors.



## Examples of NRP-Funded Human Services Initiatives:

Mujeres Latinas en Accion - The 79 Latino women and their families who are involved with Mujeres Latinas en Accion have created a powerful support network within Lyndale's Latino community. Mujeres Latinas en Accion focuses on building community by: creating learning opportunities on immediately relevant topics such as domestic violence, fire prevention and safety, tenants rights etc.; celebrating and sharing Latino culture with non-Latino neighbors; and helping Latino women achieve economic independence. By taking this holistic approach, the isolation and alienation felt by Latino women five years ago has disappeared. Relationships have been established that never existed before and Latino women have become more invested in the community.

East Side Neighborhood Services - East Side Neighborhood Services (ESNS) has been an important part of Northeast Minneapolis since 1915. Bottineau residents invested \$200,000 of NRP funds to support the construction of a new \$7.8 million Northeast Neighborhood House two blocks from its original home. The new facility allowed ESNS to: increase its childcare capacity from 70 to 105 children, provide much needed space for ESNS's Menlo Park Alternative High School, provide better physical support for the multitude of senior services that ESNS offers, and house a food shelf for families in crisis, employment services, family intervention programs and a Minnesota Care program.

**Youth Leadership Initiative -** Lyndale's Youth Leadership Initiative annually supports over 100 teens working on dozens of projects including: graffiti removal and neighborhood beautification, weekend-long leadership retreats, and weekly summer service and enrichment projects. Youth are active and respected community builders in Lyndale. Lyndale residents have come to realize that involving teens as leaders and empowering them to helpshape their community was critical to revitalization efforts.

Southeast Seniors Program - Residents in the Marcy-Holmes, Southeast Como and Prospect Park neighborhoods have invested \$128,140 of NRP funds in the Southeast Seniors Living at Home Block Nurse Program. The program enables seniors in these neighborhoods to continue living in their own homes. Seniors participating in the program can access in-home nursing services, certified home health aides, homemaker assistance, and companionship from visiting volunteers. In addition, the program helps seniors with transportation, meals, and chores.

**Community Health Program -** The Logan Park, Sheridan, Holland and Saint Anthony East neighborhoods have invested \$173,600 of NRP funds to support the Community Health Program carried out by the Northeast Senior Citizen Resource

Types of Human Services Activity Addressed
by Neighborhoods in NRP Plans (By Number and Percent)

# of Neighborhoods	% of Neighborhoods
48	69%
35	50%
28	40%
26	37%
24	34%
18	26%
12	17%
	Neighborhoods           48           35           28           26           24           18

Center. The Program provides a range of preventive services to seniors, lower income residents and young people.

Glenwood Lyndale Community Clinic - Sumner Glenwood NRP provided funds for capital improvements for the Glenwood Lyndale Community Clinic and for outreach efforts to encourage use of its culturally sensitive health services by surrounding neighborhoods - especially mothers and children of immigrant families. The clinic received more than 10,000 patient visits per year from 1,646 users. Its impact on the provision of health services to the new American communities was recognized with national awards from the American Hospital Association and SmithKline Beecham. Recently the clinic's operations were absorbed into the North Point clinic in the Willard Hay neighborhood.

Minneapolis Urban League's Glover-Sudduth Center for Urban Affairs and Economic Development - This \$6 million facility brought a treasured community institution home to the formerly vacant corner of Plymouth and Penn Avenues. The Glover-Sudduth Center received \$350,000 of Near North Willard Hay NRP funds to help create an employment and training center in the facility that provides unemployed and underemployed community residents with marketable and upgraded job skills, and serves as a business incubator for six small businesses.

Youth Farm and Market Project - The Lyndale Youth Farm and Market Project was established to help low-income urban youth, ages 9-14, develop the skills and support they will need to make the difficult transitions from adolescence to adulthood. YFMP's goals are to create entrepreneurial work experiences for urban youth, build community by strengthening relationships among youth and other neighborhood residents, create more "youth friendly" space in urban neighborhoods, teach youth skills to achieve economic independence, and produce high quality food for low-income people.

## Schools & Libraries

### Some Quick Stats About NRP Schools & Libraries Investments:

### School Facilities

Seventy-eight (78) strategies in 37 neighborhoods supported school building and site improvements. In Phase I, 28 neighborhoods approved \$5,732,274 for these improvements. In Phase II, 4 neighborhoods have approved \$47,000 for building and site improvements at schools.

### School Program, Events, and Partnerships

Residents in 43 neighborhoods have created 124 strategies that address school programs, events, and partnerships. In Phase I, 16 neighborhoods approved \$531,217 for these activities. In Phase II, 8 neighborhoods have approved \$69,673 for school programs, events and partnerships.

### Computers / Media Centers in Schools and Libraries

Twenty-eight (28) strategies in 22 neighborhoods call for increased or improved computer / media centers in schools and

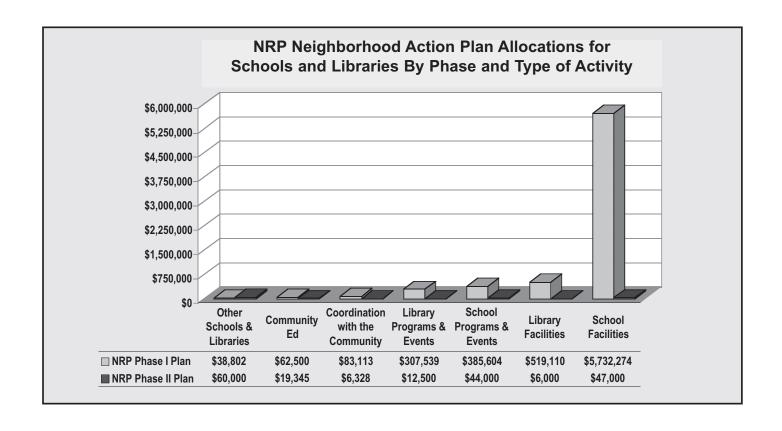
libraries. In Phase I, 13 neighborhoods approved \$1,107,810 for these centers. In Phase II, one neighborhood has approved \$12,000 for schools or library computers / media centers.

### Library Facilities

Sixteen (16) neighborhoods have included 19 strategies that address library facility improvements. In Phase I, 8 neighborhoods approved \$519,110 for library facilities. In Phase II, one neighborhood has approved \$6,000 for library facilities.

### **Library Programs**

Twenty-two (22) strategies in 19 neighborhoods support library programming. In Phase I, 10 neighborhoods approved \$307,538 for library programs. In Phase II, 3 neighborhoods have approved \$12,500 for library programs.



## Examples of NRP-Funded Schools & Libraries Initiatives:

**Armatage Park/School Complex** - Armatage residents invested \$717,000 of NRP funds in the \$2.8 million Armatage Park and School expansion that opened in January 2000. Armatage Neighborhood Association partnered with the School District and Park Board to build a new gymnasium and playground joining Armatage School and Armatage Park Neighborhood Center.

Pratt School Renovation and Reopening - Neighborhood efforts to foster community-based learning led to the reopening of Pratt School in 2000 after it had been closed for 18 years. The neighborhood invested over \$750,000 of NRP funds in major improvements including the addition of an elevator to increase accessibility, a playground, a "village green," a performance amphitheater, and an update to the facility's mechanical systems and grounds.

Whittier Community School of the Arts - Residents in the Whittier neighborhood invested more than \$2 million in NRP funds to acquire and clear land adjacent to Whittier Park, fund a renovation of the park, and construct a new gymnasium that is now shared by the school, park and community. Whittier designated \$400,000 of NRP funds to facilitate the construction of a new school building adjacent to the Whittier Park Center. The neighborhood's NRP investment helped leverage \$15,000,000 from the Minneapolis Schools for this state-of-the-art complex, which has become a vital asset to the community and brought a new school to a neighborhood with 3,300 children.

**Ramsey School Playground Improvements -** Neighborhood residents worked with school parents and other volunteers to install a new playground using \$75,000 in NRP funds and to purchase new equipment with \$40,000 in private contributions.

Lake Harriet Community School Upper Campus Playground - Residents in the Fulton and Linden Hills neighborhoods invested NRP funds to assure that children at Lake Harriet Community School would have a playground when the Minneapolis Schools built a new addition joining the original school to an annex built in 1965. The playground was built through a community-build process utilizing volunteer installation.

Pierre Bottineau Library - What began as a modest NRP investment from St. Anthony West in library computers at the old undersized Bottineau library grew into the newest community library in Minneapolis. Sheridan and St. Anthony West residents invested over \$120,000 of NRP funds, and countless volunteer hours, to support construction of the new 1,200 sq. ft. library. The new library combines the best of the old (the 1893 Wagon Shed and

Types of Schools & Libraries Activity Addressed by Neighborhoods in NRP Plans (By Number and Percent)

	# of Neighborhoods	% of Neighborhoods
School Facilities	37	53%
Coordination with the Community	26	37%
School Programs & Events	19	27%
Library Programs & Events	19	27%
Library Facilities	16	23%
Community Ed	13	19%
Other Schools & Libraries	9	13%

the 1913 Millwright Shop of the old Grain Belt Brewery) with a new addition that maintains the same look and feel as the historic original buildings. The neighborhood history collection, a youth tech zone, a conference room for book clubs and meetings, and teen-friendly areas are just a few of the assets of this new and old community landmark.

**Jefferson School Playground -** Residents in the Lowry Hill East and East Isles neighborhoods invested NRP funds and volunteer hours and energy in designing and installing (with over 200 neighborhood volunteers) a new playground.

**Anwatin Computer Facility -** Bryn Mawr was one of the first NRP groups to fund a computer center for their area school. Over 20 new computers were funded for school children and access by the broader community.

**Washburn High School Computer Lab** - A new computer lab was installed in Washburn High School with a neighborhood NRP contribution of \$125,000.

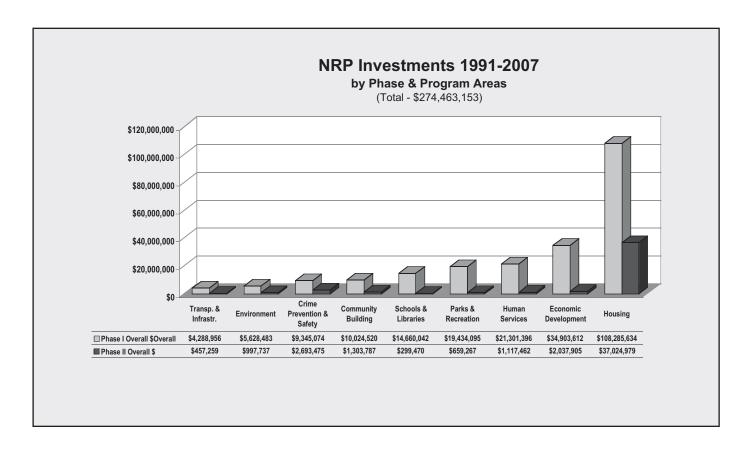
Hosmer Library - Residents of Bryant, Central, Kingfield, Lyndale, and Powderhorn Park invested \$440,000 of NRP funds for the renovation and restoration of the Hosmer library. Major facility improvements at the rejuvenated 90-year old library included a computer lab and tech center, and community meeting room. Library patronage at Hosmer increased 100 percent over each of the first four years after the renovation was completed in 1997.

**Linden Hills Library** - Linden Hills NRP provided \$138,000 for restoration and renovation of the Linden Hills Library that included a new elevator and an accessible front entrance, an enhanced children's room, an increase in audio-visual materials, and a new neighborhood history collection.

## **NRP Overall**

The chart below provides a snapshot of how **all** NRP funds have been invested since the inception of the program. To a large extent, this chart mirrors the chart on page 1 because funding of neighborhood plans has been the primary focus of the program.

In addition to funds approved for neighborhood plans, however, this chart also captures NRP dollars approved for Phase I Particiption Agreements, Phase I Transition Funds, County & School "2nd 7½" funds, the Youth Coordinating Board, and NRP Central Administration.



October 5, 2007



## **Appendix C: Transportation**

### Overview

The Minneapolis Plan is consistent with the policy directions of the Metropolitan Council. As described, in the 2030 Transportation Policy Plan, the Metropolitan Council's primary transportation policy directions are:

- Planning and investing in multi-modal transportation choices based on the full range of costs and benefits.
- Encouraging mixed-use development in centers along transportation corridors that better links housing, jobs and amenities, and reduces the need for single destination trips.
- Making more efficient use of the regional transportation system by encouraging flexible work hours, telecommuting, ridesharing and transit ridership.
- Focusing highway investments first on maintaining and managing the existing system, and second on slowing congestion.
- Building transit ridership by expanding the current bus system and developing a network of dedicated rail and/or bus "transitways."
- Encouraging local communities to implement a system of fully interconnected arterial and local streets, pathways and bikeways.

This Technical Appendix to *The Minneapolis Plan* includes required elements as described in the Metropolitan Council's *Local Planning Handbook*. The appendix is not intended to supplant the Transportation chapter of The Minneapolis Plan. Instead, it is intended to reinforce the plan's policies and provide enough detail so that the Metropolitan Council can conduct a review of adequacy of The Minneapolis Plan. The transportation technical appendix contains the following sections:

- Traffic analysis zone forecasts
- Highway and roads plan
- Bike and pedestrian plan
- Special situations plan
- Transit plan



Aviation plan

### Traffic Analysis Zone Forecasts

This section includes population, employment, and housing unit forecasts through 2030 for the City of Minneapolis by Traffic Analysis Zone (TAZ). This information is an important input into the development of regional traffic forecasts and planning for regional roads and highways.

See Maps 2.1, 2.2, and 2.3 and Appendix B for the TAZ forecasts for the entire city.

Citywide total forecasts are based on official Metropolitan Council projections. These forecasts were assigned to TAZs by using the city's knowledge of: current policy for directing and accommodating growth, existing and potential proposed development projects, availability of developable sites, and general knowledge of the commercial and residential real estate market.

It should be noted that there is an intent in *The Minneapolis Plan* to pursue an aggressive growth scenario for both population and jobs. In some TAZs, the estimates in the attached table could be exceeded. However, at this time, it is not practical to estimate on a TAZ level where that additional growth could occur. The City will track growth on an ongoing basis, and make policy changes when necessary.

### Highway and Roads Plan

### **Highway and Road Network**

See Map 2.4 for the functional classification of arterials and other major roads within the City. The functional classification system is based on the designations in the Metropolitan Council's *Transportation Policy Plan*.

The City has also developed a new street classification system through the Access Minneapolis Ten-Year Transportation Action Plan to aid in integrating transportation and land use planning and designing a multi-modal transportation system, though it doesn't supplant the functional classification system. The Access Minneapolis street classification system identifies different types of streets throughout the city based upon both transportation function as well as the kinds of places that exist along these routes. Use of the right-of-way is a balance between its role in the transportation system (e.g., priority for buses) and how it serves adjoining land uses (e.g., parking for businesses). This includes routes in the City's Primary Transit Network (PTN) as well as streets designated for automobile mobility (e.g., "commuter street"). Often there is a good match between the mode priority and adjoining land use (e.g., bus service along high density, mixed-use corridors), but sometimes there is not (e.g., commuter routes through low-density residential areas). The City will maintain guidelines for uses of the right-of-way that reflect a balance between its overall transportation role and its neighborhood context.



Existing traffic volume and forecasted traffic volume are also provided for all arterials within the City. The interstate system is also an integral part of the City's road network. However, the City recognizes that planning for, maintaining, and if necessary expanding the interstate system is a Minnesota Department of Transportation function, conducted at the regional and state level. Therefore, this plan will not give specific direction as to future plans for the interstate system, beyond the City's role in this process.

### **Traffic Forecasts**

See Maps 2.6, 2.7, and 2.7a for current daily traffic counts and forecasted 2030 traffic volumes for arterials and other major roads in the City. Map 2.7 has forecasts from City-level analysis, while Map 2.7a has traffic forecasts from the travel demand model maintained by the Metropolitan Council.

As a developed city, Minneapolis has the option of using either modeled traffic forecasts or trend line analyses to determine future traffic levels. Both of these were reviewed when determining City transportation needs and priorities. A brief discussion of each is included below:

- Modeled forecasts. As shown on Map 2.7a, these forecasts are generated by a regional travel demand model maintained by Metropolitan Council. The TAZ socio-economic forecasts provided in the previous section are an input to the model. This forecasting comes with the caveat that priority is given to ensuring that major roads have the highest level of accuracy. As a result, traffic forecasts on more minor roads may be less accurate than using another forecasting technique. Due to the relatively limited changes to the road network expected in the future and the City's status as a fully developed community, the City elected not to modify the regional model, but rather to work on trend line projections.
- Trend line projections. These forecasts are shown on Map 2.7. As part of the Access Minneapolis planning process, the City did trend-line projections for traffic on roads throughout the City. A more detailed analysis, including turning movements, was done for the Downtown area. Projected 2030 traffic volumes were developed by applying annualized growth factors by sector of the city to the 2005 Average Annual Daily Traffic Counts. These annualized growth factors were derived from the Metropolitan Council's regional model for arterial and collector roadways in each sector. These growth factors are as follows: North Sector (0.50%), Northeast/Southeast Sector (0.40%), South Sector (0.60%), and Southwest Sector (0.50%).

Both of these methodologies yielded similar results: growth in traffic and congestion on most City streets is forecasted to be moderate, based on the fact that much of the City is fully built out. However, due to Minneapolis' central location, traffic levels on



its street network are greatly influenced by surrounding development, as residents and employees of surrounding communities travel into and through the City. This shows up particularly in volume increases along major routes leading into Downtown.

Outside of interstate projects managed at the state level, and incremental improvements associated with street reconstruction and maintenance, The City does not anticipate increasing capacity on most roads in the City to handle forecasted demand. Instead, the City's primary focus is on improvements to the transit network, along with operational improvements to make the existing system work more efficiently. Some capacity expansions may occur, but this is not the primary strategy for addressing increased travel demand.

### **Highway Improvements**

See Map 2.8 for existing and proposed number of lanes on major routes in Minneapolis.

Three major highway projects located in Minneapolis are listed in the Metropolitan Council's *Transportation Policy Plan*:

Project	Description	Status
I-35W HOV lane from 66 <sup>th</sup> St to 42 <sup>nd</sup> St	Reconstruct TH 62 and I-35W and add the HOV lane	Constructed started May 2007, scheduled to be complete by 2010
TH 55, Hiawatha Ave	Reconstruct the 4-lane arterial from Crosstown to I-94	Project complete
I-35W from 46 <sup>th</sup> St to I-94	Add HOV/transit priority lane and Lake St interchange	Northbound Priced Dynamic Shoulder Lane to be completed by the end of 2009, funded by the Urban Partnership Agreement. Additional Access to and from Lake Street is not funded or programmed.

Other City road improvement priorities include:

■ Granary Road two-lane divided extension — The City intends to construct Granary Road, a new east-west roadway primarily north of University Avenue and 4th Street SE. This arterial roadway will augment the east-west roadway system for medium and longer length trips through the City and into St Paul. It will provide additional capacity and serve as a reliever to the University Avenue/4th Street one-way pair as well as to I-94 and Washington Avenue, a segment of which will be restricted to transit



vehicles only with the implementation of the Central Corridor Light Rail Transit. The eastern segment of Granary Road, from the city border to Oak Street, is identified as an A-Minor Augmenter on the approved regional Functional Classification Map. The City is seeking to have the western extension of this roadway, from Oak Street to 11th Avenue SE, added to the Functional Classification Map as an A-Minor augmenter as well. The formal application process for this change is underway.

- Van White Boulevard two-lane extension This roadway is identified in the regional functional classification map as a Major Collector. It serves a major redevelopment area west of Downtown. Construction of the road and the surrounding development is already well underway.
- \*\*Kasota Road two-lane realignment The existing alignment for Kasota Road serves an industrial area immediately adjacent to a low density residential neighborhood. The road is classified as a B-Minor Arterial on the regional functional classification map. The new alignment, located to the south of the existing one, will effectively replace the existing one as the primary route for industrial traffic, trucks, and thru traffic in the area. This will also open up access to new land for industrial redevelopment which is now only served by rail. It is proposed that the functional classification for the old Kasota alignment be transferred to the new one, as the new one will effectively replace its arterial function. The old alignment will remain in place, likely as a local street. The westernmost portion of the new alignment has been constructed, though the middle portion still needs to be completed. The City has not yet begun a formal application process for this change, but will as needed.
- E River Pkmy extension There is currently a gap in the parkway system along the east bank of the Mississippi River between the ends of E River Pkmy and Main St SE. The City proposes connecting these two as a continuous route, which would be a major collector, as both existing roads already are. Like Granary Road, this would serve as an alternate route for the University Avenue/4th Street one-way pair as well as I-94 and Washington Avenue though it would serve primarily as a parkway facility. An opening for this route has been constructed as part of the I-35W bridge reconstruction. The City has not yet begun a formal application process for this change, but will as needed.

There may be some other road extensions and connections, particularly as a means to improve connectivity within and between neighborhoods. However, most of these will be fairly small-scale and will not significantly impact the capacity of the overall road network. The need for these improvements will be evaluated as part of the City's regular capital improvements prioritization process.



### **Land Use and Transportation Connection**

Travel demand is directly related to land use type and intensity. However, land use changes far outside the Minneapolis city limits are having more impact on travel demand in Minneapolis than changes to land use inside city limits.

Travel will increase in the city because the metropolitan area is growing, more people have access to cars, and there is generally more travel due to decentralization. The number of trips made in the metropolitan area has increased from 1.7 million in 1949 to 10.8 million in 2000. Trips are expected to continue to increase to 15 million by the year 2030.

Travel will also increase because The Minneapolis Plan calls for "growing the city" in population and employment. The population is projected to grow by more than 58,000 people by 2030, over a 15% increase. Employment is expected to grow by more than 39,000 jobs, over a 12% increase, over the same time period.

Table C.1: Forecasted Growth in Minneapolis

Year	Count	<b>Cumulative Change</b>
Population		
2000	382,174	
2010	405,329	23,155
2020	425,797	43,623
2030	441,143	58,969
Households		
2000	162,139	
2010	172,735	10,596
2020	181,975	19,836
2030	189,398	27,259
Employment		
2000	307,172	
2010	317,000	9,828
2020	332,500	25,328
2030	346,500	39,328

Source: City of Minneapolis

The plan calls for this growth to be directed to and along its designated land use features, including community corridors, neighborhood commercial nodes, commercial corridors, activity centers, and growth centers. These areas were selected in large part because they are already well-served by transportation infrastructure,



particularly high-frequency transit service and a walkable environment that invites non-motorized travel. Map 1.3 shows these areas. This policy direction is aligned with the *Transportation Policy Plan* approaches, as it will "encourage the intensification of development at key nodes and along major transportation corridors."

Minneapolis is well-suited to accommodate this new growth. Its central location, established transit and bike/pedestrian networks, and generally compact development patterns mean that it can accommodate new growth with significantly less traffic impacts than a similar scale of development would occur in a suburban or rural community.

### **Need to Expand Facilities**

Traffic volumes will grow on city principal and minor arterials despite all planned pedestrian, bicycle, and transit improvements. This section quantifies the expected changes in traffic volume that are likely to develop.

Although congested segments of road may be a good indicator of where improvements to roadway capacity are needed, this is not always the case. In an urban center like Minneapolis, some level of congestion indicates a healthy vitality to the area. Areas without a sufficient level of activity may suffer economically, and be less appealing for residents and visitors. The intensity and vibrancy of an area can make it attractive, even when it is difficult to travel quickly.

Additionally, when traffic congestion does need to be addressed, the city's preferred strategy is to optimize traffic flow and encourage greater use of alternative modes (walking, bicycling, and transit). This is compatible with a sustainable approach to transportation planning. Minneapolis is a mature urban environment. The city is fully developed, in some cases for over a century, and the space available for transportation is limited. Widening roads, in most cases, is not an acceptable option due to the negative impacts on the urban character of the city, the exceedingly high costs for construction and relocation, and the reduced viability of walking, bicycling and transit.

Improvements to road capacity, therefore, will be limited and strategic. Most will focus on operational issues – including signal timing and other enhancements.

As noted above, the built-out character of Minneapolis means that future changes in traffic are generally incremental, and that most roads forecasted to be congested already have a certain level of congestion on them.

Occasionally, priority may be given to constructing new connecting roads in areas where the traditional grid system has been interrupted. The purpose of these new connections is not only to improve auto traffic flow, but to increase overall multimodal connectivity – including bicycle and pedestrian – and to strengthen the City's traditional urban character.



### **Potential Safety Issues**

Since Minneapolis is a fully developed city, growth comes almost exclusively on previously developed sites. Infrastructure improvements associated with new development, therefore, tend to be incremental and site-specific. However, new development does provide an opportunity to evaluate traffic issues in a certain area and to make needed improvements, based on either existing or future traffic conditions.

One of the main ways the city has for assessing and implementing needed safety improvements associated with new development is the Travel Demand Management (TDM) requirement. The city's zoning code requires non-residential developments of over 100,000 square feet to submit a TDM plan for approval by the Planning Director. TDM plans must disclose the expected transportation impacts and detail a mitigation plan.

For safety concerns that are not associated with specific new development projects, the city continuously collects and analyzes crash data, road condition data, and other information that identifies roadway safety hazards. This information is used, along with other criteria, to identify and prioritize projects for the city's capital improvements plan.

### **Access Management**

Access management is a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways. Access management includes several techniques that are designed to increase the capacity of these roads, manage congestion, and reduce crashes:

- Increasing spacing between signals and interchanges
- Driveway location, spacing, and design
- Use of exclusive turning lanes
- Median treatments, including two-way left turn lanes (TWLTL) that allow turn movements in multiple directions from a center lane and raised medians that prevent movements across a roadway
- Use of service and frontage roads
- Land use policies that limit right-of-way access to highways

The appropriate strategy to apply varies greatly by street type. At one end of the hierarchy of streets, a freeway emphasizes traffic movement while restricting access to adjacent land. At the other end of the hierarchy, a local street provides easy access to adjacent residential, commercial, and industrial land uses. Transportation



improvements developed in accordance with the street classification system will help to discourage higher speed "through" traffic from using local neighborhood streets, and local traffic from congesting regional travel facilities. This will not only improve the efficiency of the transportation system, but will also maintain the livability of city neighborhoods.

As new development and redevelopment occurs, Minneapolis will incrementally make improvements to access management along arterials. Depending on the road, this will involve applying MnDOT, Hennepin County, and City standards where appropriate. Additional information on state standards can be found here: <a href="http://www.oim.dot.state.mn.us/access/index.html">http://www.oim.dot.state.mn.us/access/index.html</a>. A copy of state access management policy is included as part of this appendix. Federal guidance can be found here: <a href="http://safety.fhwa.dot.gov/geometric/key\_comp.htm#am">http://safety.fhwa.dot.gov/geometric/key\_comp.htm#am</a>.

The city's zoning ordinance addresses access management concerns in section 530.150, as part of the site plan review process. In addition to mitigating traffic impacts, the regulations emphasize minimizing conflicts with pedestrian traffic, reducing impacts on residential uses, and reducing impervious surface.

### Bicycle and Pedestrian Plan

### **Bicycle and Pedestrian Policies**

The primary objective of providing bicycle and pedestrian facilities is to provide an attractive alternative to the single occupant vehicle, as well as to provide high-quality bicycle and pedestrian access to transit. The Minneapolis Plan emphasizes bicycles and pedestrians as the foundation of the city's transportation system. Bicycles and walking will not entirely replace the automobile, but the pedestrian environment can be made more attractive to encourage Minneapolis residents to walk or bike for the short trips. This kind of behavior will reduce cold automobile starts which are the most polluting activity for a car. The use of the automobile can also be reduced if there are good bicycle and pedestrian facilities and land uses are sufficiently mixed to make biking and walking feasible.

Fortunately, Minneapolis has an excellent sidewalk system that is safe and convenient. This basic system is augmented by a skyway pedestrian system in downtown Minneapolis. Implementing steps in The Minneapolis Plan call for wide, high quality sidewalks and new developments that situate their front doors so that they open onto the public sidewalks.

As part of a non-motorized transportation system, bicycling is ideal for short trips that might ordinarily be made by car. It extends the reach of the transit system and improves the quality of life for residents who do not use cars. A bicyclist in the City can use a system of off-street trails, on-street lanes, and streets that have been identified as bike routes because of their characteristics (e.g., low volume roads with few physical hazards).



The city has also designated commuter bike lanes in downtown Minneapolis and in near-downtown neighborhoods where there is a conflict between bike riders and other vehicles. Map 2.9 identifies existing and planned bike routes in the City.

Ongoing planning and implementation efforts include the elimination of gaps in this system, ensuring adequate geographic coverage/spacing, and addressing safety conflicts in congested corridors, districts and street crossings. By doing so, the City hopes to make bicycling more attractive to more riders, in more places, and more of the time.

Both a citywide Pedestrian Master Plan and a citywide Bicycle Master Plan are currently under development and will be completed by the end of 2009. These plans will address existing and future bicycle and pedestrian demand, existing system deficiencies, capital improvement priorities, design guidelines for bicycle and pedestrian facilities, and funding and implementation strategies for new and existing facilities.

### **Bikeway Map**

The City will plan for bicycle infrastructure under the framework of modal priorities and context. Bicycles cannot be accommodated the same way in all locations. In addition to funding constraints, competing priorities arise from limited rights-of-way that include the need for vehicle lanes, on-street parking, sidewalks and streetscape. Despite these challenges, bicycling throughout the City will become more transparent and obvious through a combination of interconnected infrastructure, signage, bicycle parking, respect for bicycle riders, and enforcement of traffic safety laws. Where there is the demand or potential for bicycle ridership, it will be matched by infrastructure investment and other support.

Map 2.9 shows the existing bicycle plan for the City of Minneapolis. This plan was developed several years back by the City, and has been used to guide investment in new facilities since then. Additional detailed maps are available on the City's website at <a href="http://www.ci.minneapolis.mn.us/bicycles/bicycle-plans.asp">http://www.ci.minneapolis.mn.us/bicycles/bicycle-plans.asp</a>.

### **Access to Transit**

High quality mass transit service depends in part on good pedestrian links at both ends of the bus trip. The city's extensive bicycle and pedestrian systems are well-situated to provide this level of access. It is convenient in most areas of the city to walk or bike to and from transit routes. Furthermore, enhancements to bicycle and pedestrian facilities often coincide with activity centers and commercial corridors which are already well-served by transit.

As part of its Ten-Year Transportation Action Plan the City has identified a network of primary transit corridors, which includes the potential regional transitways, as well as local transit service. Map 2.13 shows the location of the planned transitways. Over time, routes the Primary Transit Network (PTN) will be improved to meet



regional standards, some of which relate to safe and comfortable passenger facilities, access to stops, and traveler information.

Additionally, City policies ensure that, when new transit development occurs – such as LRT or downtown transit facilities – bicycle and pedestrian access are important considerations in the design of these facilities. Bicycles are accommodated on all transit vehicles in the City, including both LRT and bus. Increasing numbers of transit stops also include bicycle racks or lockers.

### Special Situations Plan

### **Downtown**

### Overview

In June 2007 the Minneapolis City Council adopted the Downtown Action Plan, part of a citywide 10-year transportation planning effort called Access Minneapolis. The Downtown Action Plan identifies specific strategies that the City and its regional partners will undertake in order to improve the operational capacity of the downtown transportation system, with an emphasis on transit, bicycling, and walking.

Specific actions to be implemented in the next ten years include:

- Widen sidewalks in key locations, including areas with heavy transit use
- Close gaps in the pedestrian network
- Enhance the pedestrian experience through sidewalk greening and cleaning programs
- Improve vertical access to the skyway system
- Close gaps and increase capacity of the bicycle network, including off-street trails and on-street lanes
- Provide additional bicycle parking and shower facilities
- Consolidate bus service to a limited number of streets where transit is given modal priority and resources for transit services and facilities can be concentrated
- Improve intra-downtown circulation on Nicollet Mall
- Rearrange bus stops to be spaced no closer than every other block



- Provide better internal downtown auto circulation
- Optimize signal timing
- Update special event traffic management to address changes in transit operations and stadium locations
- Continue to support the efforts of the Minneapolis Transportation Management Organization (TMO)

More detail is provided below for transit, pedestrian, automobile, and parking improvements identified in the plan.

#### Transit

High quality transit service can ensure the continued intensification and growth of downtown, which in turn will support transit ridership. Service must be reliable and at frequent, regular intervals. Travel time must compete favorably with other modes, and facilities and amenities must be easily accessible to riders.

Despite the importance of planned rail service, buses operating on downtown streets make up the lion's share of transit use. The City, working with transit providers, will improve the readability and functioning of downtown buses by improving bus lanes and consolidating routes onto fewer streets. Access to these facilities via sidewalks and skyways will be improved. The City will also work in partnership with Metro Transit and Mn/DOT to ensure that connections to regional highways and HOV lanes will be improved.

Three transit spines in downtown will serve a majority of both regional express bus service as well as local Primary Transit Network (PTN) routes. They include the dominant north/south transit spines along Marquette/2nd Avenue and Nicollet Mall, a southwest transit spine along Hennepin Avenue and an east/west spine. Transit priority will take forms that range from buses operating in mixed traffic on Hennepin Avenue to expanded use of transit-only lanes along the north/south spine. City programs and regulations will ensure that conditions along these routes continue to improve in support of transit. Strategies include zoning and site plan requirements, economic development incentives, travel demand management (TDM), and curbside management.

As part of an economic and residential development strategy, transit will be improved to serve trips within downtown for visitors, residents and employees alike. It is anticipated that the strategies above will meet many of the needs for internal downtown circulation. Nevertheless, the City will work with Metro Transit and others to ensure that bus service on Nicollet Mall functions as a shuttle that connects the tourist, entertainment, recreational and retail destinations within its reach. Over time, streetcar routes may also be developed along key transit routes in ways that



leverage development and improves transit ridership.

### Pedestrians and Skyways

Certain streets will be designated as routes with enhanced amenities that encourage and reward walking throughout downtown. These streets include but are not limited to PTN streets. These are places where public amenities and investment will be matched by expectations for new development. Treatments for the pedestrian/public realm will include wider sidewalks, enhanced streetscape, requirements for building frontages and pedestrian plazas. Building entrances and connections with the skyway shall be designed to create an openness and sense of connection with the street.

#### Automobiles

Automobile use of the street network will place emphasis on downtown circulation and making streets more understandable to visitors and customers. A central task is the designation of one-way versus two-way streets. Those streets that connect with freeway entrance/exit ramps and serve as efficient traffic arteries will continue to operate as pairs of one-way streets (e.g., 3rd and 4th Streets, 4th and 5th Avenues). Other streets will be designated as two-way streets. They include streets that have all-day activity, streets that function as the historic retail and entertainment main streets, and streets that have neighborhood connections (e.g., Hennepin Avenue, Nicollet Mall/Avenue, Washington Avenue, and 3rd/Central Avenue.) The City will work with Mn/DOT to improve freeway access to and from I-35W to the north, which is currently provided only via Washington Avenue.

### **Parking**

Parking supply and regulation will based upon land use and transportation policy objectives for downtown. Long-term parking facilities should be located along freeway access routes and not along PTN routes. Parking facilities near freeway access points are preferable to new facilities inside the core of downtown. In all cases, parking should not dominate any precinct of downtown, and each facility shall be integrated with both ground floor and exterior uses wrapping the structure. This is especially important as peripheral districts become more residential. Long-term parking should become scarcer so that fees do not undermine the use of alternative modes. Car sharing programs for both office and residential uses will be encouraged or required.

### **University of Minnesota**

With over 16,000 employees and 51,000 students on the East and West Bank campuses, the University of Minnesota is a major destination in Minneapolis and in the region. The University of Minnesota has jurisdiction over some traffic and transportation operations within its area. Other transportation facilities and operations are managed by the City and Hennepin County.



The City, University, and regional partners employ a variety of strategies to manage transportation needs in the University area, including:

- Frequent campus shuttle service between the Twin Cities campuses and frequent local and regional express bus service to campus
- Discounted transit passes for U of M staff and students
- Coordination on Central Corridor LRT planning and design
- Traffic signal improvements
- Car-sharing program for students, faculty, and staff

### **Right-of-Way Preservation**

Roads: As a fully developed city, Minneapolis does not often need to preserve right-of-way for new roads. However, there are a few identified:

- Granary Road extension
- Van While Boulevard extension
- Upper River road extensions
- East River Road extension

Bicycle Routes: The transportation chapter of The Minneapolis Plan shows the plan for bicycle route improvements (Map 2.9). Right-of-way needs to be preserved include:

- Granary Road corridor trail
- Upper River corridor trails
- East River Road corridor trail

Walkways: Walkway and trail preservation will be done in conjunction with the development of bikeways and greenways.

Transit Corridors. Most transitway improvements are planned within existing right of way. However, some limited right of way acquisition may be needed as the plans are developed.

Right of way preservation needs are shown on Map 2.10. However, some additional right of way may need to be acquired in conjunction with various transportation



projects. These acquisitions will generally be minor and incremental, consistent with the fully urbanized character of the City.

### **Corridor and Sub-Area Studies**

There is only one study listed in Appendix G Transportation Policy Plan:

Northstar Commuter Rail Corridor Advanced Corridor Plan: Metro Transit will begin operating the Twin Cities' first commuter rail line in late 2009. The Northstar commuter rail line will connect downtown Minneapolis with the northwest suburbs located along the Highway 10 corridor. Initially, there will be stations in Big Lake, Elk River, Anoka, Coon Rapids-Riverdale, Fridley and on the northwest edge of downtown Minneapolis. There will be five southbound morning trains and five northbound afternoon trains each weekday. There will also be one northbound morning train and one southbound afternoon train each weekday, along with limited weekend service. The Northstar Line is expected to carry 3,400 riders a day in the first year of operation and 4,100 at full maturity.

Other studies that have been underway since 2004, when the Transportation Policy Plan was adopted, include:

- Access Minneapolis, a citywide transportation action plan now underway
- Central Corridor LRT
- Northstar Commuter Rail
- Bottineau Corridor Transitway
- I-35W BRT
- Red Rock Corridor Transitway
- Southwest Transitway

# Transit Plan

### **Existing Service**

Public transit is a very important component of community life in Minneapolis. It is one of the city's defining features, as compared to the suburbs. Virtually all of the city is within a quarter mile of a bus line. This allows people to get to work at the city's primary job centers. The transit system is also a convenient and attractive alternative to the single-occupant vehicle.

Even more than being a part of community life, transit improvements are going to



be absolutely necessary if the city and the region are going to adequately contend with the traffic congestion that we will experience by 2030. The Minneapolis Plan, Access Minneapolis: Ten Year Transportation Action Plan, and the 2030 Transportation Policy Plan all concentrate on transit improvements as the primary way to contend with growing traffic congestion.

The section below provides a description of the transit services and facilities in Minneapolis that are needed to sustain the economy, environment, and lifestyle.

Minneapolis has a bus transit route system based on the streetcar system that began in the 1880s. Most of the routes are in the same place they were a hundred years ago or when they were first developed. Virtually all residential blocks in the city are within a few blocks of a bus line. A select number of these lines are part of the Primary Transit Network, with existing or planned high frequency service throughout the day and into the evening.

The Primary Transit Network, or PTN, is a limited set of transit corridors where the City and transit providers will focus efforts to maintain minimum standards for speed, frequency and passenger facilities. PTN routes are based upon existing and planned land use, connections between destinations, and spacing throughout the city. PTN routes include different technologies and roles. It may include service in dedicated corridors such as light rail transit (LRT) as well as local buses on key routes. It does not, however, include other important transit services like peak period express buses or commuter rail. The PTN is intended to become an easily understandable network that serves the entire City throughout the entire day with headways of 15 minutes or better. This readability may include marketing, such as maps, but also include "branding" efforts and increased levels of service amenities along these routes.

In addition, some of the most outlying parts of the city have morning and evening rush hour express service. This occurs in southwest, south central, and northwest Minneapolis. This service utilizes I-35W and I-94. Dedicated lanes allow buses to bypass ramp meters and congested lanes, improving travel time for transit riders. There is also limited direct bus service to the University of Minnesota in some parts of the city. Map 2.11 shows the existing transit route system.

Specialized paratransit services are also available in the city. This includes non-scheduled transit service provided to the elderly and persons with disabilities through Metro Mobility and other organizations such as the Minneapolis Age and Opportunity Center and the Fairview Foundation.

### Transit Market Area

According to the 2030 Transportation Policy Plan, the central part of Minneapolis is in Transit Market I, and the remainder is in Transit Market II.

Transit Market I encompasses Downtown Minneapolis, the University of Minnesota



area, and some of the highest density neighborhoods in the city. It has among the highest concentrations of activity, housing, and jobs in the region. As a result, it has some of the most frequent and comprehensive transit service, with frequent local and express routes running long hours every day. Only Minneapolis and St Paul contain any Market I areas. The Transportation Policy Plan states that "Because this is the most productive transit service area in the region, it should also be the area that receives a prioritized investment of transit resources."

Transit Market II encompasses many largely residential areas of the city. It has a moderate concentration of jobs, housing, and activity. It is still well-served by transit, but at a lower frequency and more limited hours than Transit Market I.

These designations are reflection of the demand for high quality transit service in the city. The plan notes that strengthening service to key destinations such as central Minneapolis are "crucial to the health of the entire transportation network."

# **Determining Future Service**

Minneapolis will work with the Metropolitan Council to determine transit services consistent with the municipality's transit market areas and its associated service standards and strategies.

The city has already undertaken an extensive process through Access Minneapolis in large part to assist with transit planning. Additionally, Minneapolis has worked directly with the Metropolitan Council recently on a series of studies for proposed LRT and BRT facilities serving the city, as well as with Metro Transit on recent transit service sector studies.

# **Existing and Planned Corridors**

Minneapolis' basic approach to transit is described in detail in Access Minneapolis. That document states that Although all modes of transportation are important, transit is critical for maximizing the people carrying capacity of the transportation system. Access Minneapolis will result in a transit system that operates efficiently and effectively in downtown and throughout the city. Transit will become the mode of choice for Minneapolis residents, workers and visitors."

Specifically, the major planned improvements outlined in that plan, as well as the 2030 Transportation Policy Plan, are outlined below.

### **Transitways**

Transitways on dedicated rights of way provide a travel-time advantage over the single-occupant vehicle, improve transit service reliability and maximize the potential for transit-oriented development and redevelopment. These may include bus rapid transit (BRT), light rail transit (LRT), or commuter rail facilities. The success of the Hiawatha LRT transitway has increased interest in and support for additional



corridors.

Minneapolis will seek development of transitways in the following corridors:

- Hiawatha Corridor. This is the city's one existing LRT line. Though largely complete, additional plans are being developed and implemented to enhance operations and promote compatible development adjacent to the LRT line.
- Central Corridor: This is the primary east-west transportation route between downtown Minneapolis, the University of Minnesota and downtown St. Paul. LRT has been identified as appropriate for this corridor, and work is ongoing on project development.
- Northstar: This commuter rail line operating on the Burlington Northern railroad line from downtown Minneapolis to Big Lake is currently under construction.
- Bottineau Corridor: This corridor parallels CSAH 81 between Minneapolis and either Brooklyn Park, Maple Grove, or Rogers. A preliminary scoping report is complete and an alternatives analysis is underway to determine the most feasible mode and alignments. The transitway may operate on a combination of dedicated right-of-way and in mixed traffic with transit advantages.
- I-35W BRT: I-35W south of downtown Minneapolis was the first Interstate highway in the Twin Cities with express bus service, beginning in the early 1970s. It is the principal arterial most heavily used by transit today. There is an HOV lane from TH 13 to I-494. As a result of funding from the Urban Partnership Agreement (UPA), the HOV lane will be converted to a High Occupancy Toll (HOT) lane and extended to the north (from I-494 to 42<sup>nd</sup> Street in south Minneapolis) and to the south (from TH 13 to Burnsville Parkway) and will be completely operational when reconstruction of the Crosstown interchange is completed. Also as part of the UPA, a Priced Dynamic Should Lane (PDSL) will be installed northbound from 42<sup>nd</sup> Street to Downtown Minneapolis. MnDOT, together with the Council and other transit providers, completed an I-35W study for the 2005 legislative session which contained details on station locations and operations plan.
- Red Rock Corridor: This corridor follows TH 61 and the Burlington Northern and Canadian Pacific railroads approximately 30 miles from Hastings through downtown St. Paul to downtown Minneapolis.
- Southwest Transitway: The Southwest corridor extends between the southwestern suburbs and Minneapolis, including the cities of Eden Prairie,



Minnetonka, Hopkins, and Saint Louis Park along railroad right-of-way acquired for future transit by the Hennepin County Regional Railroad Authority (HCRRA). Currently, the southwest LRT trail accommodates bicyclists and pedestrians throughout the corridor. Transit feasibility studies have been completed for this corridor and the adjoining Midtown Corridor that extends between the southwest Corridor and the Hiawatha LRT line.

 Other corridors being studied by the Metropolitan Council for potential transitway improvements

### Primary Transit Network (PTN)

As part of its Ten-Year Transportation Action Plan the City has identified a network of primary transit corridors, which includes the planned regional transitways noted above, as well as local transit service. The PTN is a permanent network of all-day transit service – regardless of mode or agency – which meets a set of regional standards, including service that operates at least every 15 minute for at least 18 hours a day, seven days a week; that are reliable and have reasonable operating speeds and passenger loadings; and that are supported by safe and comfortable passenger facilities, access to stops, vehicles, and information.

The PTN's value, as well as its success, relies on a three-way interdependence among (1) density, (2) service quality, and (3) ridership. Density is achieved through City land use policies, design guidelines and economic development incentives. If the above standards are met, PTN service will appeal to a wide range of travelers, not only transit-dependent persons, but people who choose to use transit instead of driving their cars. Because PTN service attracts more riders, it also becomes more efficient and cost effective. With lower operating subsidies, the transit system spends less per passenger on the PTN than on other transit services.

The City will engage both its local and regional partners in implementing the PTN in a strategic, systematic way.

### Other Transit Improvements

- Improvements to downtown transit service, including reconfiguration of routes to increase efficiency and quality of service. (See Special Situations section for more details.)
- Investigation of developing a streetcar along at least one of the identified potential corridors in the City, in a way that builds on other transit service and encourages economic development. To date, no plan for this has been officially approved by the City.
- Funding and implementation of the Primary Transit Network system, to provide permanent, reliable, high frequency service on key corridors



throughout the city.

 Improvements to transit amenities, including bus stops, signage, transit hubs, and others.

See Map 2.13 for the proposed transitway network, and Map 2.14 for the Primary Transit Network.

# **Existing and Planned Facilities**

Minneapolis has three designated transit hubs in Uptown, downtown, and the University of Minnesota (see Map 2.11).

### Transit Passenger Facilities

Transit passenger facilities are essential to providing convenient and attractive transit service. They range from the most basic (a bus stop with sign) to large and complex (a multi-route transit center). The city has five transit terminals in the downtown area. They are located in conjunction with peripheral parking garages in the Third Avenue Distributor, the Leamington Garage, and the Gateway Garage. Two additional transit centers are located in South Minneapolis: the Uptown Transit Center and the Chicago Lake Transit Center. Additionally, the city has several online shelters with passenger information, and numerous enclosed custom shelters, particularly in downtown. The City is currently working with regional partners to implement enhanced transit facilities and operations for regional express buses on 2nd and Marquette Avenues in Downtown.

### Park and Ride

The city has one officially designated park and ride facility, at the Lake St/Midtown LRT station. The Park and Ride Facility Site Location Plan identifies a need for an additional 11,000 park and ride spaces to serve travelers to downtown Minneapolis by 2030. However, the plan also notes that new park and ride facilities are most appropriate in lower density areas that are not fully served by transit, but are on a major transit corridor. Since virtually all of Minneapolis is moderate to higher density and is well-served by transit, no additional park and ride facilities are planned within the city.

### **Transit Support Facilities**

The regional transit system must have sufficient facilities to support efficient and cost-effective transit services. These support facilities include garages and bus maintenance facilities, bus layover facilities at the route terminal point, and dispatching and control centers. Special bus-related road features, often referred to as "transit advantages," will also be required to maintain transit travel times which are competitive with the automobile.



Minneapolis does have several "transit advantages" in the form of HOV lanes, bus shoulder lanes, left turn lanes for buses, diamond lanes, transitways, transit hubs, park and ride lots, and meter bypasses (see Map 2.12).

In Downtown Minneapolis, priority bus lanes are currently provided on Nicollet Mall, 2<sup>nd</sup> Avenue S, Marquette Avenue, and 4<sup>th</sup> Street South. The City is currently working with regional partners to implement double-width transit lanes on 2nd and Marquette Avenues in downtown to more efficiently accommodate regional express buses in downtown and to reduce bus congestion on Nicollet Mall.

A transitway connects the St. Paul and main campuses of the University of Minnesota. This bus facility provides very speedy, convenient service between the two campuses. It also keeps intercampus buses off heavily traveled University Avenue and Como Ave. The busway provides additional capacity for automobiles and trucks on University Ave. and reduces the disruption of residential properties fronting on Como.

The only HOV lanes are located on I-394. These reversible lanes provide uncongested movement for buses and carpools in I-394.

Meter bypasses also provide preferred access to I-94 and I-35W for buses and carpools. Map 2.12 shows the location of the meter bypasses and the other transit advantages.

Portions of I-35W, I-94, and TH 62 feature authorized bus shoulder lanes that allow buses to bypass congestion when speeds drop below 35 miles per hour.

# **Managing Freight**

Ensuring safe and efficient freight movement means providing adequate transportation infrastructure as well as coordinating land use policy with transportation planning. One strategy for achieving the latter is to concentrate land uses requiring freight infrastructure in a limited number of geographic locations, thereby reducing the number of freight-related trips and consolidating freight traffic on fewer transportation corridors. The Metropolitan Council supports this approach in its 2030 Transportation Policy Plan, and the City of Minneapolis will continue its efforts to encourage industrial users to locate in the Employment Districts outlined in the Land Use chapter of this document.

While consolidation will improve efficiency and reduce negative impacts of freight movement, demand for freight infrastructure will continue throughout the city. Railroads will continue to bisect residential areas, and trucks will deliver goods to scattered neighborhood destinations. The City of Minneapolis has designated a system of truck routes that direct truck traffic to a limited number of streets with appropriate weight limits. This practice reduces the impact of truck noise on residential areas and helps maintain pavement condition on streets not designed for



### trucks.

Further reducing the impact of freight infrastructure on surrounding land uses is the Federal Railroad Administration Quiet Zone law, which allows the cessation of train whistles at railroad crossings where a series of safety improvements have been made. The City of Minneapolis will continue to invest in such safety improvements where the opportunities for reducing negative impacts on residential neighborhoods are greatest.

In a limited number of cases, freight infrastructure that has served the city well in the past will no longer be viable as national trends (increased reliance on trucks), and local evolution of land uses (more emphasis on housing) begin to take hold. For example, the city-owned Upper Harbor Terminal continues to lose money and serves very few users. The Above the Falls Master Plan calls for the Upper Harbor Terminal to close as part of a long-range vision for a new mixed-use neighborhood along the Upper Mississippi. The analysis that led to the adoption of this policy indicates that trucks could absorb the freight currently carried by barge traffic with negligible impact on local and regional roadways. Another example is the Hiawatha corridor, where land use policy calls for the replacement of some industrial uses with housing near light-rail transit stations. Over time, the railroad spur that serves these uses will no longer be needed.

### MINNESOTA DEPARTMENT OF TRANSPORTATION

Program Support Group Technical Memorandum No. 02-10-IM-01 March 20, 2002

**To:** Distributions

From: Richard Stehr

Director, Program Support Group

**Assistant Commissioner** 

**Subject:** Access Management Policy: Highway Access Category System and

**Spacing Guidelines** 

### Expiration

This Technical Memorandum shall continue in force indefinitely, unless superseded or suspended.

# **Applicability**

These guidelines are adopted as policy for the Trunk Highway System Only. Their application to local streets and highways, including the municipal and county state aid systems, shall be at the discretion of the local road authority.

### **Implementation**

This policy shall be effective on July 1, 2002.

### Introduction

Access Management is the planning, design, and implementation of land use and transportation strategies that control the flow of traffic between the road and surrounding land. Appropriate spacing and design of public street intersections and private access to the Trunk Highway System is necessary to ensure the safety and mobility of the State Trunk Highway System while accommodating the access and accessibility needs of local communities.

### **Purpose**

This policy sets forth Mn/DOT guidance for access management of the trunk highway system through adoption of the Highway Access Category System and Spacing Guidelines contained in Appendix A of this Technical Memorandum. Appendix A is intended to become a primary chapter of a future Mn/DOT Access Management Manual.

Mn/DOT personnel and consultants will reference these guidelines during the development of corridor plans, highway development, safety improvement projects, local development reviews (e.g., comprehensive plans, plats, and site plans), and access permit reviews.

Technical Memorandum: 02-10-IM-01 Highway Access Category System and Spacing Guidelines March 20, 2002 Page 2

Adoption of these guidelines is intended to streamline decision-making while promoting statewide consistency and best practice in the planning, design, and regulation of access to the Trunk Highway System.

The Department recognizes that full implementation of these guidelines will require the close coordination and cooperation of local units of government exercising local road and land use authority. To promote this, Mn/DOT will share these guidelines with counties, cities, and townships encouraging their application to local land use and roadway decisions affecting the Trunk Highway System. Local governments are also encourage to use these guidelines as a reference in developing local access management policies and guidelines for the roadways under their management authority.

Questions regarding the content or implementation of this Technical Memorandum should be addressed to Peggy Reichert, Director of Land Use and Access Management, Office of Investment Management (651) 284-0501.

Questions regarding the publication or distribution of this Technical Memorandum should be referred to Mohammad Dehdashti, Design Standards Engineer at (651) 296-3023 or Jennifer Abernathy, Design Services Administrative Assistant at (651) 296-2381.

Attachment: Appendix A



# Appendix A: Access Category System And Spacing Guidelines

Minnesota Department of Transportation

Office of Investment Management

March 20, 2002

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# I. Introduction

Access Management is the planning, design, and implementation of land use and transportation strategies that control the flow of traffic between the road and surrounding land. Appropriate spacing and design of public street intersections and private access to the trunk highway system is necessary to ensure the safety and mobility of the statewide traveling public while accommodating the access and accessibility needs of local communities.

# A. Purpose

This Appendix supplements the basic policy guidance for access management of the trunk highway system established in Technical Memorandum 02-10-IM-01adopted March 20, 2002. It defines a system of access categories for the state trunk highways with associated guidelines for the spacing and design of public and private access.

The need for a common set of access guidelines applicable to all types of roads in all jurisdictions throughout Minnesota was a primary finding of the Department's 1997-99 Access Management Initiative. Mn/DOT published a preliminary set of guidelines in 1999 with the understanding that they would be further tested and refined in collaboration with our local partners before adoption as Department policy.

This version of the Category System and Spacing Guidelines is the result of that further testing and consultation with planners and engineers at both the state and local level. An intergovernmental technical committee of transportation engineers, planners, and policy analysts met periodically for almost two years to consider modifications and refinements to the preliminary system. Proposed revisions were also tested and reviewed internally by Mn/DOT Districts, Divisions, functional groups, and senior management. In addition, planners and engineers from a variety of cities and counties, as well as their statewide professional associations, identified issues and concerns.

# B. Applicability

The guidelines set forth in this Appendix shall apply as policy to the State Trunk Highway System. Their application to local streets and highways, including the municipal and county state aid systems, shall be at the discretion of the local road authority.

The Department recognizes that full implementation of these guidelines will require the close coordination and cooperation of local units of government exercising local road and land use authority. To promote this, Mn/DOT will encourage cities, counties, and townships to consider the guidelines when making land use and roadway decisions that will affect the trunk highway system. Mn/DOT will also encourage local governments to use these guidelines as a reference in developing local access management policies and regulations for their local roadways.

# Impact on Access Rights of Abutting Property Owners

Except in cases where access rights have been acquired, nothing in these guidelines is intended to deny the property owner the right to reasonably convenient and suitable access to the trunk highway system. However, the access rights of a property owner are subject to regulation for the public health, safety, and welfare, including the public's rights and interests in a safe, efficient highway. The right of an owner of property to access a state highway or to a particular means of access may be restricted if reasonable, alternative access is available or can be obtained from the general public street system.

# Impact on Existing Access

All legally authorized public and private access to the trunk highway system that existed prior to the adoption of these guidelines, but does not fully comply with the recommended spacing or allowance of access for the applicable access category, shall be considered "grandfathered" and will be allowed to remain in use until such time as:

- a.) There is a change in use requiring approval of a new access permit as set forth in Minnesota Rules 8810.5200, or
- b.) Mn/DOT or the local unit of government initiates an improvement to the trunk highway or supporting road network that may involve changes in access.

In reviewing a permit for change of use or designing a highway and/or supporting roadway improvement plan, Mn/DOT will strive to promote conformance with the recommended access spacing and allowance applicable to that roadway's assigned access category while continuing to respect the property owner's right to reasonably convenient and suitable access.

# Impact on Mn/DOT Planning, Project Development, Local Development Review and Access Permit Activities

Mn/DOT personnel and consultants should consult these guidelines in all transportation planning, design, and management activities involving access issues. Some common applications will include:

- Long range corridor plans
- Project development
- Local development reviews (local comprehensive plans, subdivisions and plats, site plans)
- Access permit reviews

More detailed information on the application of the access guidelines to these activities will be provided in future technical memorandums or chapters of the Access Management Manual. However, the planner or designer should consider the following general concepts:

- Successful implementation of these guidelines requires the development of an adequate supporting road network. Therefore, the most effective time to apply the guidelines will be in long-range corridor and community planning and development review.
- These are guidelines and not design standards. Many existing conditions, both natural and man-made, may make strict conformance with recommended access spacing and allowance infeasible. The guidelines provide alternative approaches to consider in these situations.
- Designers should apply the guidelines during the project development process.
  However, strict conformance is not required. Funding availability and the
  benefit-cost of access design alternatives will need to be considered in
  determining the appropriate access management strategy.
- In retrofit situations, coordinating the timing of access modifications with land redevelopment activities may be the most cost-effective approach and least disruptive to the community. Retrofit plans may identify a series of incremental projects to be carried out as redevelopment opportunities arise. State-local cooperative agreement projects may be effective in addressing these opportunities.
- Application of the guidelines to the access permitting process will continue to be problematic in areas without an adequately developed supporting road network. Access permit regulation must continue to respect the right of abutting property owners to reasonably convenient and suitable access. In the absence of collectors, local streets, and parallel arterials, an isolated arterial roadway must assume collector and local functions; no alternatives exist for access to adjacent property and the development that might occur. The guidelines reflect an acceptance of this condition in areas anticipated to remain rural over the long term and set forth considerations for safe location and design of the access. In urbanizing areas, however, the guidelines stress the need to provide access from the local supporting road network.

This version of the Access Category System and Spacing Guidelines, while representing the Department's policy and recommended best practice in access management, is still considered a work in progress. Its application to system planning, design, and permitting will continue to be evaluated over the next 18-24 months, likely resulting in further modifications and improvements.

# C. Approach

The Access Category System and Spacing Guidelines are based on a series of policies, principles and technical considerations related to the goals of safety, mobility, and statewide economic growth. The key concepts underlying the guidelines include the following.

# **Roadway Functional Class**

The Access Category System is based on the concept of roadway function, or the degree to which through traffic movement is given priority over land access. Roadway functional class (arterial, collector, local) is the conventional method used to describe traffic function and provides the basis for network planning by establishing a hierarchy of streets.

# **Interregional Corridors**

In addition to functional class, the Category System recognizes the strategic importance of certain highways in the statewide network as Interregional or Regional Corridors. The Interregional Corridor (IRC) system is a network of major highways that link the state's Primary Trade Centers to one another and to the Twin Cities Metropolitan Area. The system is comprised primarily of a subset of the highways functionally classed as Principal Arterials. Three new classes of roadways: High Priority Interregional Corridors, Medium Priority Interregional Corridors and High Priority Regional Corridors have been established. Performance standards have been established for these roads in terms of average peak hour corridor travel speeds (1).

# **Community Context**

The Access Category System is further delineated based on the existing and planned nature of development surrounding the corridor. This further delineation recognizes that different approaches to balancing access and mobility will be needed in different community contexts.

# **Consistency in Category Assignments**

The guidelines include criteria and procedures for the consistent assignment of access categories and subcategories to the State Trunk Highway System. The process will involve consultation between Mn/DOT Districts/Metro Division, the affected local units of government, metropolitan planning organizations, and regional development commissions.

### **Network Connectivity**

To promote the development of a hierarchical network of interconnected roads throughout the state, the guidelines use a tiered approach to access connections. On higher order highways, access is limited and reserved first for primary, full movement intersections connecting major public streets and highways. The guidelines provide for additional secondary public street intersections at one-half the spacing of full movement intersections under certain conditions. Private driveway access is generally discouraged and provided only where alternate access to a local street is not available.

# **Mobility on Interregional Corridors**

With the development of the Interregional Corridor System, performance measures in terms of average peak hour corridor speeds have been established for roads of statewide and regional importance. To achieve and maintain these performance measures, the guidelines discourage signal proliferation and recommend 800 m to 1600 m (½ mile to 1 mile) intersection spacing depending on the access subcategory and traffic conditions (1).

# Mobility on Urban Arterials through Coordinated Signal Progression

To maintain mobility on arterials within Subcategory B, urban/urbanizing areas, the recommended spacing of primary, full movement intersections is directly related to the spacing of signals and the need to achieve signal progression. This is because every full movement intersection represents the potential for a traffic signal. When signalized intersections are uniformly and adequately spaced, however, platoons of vehicles can travel in both directions through the corridor at uniform speeds without needing to stop for each signal. This reduces delays for through movements and increases the carrying capacity of the roadway (2,3).

# **Balancing Access and Mobility in Urbanizing Areas**

In addition to promoting mobility on highways and arterials through signal progression, the guidelines also recognize the need to accommodate greater travel demands within urban/urbanizing areas. State highways and major arterials extending through urban communities serve two customers with somewhat competing needs: the through trip driver who desires to travel through the community without undue speed reductions and signal delays, and the local trip driver who needs to cross or travel on a segment of the highway to get to home, work, and services within the community. To determine the optimal balance between these competing demands, corridor simulations were conducted to compare the mobility benefits of signal progression on the mainline with overall network travel time and delays at 1600 m, 800 m and 400 m (1 mile, ½ mile and ¼ mile) intersection spacing (4).

The guidelines also make allowance for additional unsignalized intersections at one-half the spacing of signalized intersections, but restrict turning movements to right-in/right-out only on higher volume, divided roadways. This denser network of intersecting streets may disperse traffic among multiple access points and actually eliminate or delay the need for signalization at a single intersection. The additional street access also potentially reduces the need for individual private driveways by providing a denser supporting road network for the corridor.

# Variation in Type and Volume of Access

In the initial 1999 version of the Department's access guidelines, every "connection" to the highway was treated equally, regardless of its access purpose or the volume of traffic utilizing the access. While crash rates generally increase as the number of access points along a roadway increase, the absolute number of crashes also increases as the traffic volume of the access point increases. To address the different types of safety and design concerns associated with different types of access, the guidelines divide private access into three types based on traffic volume and type of land use served. Public streets are divided into two categories based on average annual traffic volumes.

# Variation in Rural Highway Traffic Volumes

The guidelines also address unique access issues on rural highways where traffic volumes may be low but roadway speeds are high and the supporting local road network will remain sparsely developed. Regardless of their functional classification as principal arterials or interregional corridors, these roadways are necessarily forced to serve the dual function of mobility and access. To determine where an additional intervening intersection or low volume private entrance may be reasonably accommodated in rural areas, a method for assessing conflict risk potential has been developed (4).

# **Provision for Exceptions and Deviations**

In the long run, responsible network planning and development is the key to successful implementation of the access management guidelines. However, in the short run, the absence of an adequate supporting road network will make strict application of the guidelines to existing roadways difficult. The access rights of abutting property owners, coupled with land development that precedes full development of supporting roadways, will inevitably create a need for flexibility in guideline application.

To accommodate this need for flexibility while still promoting statewide consistency, guidelines are provided for considering Exceptions and Deviations during access permit review. The Exception process, intended for low volume accesses on lower category roadways, involves a simple expansion of the typical permit review process. The Deviation process, applicable to higher intensity access on higher category roadways, is intended as a collaborative problem-solving approach involving Mn/DOT, the property owner/developer, and the local government authorities. The process involves more review and analysis and may require special studies to evaluate alternative approaches to providing the requested access. Differentiating between Exceptions and Deviations upfront is also intended to streamline the process, promote statewide consistency in permit reviews, and focus limited Mn/DOT and local partner resources on the higher priority access permit issues.

# II. Access Category System

The Access Category System includes seven primary categories and five subcategories. The primary categories are based on the functional classification of the roadway and its strategic importance within the statewide highway system. The subcategories are used to address specific facility types and differing land use patterns that surround the primary roadway.

Figure 1 provides a summary matrix of the access categories and subcategories, along with the functional class and statewide strategic importance normally associated with each. Typical posted speed is also provided to describe the range of posted speeds that may be encountered in a subcategory. These speed ranges are meant purely as descriptors and are not speed standards or guidelines for a given category.

Figure 1 – Summary of Access Categories

Category	Area Type	Functional Classification	Statewide Strategic Importance	Typical Posted Speed		
1	туре	1 Osted Opeed				
		90 – 110 km/h				
1F	All Areas	Interstate Highways	High Priority Interregional Corridor	(55 – 75 mph)		
44.5	A II . A =====		High Priority Interregional	90 – 110 km/h		
1A-F	All Areas	Principal Arterials	Corridor	(55 – 65 mph)		
1A	All Areas	Principal Arterials	High Priority Interregional Corridor	90 – 110 km/h ( <b>55 – 65 mph</b> )		
2		<b>Medium Priority Inte</b>	erregional Corridors			
2A-F	All Areas	Principal Arterials	Medium Priority Interregional Corridor	90 – 110 km/h ( <b>55 – 65 mph</b> )		
2A	Rural/Exurban/ Bypass	Principal Arterials	Medium Priority Interregional Corridor	90 – 110 km/h ( <b>55 – 65 mph</b> )		
2B	Urban/Urbanizing	Principal Arterials	Medium Priority Interregional Corridor	60 – 90 km/h ( <b>40 – 55 mph</b> )		
2C	Urban Core	Principal Arterials	Medium Priority Interregional Corridor	50 – 60 km/h ( <b>30 – 40 mph</b> )		
3		High Priority Re	gional Corridors			
3A-F	All Areas	Principal Arterials	High Priority Regional Corridor	90 – 110 km/h ( <b>55 – 65 mph</b> )		
3A	Rural/Exurban/ Bypass	Principal/Minor Arterials	High Priority Regional Corridor	70 – 110 km/h ( <b>45 – 65 mph</b> )		
3B	Urban/Urbanizing	Principal /Minor Arterials	High Priority Regional Corridor	60 – 70 km/h ( <b>40 – 45 mph</b> )		
3C	Urban Core	Principal/Minor Arterials	High Priority Regional Corridor	50 – 60 km/h ( <b>30 – 40 mph</b> )		
4	D		Primary Trade Centers	(30 – 40 mpm)		
			_	90 – 110 km/h		
4A-F	All Areas	Principal Arterials	Metro/Major Urban	(55 – 65 mph)		
4A	Rural/Exurban/ Bypass	Principal Arterials	Metro/Major Urban	70 – 90 km/h ( <b>45 – 55 mph</b> )		
4B	Urban/Urbanizing	Principal Arterials	Metro/Major Urban	60 – 70 km/h <b>(40 – 45 mph</b> )		
4C	Urban Core	Principal Arterials	Metro/Major Urban	50 – 60 km/h ( <b>30 – 40 mph</b> )		
5		Minor A	rterials			
5A	Rural/Exurban/ Bypass	Minor Arterials		70 – 90 km/h ( <b>45 – 55 mph</b> )		
5B	Urban/Urbanizing	Minor Arterials		60 – 70 km/h <b>(40 – 45 mph</b> )		
5C	Urban Core	Minor Arterials		50 – 60 km/h ( <b>30 – 40 mph</b> )		
6	Collectors					
6A	Rural/Exurban/ Bypass	Collectors		70 – 90 km/h ( <b>45 – 55 mph</b> )		
6B	Urban/Urbanizing	Collectors		60 – 70 km/h <b>(40 – 45 mph</b> )		
6C	Urban Core	Collectors		50 – 60 km/h ( <b>30 – 40 mph</b> )		
7	Special Access Plan					
7	All	All	All	All		

Notes

# A. Primary Category Descriptions

# Category 1 – High Priority Interregional Corridors

Access Category 1 is intended for High Priority Interregional Corridors that connect Primary Trade Centers with the Twin Cities Metropolitan Area. According to the Interregional Corridor system plan, these roadways are key corridors providing interstate and intrastate travel. Performance measures for High Priority Interregional Corridors have been established and are based on an average peak hour corridor travel speed of 100 km/h (60 mph) or more. Access management along these corridors strongly emphasizes mobility. The functional class of these roadways is either Interstate or Principal Arterial.

# Category 2 – Medium Priority Interregional Corridors

Access Category 2 is intended for Medium Priority Interregional Corridors that connect Secondary Trade Centers to Primary Centers. According to the Interregional Corridor System plan, these roadways are corridors of significant importance, providing interstate and intrastate travel. Performance measures for Medium Priority Interregional Corridors have been established and are based on average peak hour corridor travel speeds of 90 km/h (55 mph) or more. Access management along these corridors strongly emphasizes mobility. The functional class of roadways within this access category is Principal Arterial.

# Category 3 – High Priority Regional Corridors

Access Category 3 is intended for Regional Corridors that connect the smaller trade centers to the rest of the state. The primary function of these roadways is to provide mobility between smaller communities within the state, though in some cases where a supporting road network or a hierarchical grid pattern has not been established, these roadways will also provide access to adjacent properties. Regional Corridors are expected to operate at an average peak hour speed of 80 km/h (50 mph) or more. The functional classification of these roadways may be either Principal Arterial or Minor Arterial.

# Category 4 – Principal Arterials in Primary Trade Centers

Access Category 4 is intended primarily for roadways designated as Principal Arterials within the Twin Cities Metro Area and Primary Regional Trade Centers. These roadways are intended to provide the mobility element of a larger roadway network. Lower category roadways feed into these roadways. Within the Twin Cities Metropolitan Area, an average corridor travel speed of 65 km/h (40 mph) is the desired performance target. These roadways range from fully grade-separated facilities to two-lane urban streets.

### **Category 5 – Minor Arterials**

Access Category 5 is intended primarily for roadways designated as Minor Arterials. These roadway segments can serve both as mobility corridors and as the primary road for accessibility. There is great variability among the roadways in Minnesota that are functionally classified as Minor Arterials. In fully developed urban cores and central business districts, they tend to carry high volumes of traffic and provide a high degree of access as well. As a result, posted speeds may be in the range of 50-55 km/h (30-35 mph), with much lower peak hour operating speeds due to congestion. In urban/urbanizing areas, Minor Arterials carry longer 5 to 8 km (3 to 5 mile) sub-regional trips with typical

posted speeds ranging from 65-90 km/h (**40-55 mph**). In these settings, access needs to be more carefully managed. In rural areas with much less dense development and no supporting road network, Minor Arterials may be required to accommodate higher travel speeds while also providing direct access to adjacent properties.

# Category 6 – Collector

Access Category 6 is intended primarily for roadways designated as Collectors. Their primary function is to provide access to the adjacent land by serving as a connection between the local street network and the arterial roadways. Like Minor Arterials in rural areas, Collectors may be required to accommodate both higher speed travel and direct property access.

# Category 7 – Specific Access Management Plans

This category is intended to address roadway segments where a specific access management plan has been developed. The specific plan approach may provide a long-term retrofit strategy in areas where existing developments do not meet recommended access spacing and allowance and will likely prevent future development from fully conforming to access guidelines. The specific access plan should identify all existing and proposed points of access, traffic signals, and roadway design elements. The plan should also address existing and proposed land use and the supporting road network. The specific access management plan should specify existing non-conforming access points and the conditions under which such access shall be brought into compliance with the plan. Category 7 Plans must be officially endorsed by Mn/DOT and the local land use and road authorities.

# **B.** Access Subcategories

For each access category type discussed above, a range of subcategories is provided to address differing land use conditions along each roadway segment. With the understanding that a roadway may change character as it passes through or around a community, these subcategories were developed to recognize general land-use patterns adjacent to the roadway and the intended purpose of the roadway.

### Subcategory F – Freeway

This subcategory is intended for roadway segments designated as Interstate Highways. This access designation is independent of the surrounding land use. No private access is permitted and public access will be permitted only at grade-separated interchanges.

# **Subcategory A-F – Full Grade Separation**

This subcategory is intended for those roadway segments planned or designed to be fully grade separated. This access designation is independent of the surrounding land use. No private access is permitted and public access will be restricted to interchanges only. This subcategory will typically be associated with a segment of a four lane divided expressway as it passes through or around an urban center.

# Subcategory A – Rural/Exurban/Bypass Areas

This subcategory is intended for road segments extending through agricultural or forested areas with limited development. It will also be assigned to areas planned as long term low-density exurban areas characterized by scattered large lot residential development and limited commercial and industrial land use. This sub-category is also intended for roadway segments that have been designed and constructed as high-speed urban bypasses. Roadways in this sub-category will generally be expected to operate at higher speeds, typically 80 km/h (50 mph) or more.

# Subcategory B – Urban/Urbanizing Areas

This subcategory is intended for areas outside of urban cores that are either urbanized or planned for urbanization with a full range of urban services, especially a local supporting street network. This subcategory will generally apply to areas within municipal boundaries. In cases where this subcategory is applied to areas experiencing or anticipating urban development outside municipal boundaries, Mn/DOT will expect the local land use authority ---township or county--- to manage development and ensure property access is available through the local road network. In assigning Urban/Urbanizing designations to trunk highways, Mn/DOT will consider the adopted plans, development regulations, and local street extension plans and policies of the local community. This subcategory is not intended to be assigned to short roadway segments serving individual, isolated developments. Roadways in this sub-category will generally be expected to operate at a somewhat reduced speed compared to the overall corridor.

# Subcategory C - Urban Core

In general, this designation is intended only for roadways extending through fully developed town centers and central business districts, characterized by short blocks and a grid system of intersecting streets. Individual lots will typically be small, 0.10 ha (1/4 acre) or less, with little or no on-site parking. Buildings will usually be situated close to the street. Sidewalks and on-street parking are common. In some larger urban areas, the major thoroughfare through the urban core no longer serves as the primary mobility corridor but has been supplemented by the construction of additional highways, arterials, and/or bypasses. Jurisdiction of the older roadway may have been transferred from Mn/DOT to the city or county. In some smaller communities or regional centers, however, additional roadways and by-passes will not be present due to the lack of overall travel demand or environmental constraints, and the major thoroughfare must accommodate both local and through trips. In this case, lower speeds on the highway through the urban core can be expected.

If a community desires to promote a new pedestrian-oriented urban core, such an area should be designed and oriented to attain access to the larger roadway network via lower category roads, such as Collectors and, perhaps, some Minor Arterials. Therefore, in general, new or expanded urban core area subcategory will only be assigned to roadways within Access Category 5 and 6.

# III. Access Category Assignment Process

The access category assignment process will involve a two-phase process. In Phase 1, Mn/DOT will make preliminary assignments based on the category definitions outlined previously in Section II and the process outlined below. Preliminary category assignments will be completed in mid 2002 and adopted on an interim basis for use with the access spacing guidelines. Phase 2 will involve review and consultation with the affected local units of government to determine any further adjustments in category assignments to reflect local growth plans. This local consultation process should be completed by the end of 2002.

# A. Phase I: Preliminary Assignments

In Phase 1, Mn/DOT will adopt a set of preliminary assignments. The Office of Investment Management will make the initial assignments based on the category definitions described in Section II of these Guidelines and the criteria outlined below. Districts and the Metro Division will then be asked to review and recommend further adjustments. To promote statewide consistency in approach, preliminary assignments will be reviewed and approved by the Directors of Program Support, District Operations, and the Metropolitan Division.

# **Primary Category Assignments**

The primary access category will be based on the functional class of the roadway and its strategic importance within the statewide system. Category assignments should reflect the future or long-term function of the roadway over a 20-year planning horizon, rather than the existing condition of the roadway. Existing access conditions along the roadway need not conform to the recommended spacing or allowance for that roadway category.

Within growing urban areas, a roadway may be assigned to a higher access category than its current functional classification would suggest because of its potential future function within the larger network of roadways. For example, a roadway currently classified as a Minor Arterial may be identified as a future Principal Arterial in the long range District, Metropolitan, or Regional Transportation Plan.

In very low-density rural areas where urbanization is not anticipated, a roadway may need to serve a greater access function than normally associated with its functional classification. In these cases, a roadway classified functionally as a Minor Arterial may be assigned, for access management purposes, to the lower Access Category typically associated with a Collector road.

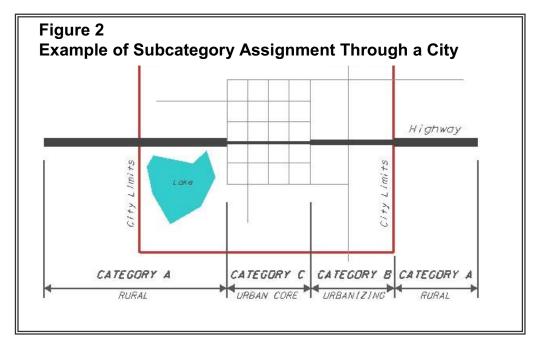
Decisions to assign a roadway to a higher or lower access category should be based on Mn/DOT's Statewide Transportation Plan, Mn/DOT District Plans, and the Metropolitan Divisions' Transportation System Plan, as well as applicable Metropolitan or Regional Growth Plans. Special care should be given to maintaining consistency in category assignments across District boundaries.

# **Subcategory Assignments**

Subcategory assignments will reflect consideration of facility type, existing and planned municipal boundaries, and exiting and planned urbanization.

In assigning subcategories, the first consideration will be type of facility. If the roadway segment is part of the interstate freeway system, it will be assigned Subcategory F. If the roadway segment is fully grade separated, or planned to be fully grade separated based on a long-range corridor plan, that segment will be assigned to Subcategory A-F. Roadway segments identified as a High Priority Interregional Corridor (Access Category 1) but not planned for full grade separation will be assigned to Subcategory A, Rural/Exurban/Bypass, regardless of the surrounding land use.

The next consideration will be the existing or planned land use surrounding the roadway segment. Within municipalities, roadways will generally be assigned to Subcategory B, Urban/Urbanizing, or Subcategory C, Urban Core, consistent with the definitions established in Section II.B, *Access Subcategories*. Existing development patterns and local growth plans will be reviewed to determine the appropriate subcategory delineation. In some geographically large municipalities, such as incorporated former townships, full urbanization within the next 20+ years may not be anticipated. Road segments extending through areas of municipalities planned to remain rural will be assigned to Subcategory A, Rural.



Roadway segments outside municipalities will generally be designated Rural (Subcategory A) unless the area is undergoing or planned for urban scale development. Special attention will be given to those transition areas on the fringe of growing municipalities where local zoning permits urban type development without corresponding requirements for streets and utilities. Since the recommended direct private access allowance in Rural Areas is more permissive than in Urban/Urbanizing areas, it will be important to categorize these fringe transition areas appropriately to maintain long-term safety and mobility goals on the corridor.

Within the Twin Cities Metropolitan Area, all land within the designated 2020 Metropolitan Urban Service Area, as well as the 2040 Urban Reserve, will be assigned to either the Urban/Urbanizing or Urban Core subcategory.

The Urban Core designation (Subcategory C) will generally apply to established town centers only. Within the Twin Cities Metropolitan Area, the Urban Core designation will generally apply to roadways within the Central Cities of Minneapolis and St. Paul, those first ring suburbs developed with a fine grain grid pattern of connecting streets, and older town centers in suburbs and freestanding growth centers.

If a community desires to promote a new pedestrian-oriented urban core, the new Core should be designed and oriented towards internal local streets, Collectors, and in some cases, Minor Arterials. Therefore, in general, a new or expanded urban core designation will only be assigned to roadways within Access Category 5 (Minor Arterials) and 6 (Collectors).

**Additional Guidelines** – The following additional criteria will be used in assigning access categories and subcategories.

- In most cases, all access category segments will begin at an intersection or access point. One exception may involve assigning Subcategory B, Urbanizing. In some cases, the termini will begin or end at the city limits.
- Interchanges will be considered a single access point for the purposes of determining the terminus of a roadway segment. If a roadway segment ends at an interchange, the terminus will be assigned to the centerline of the cross street intersecting the centerline of the major roadway.
- Interregional Corridors and Regional Corridors terminate at the I-694/I-494 beltway within the Twin Cities Metropolitan Area.
- The subcategory designation should not be changed for isolated anomalies (e.g., a small developed, but unincorporated area along one side of a Subcategory A, Rural, roadway or an isolated interchange along a signalized corridor).
- The subcategory designation should not be changed for roadway segments that are shorter than the recommended intersection spacing for the access category.
- The access category designation should reflect the desired access category for a roadway, not the existing conditions of the roadway.

# **B. Phase 2: Local Review and Consultation**

Once the preliminary assignments are completed, review and consultation with the affected local units of governments will begin. In some cases, this review may actually commence during the preliminary assignment process as Districts or the Metropolitan Division consult with their local partners on growth plans. Metropolitan and Regional Planning Agencies will also be consulted during this process.

It is anticipated that this consultation process may lead some local communities to identify a need for additional long range planning in order to define areas of future urbanization. In these cases, Mn/DOT, in consultation with the local unit of government, will assign access categories on an interim basis pending the outcome of future planning.

Following completion of the local review and consultation process, the category assignments for the trunk highways will be adopted. The Office of Investment Management will maintain an inventory of the category assignments for the trunk highway system.

# C. Amending Access Category Assignments

It is anticipated that amendments to the access category assignments may be warranted over time in response to the adoption of new comprehensive plans and municipal annexation agreements at the local level, the completion of Interregional Corridor Plans at the state level, or changes in road design or road authority at all levels.

For example, a municipality may adopt a new comprehensive plan with expanded urban growth boundaries. The plan may indicate the need to extend Subcategory B, Urbanizing, into a roadway segment previously assigned as Subcategory A, Rural. This amendment would be warranted provided it is consistent with the long range corridor plan adopted by Mn/DOT and the local government partners and the community has adopted clear plans, policies, and regulations to ensure that development in this growth area will be supported by adequate local roads.

IRC Management Plans may also identify the need to amend category assignments. Through the corridor planning process, access category assignments will be reviewed and either confirmed or amended. For example, a Corridor Management Plan may conclude that continued development supported by at-grade signalized intersections will no longer provide the desired level of mobility in the corridor. The plan may indicate that a segment of the roadway extending through a high growth community that is currently designated as an Access Category 2B roadway should be reconstructed as a fully grade separated segment. The access category would then be amended to Category 2A-F to guide future planning and development of the area.

Specific access management plans developed by Mn/DOT in partnership with the affected local governments may also lead to amendments in access category assignments. In many cases, a specific Category 7 plan and designation may be the outcome.

While amendments to the category assignments are to be expected, they should be the result of careful planning and consultation among all the corridor partners. Local units of government and regional or metropolitan planning organizations may also initiate modifications to the category assignments for state highways extending through their jurisdictions. Under no circumstances will a change in access category assignment be made solely to accommodate a specific access request or to allow the permitting of access connections that would otherwise be in conflict with these guidelines. All requests should include information pertaining to the criteria for access category assignments set forth above and an explanation for the requested change.

# IV. Access Types

Access types have been developed to differentiate among access connections based on the type of access connection, whether public or private, and the volume of traffic generated.

# A. Access Type Descriptions

The five access types are described below and summarized in Figure 3.

Figure 3
Summary of Access Types

Access Type	Land Use	Access Description		
1	Residential/ Agricultural/ Field Access	For access to Single Family Dwellings, Multifamily Dwellings of 3 or Fewer Dwelling Units, Agricultural Land and Field Entrances		
2	Low Volume Private Entrances	Small Commercial, Industrial, and Institutional Developments and Small Residential Complexes and Subdivisions (less than 100 trips per day)		
3	High Volume Private Entrances	Large Commercial, Industrial, and Institutional Developments, Shopping Centers, Industrial and Office Parks, Colleges and Large Residential Complexes and Subdivisions (100 trips per day or more)		
4	Low Volume Public Streets	New Public Streets and Roadways with a Projected 20-year Traffic Volume less than 2,500 AADT		
5	High Volume Public Streets	New Public Streets and Roadways with a Projected 20-year Traffic Volume greater than or equal to 2,500 AADT		

### Notes:

Trip – A trip is a one-way movement. Typically 100 trips per day would mean 50 vehicles entering an access and 50 vehicles exiting an access.

AADT - Average Annual Daily Traffic volume

# Access Type 1 – Residential, Agricultural and Field Entrances

Type 1 accesses are private driveways to single-family residences, multifamily residential dwellings of three dwelling units or less, and field or agricultural entrances. These entrances may serve either small lots or large tracts of agricultural land, but always generate low traffic volumes.

# Access Type 2 – Minor Private Entrances

Type 2 accesses are private entrances to small commercial, industrial, or institutional developments and small residential complexes and subdivisions. Developments served by Type 2 entrances generate less than 100 trips per day. These access points may be designed as driveways, entrances, or in some cases, private streets.

# Access Type 3 – Major Private Entrances

Type 3 accesses are private accesses to large commercial, industrial, or institutional developments and large residential complexes and subdivisions. Developments served by Type 3 entrances generate 100 trips per day or more. These access points may be designed as driveways, entrances, or private streets.

# Access Type 4 – Minor Public Roadways

Type 4 accesses are public streets with an estimated 20-year AADT of less than 2,500. These public streets are intended to be part of a larger street network and to serve multiple properties.

# Access Type 5 – Major Public Roadways

Type 5 accesses are public streets with an estimated 20-year AADT of more than 2,500. Accesses generating traffic volumes in this range may require signalization. These public streets are intended to be part of a larger street network and to serve multiple properties.

# **B.** Estimating Trip Generation

Estimates of daily one-way trips generated from development generally may be determined by using the Institute of Transportation Engineers' *Trip Generation Manual (5)*. Some examples of the trip generation typically associated with common land uses are provided in Figure 4. When the ITE *Trip Generation Manual* is available, it should be consulted to estimate daily trips.

In some cases, the *Trip Generation Manual (5)* does not reference the specific type of development in question or does not have sufficient studies to provide a valid estimate of daily trips. This is especially true for freestanding small businesses. In these cases, the daily trips generated by a business may be estimated by adding together the following:

- 1. The number of trips made by employees coming to work, going home, going to lunch, etc.
- 2. The number of trips made by customers, both coming and going
- 3. The number of deliveries, both inbound and outbound

Larger or more complex land uses may require a study to determine the daily trip generation rate. The study should include examples of similar development types and sizes.

Figure 4 –Trip Generation for Selected Land Uses

1111	ITE O . I. (a)	0.	Daily
Land Use	ITE Code (a)	Size	Trips
Single Family Home	210	1 dwelling unit	10
4 Unit Residential Subdivision	210	4 dwelling units	40
Apartment	220	1 dwelling unit	7
Small Service or Retail (Antique shop, snowmobile repair shop, florist, etc)		2 employees 4 deliveries	8 8
showmobile repair shop, honst, etc)		30 customers	<u>60</u>
Total			76
General Office Building	710	30 employees	100
Mini-Warehouse	151	100 Storage Units	30
Golf Course	430	18 holes 30 homes	675
Townhouses Total	230	30 nomes	<u>315</u> <b>990</b>
Motel	320	50 rooms	300
Junior/Senior High School	522 & 530	1,000 students	1,600
Small Supper Club (Low turnover, quality restaurant)	831	450 m2 ( <b>5000 sf</b> ) 160 seats	450
Chain Restaurant (Perkins, Applebees, etc.) (High turnover, under an hour)	832	450 m2 ( <b>5000 sf</b> ) 135 seats	650
Sub Shop/Fast Food (Subway, etc.)	833	90 m2 ( <b>1000 sf</b> )	600
Fast Food Restaurant with Drive-Through	834	270 m2 ( <b>3,000 sf</b> )	1,500
Gas Station or Gas Station Convenience	844/845	8 pumps	1,350
Video Rental	(Note b)	450 m2 ( <b>5000 sf</b> )	550
Bank with Drive-Through Window	912	270 m2 ( <b>3,000 sf</b> )	800
Office Building	715	4500 m2 ( <b>50,000 sf</b> ) 150 employees	550
Strip Mall with Retail, Restaurant & Small Offices	814	1800 m2 ( <b>20,000 sf</b> )	800
Supermarket	850	4500 m2 ( <b>50,000 sf</b> )	5,500
New Car Sales	841	2300 m2 ( <b>25,000 sf</b> )	950
Building Supply & Lumber Store	812	900 m2 ( <b>10,000 sf</b> )	400
Electronics Superstore	863	2700 m2 ( <b>30,000 sf</b> )	1,350
Target™ Store	(Note b)	11 700 m2 ( <b>126,000 sf</b> )	7,400
General Light Industrial	110	4 ha ( <b>10 acres</b> )	500
Industrial Park	130	4 ha ( <b>10 acres</b> )	625

# Notes:

- (a) ITE Code refers to the land use code from *Trip Generation*, Sixth Edition (5).
- (b) Trip Generation based on study for the City of Northfield by Yaggy/Colby

# V. Access Spacing Guidelines

For each access category, guidelines have been developed for the recommended spacing of public intersections, as well as private driveways and entrances. The recommended spacing by access category is summarized in Figure 5 and 5M. Additional guidelines for applying these recommendations to specific situations are provided below. In addition, guidelines have been developed for the recommended spacing and timing of traffic signals on the higher category roadways.

Figure 5 – Summary of Recommended Access Spacing and Allowance

		Typical	Intersection	on Spacing		Private Access	
Category	Area or Facility Type	Functional Class	Primary Full Movement Intersection	Conditional Secondary Intersection	Signal Spacing		
1	1 High Priority Interregional Corridors						
1F	Freeway		Interchange Access Only		0	0	
1A-F	Full Grade Separation	Principal Arterials	Interchange Access Only		0	0	
1A	Rural, ExUrban & By Pass		1 mile	1/2 mile	INTERIM ONLY By Deviation Only	By Deviation Only	
2	Medium	Priority In	terregional Corri	dors	-		
2A-F	Full Grade Separation		Interchange	Access Only	0	0	
2A	Rural, ExUrban & By Pass	Principal	1 mile	1/2 mile	STRONGLY DISCOURAGED By Deviation Only	By Exception or Deviation Only	
2B	Urban Urbanizing	Arterials	1/2 mile	1/4 mile	STRONGLY DISCOURAGED By Deviation Only	By Exception or Deviation Only	
2C	Urban Core		300-660 feet dependent upon block length		1/4 mile	Permitted Subject to Conditions	
3	High Pri	ority Regio	onal Corridors				
3A-F	Full Grade Separation		Interchange	Access Only	0	0	
ЗА	Rural, ExUrban & By Pass	Principal	1 mile	1/2 mile	1 mile	Permitted Subject to Conditions	
3B	Urban Urbanizing	and Minor Arterials	1/2 mile	1/4 mile	1/2 mile	By Exception or Deviation Only	
3C	Urban Core		300-660 feet dependent upon block length		1/4 mile	Permitted Subject to Conditions	
4	Principa	l Arterials	in Primary Trade	e Centers			
4A-F	Full Grade Separation		Interchange	Access Only	0	0	
4A	Rural, ExUrban & By Pass	Principal	1 mile	1/2 mile	1 mile	By Deviation Only	
4B	Úrban Urbanizing	Arterials	1/2 mile	1/4 mile	1/2 mile	By Exception or Deviation Only	
4C	Urban Core		· ·	endent upon block	1/4 mile	Permitted Subject to Conditions	
5	Minor Arterials						
5A	Rural, ExUrban & By Pass		1/2 mile	1/4 mile	1/2 mile	Permitted Subject to Conditions	
5B	Urban Urbanizing	Minor Arterials	1/4 mile	1/8 mile	1/4 mile	By Exception or Deviation Only	
5C	Urban Core	Arteriais		endent upon block	1/4 mile	Permitted Subject to Conditions	
6 Collectors length 174 Time Subject to Conditions							
6A	Rural, ExUrban &		1/2 mile	1/4 mile	1/2 mile		
6B	By Pass Urban	Collectors	1/8 mile	Not Applicable	1/4 mile	Permitted Subject to Conditions	
6C	Urbanizing Urban Core		300-660 feet dependent upon block		1/8 mile		
7	iengiri						
7	All	All	By Adop	ted Plan			
•			2,7.000				

Figure 5M – Summary of Recommended Access Spacing and Allowance

		Typical	Intersection	on Spacing		Private Access
Category	Area or Facility Type	Functional Class	Primary Full Movement Intersection	Conditional Secondary Intersection	Signal Spacing	
1	High Priority Interregional Corridors					
1F	Freeway		Interchange Access Only		0	0
1A-F	Full Grade Separation	Principal Arterials			0	0
1A	Rural, ExUrban & By Pass		1.6 km	800 m	INTERIM ONLY By Deviation Only	By Deviation Only
2	Medium	Priority In	terregional Corri	idors	-	
2A-F	Full Grade Separation		Interchange	Access Only	0	0
2A	Rural, ExUrban & By Pass	Principal	1.6 km	800 m	STRONGLY DISCOURAGED By Deviation Only	By Exception or Deviation Only
2B	Urban Urbanizing	Arterials	800 m	400 m	STRONGLY DISCOURAGED By Deviation Only	By Exception or Deviation Only
2C	Urban Core	]	90 m to 200 m dependent upon block length		400 m	Permitted Subject to Conditions
3	High Pri	ority Regio	onal Corridors			
3A-F	Full Grade Separation		Interchange	Access Only	0	0
ЗА	Rural, ExUrban & By Pass	Principal and Minor	1.6 km	800 m	1.6 km	Permitted Subject to Conditions
3B	Urban Urbanizing	Arterials	800 m	400 m	800 m	By Exception or Deviation Only
3C	Urban Core		90 m to 200 m dependent upon block length		400 m	Permitted Subject to Conditions
4	Principa	l Arterials	in Primary Trade	e Centers		
4A-F	Full Grade Separation		Interchange	Access Only	0	0
4A	Rural, ExUrban & By Pass	Principal	1.6 km	800 m	1.6 km	By Deviation Only
4B	Urban Urbanizing	Arterials	800 m	400 m	800 m	By Exception or Deviation Only
4C	Urban Core			pendent upon block	400 m	Permitted Subject to Conditions
5	Minor Arterials    Subject to Conditions					
5A	Rural, ExUrban & By Pass		800 m	400 m	800 m	Permitted Subject to Conditions
5B	Urban Urbanizing	Minor Arterials	400 m	200 m	400 m	By Exception or Deviation Only
5C	Urban Core	/ ii toriais		pendent upon block	400 m	Permitted
6	Collectors length Subject to Conditions					
6A	Rural, ExUrban &		800 m	400 m	800 m	
6B	By Pass Urban	Collectors	200 m	Not Applicable	400 m	Permitted
6C	Urbanizing Urban Core		90 m to 200 m de	pendent upon block	200 m	Subject to Conditions
7 Specific Access Plan						
7	All	All	By Adop	ted Plan		

# A. Public Intersection Spacing

# **General Guidelines for all Access Categories**

- The location of intersections should conform to the recommended spacing for the access category assigned to the roadway segment. All access requests for public intersections that do not conform to the recommended spacing will be approved only as an Exception or Deviation per Section VI of these guidelines.
- 2. The intersecting street should be planned as a public way connecting to the existing or planned extension of the local street network. Intersections serving short isolated public street networks or cul-de-sacs should only be provided if necessary to provide reasonable access to the highway system due to existing topographic constraints or historic development patterns.
- 3. All intersection locations should meet the minimum intersection sight distance requirements set forth in the Mn/DOT Road Design Manual (7), Section 5-2.02.
- 4. Intersection spacing should be measured from cross street centerline to cross street centerline along the primary highway. Minor variance, within 5% of the recommended spacing, should be considered to constitute conformance to the spacing guidelines if required to accommodate topographical constraints or connectivity to the established road network. Intersection spacing within 5% of the recommended distance should, in most cases, provide sufficient space to accommodate turn lanes, weaving maneuvers, and signal progression.
- 5. Breaks in existing access control to construct a new intersection consistent with these guidelines may be considered if necessary to provide reasonable access and network connectivity to the surrounding area. However, existing access control should not be interrupted on Category 1F, 1A-F, 2A-F, 3A-F, and 4A-F roadways.
- 6. Private entrances may be considered as public intersections if they are designed to serve a large development area encompassing multiple properties or buildings with a clearly defined system of internal private streets connected by cross access agreements and they do not negatively impact the accessibility of adjacent land areas by disrupting the connectivity of the local supporting street network.

# Category 1F (High Priority Interregional Corridors – Freeway)

1. At-grade intersections are not permitted. Category 1F roadways are interstate freeways. Access is provided by grade-separated interchanges only.

Category 1A-F (High Priority Interregional Corridors – Full Grade Separated)
Category 2A-F (Medium Priority Interregional Corridors – Full Grade Separated)
Category 3A-F (High Priority Regional Corridors – Full Grade Separated)
Category 4A-F (Principal Arterials in Primary Trade Centers – Full Grade Separated)

- 1. At-grade intersections should not be permitted. Access should be provided by grade-separated interchanges only. Interchange spacing should be based on an overall corridor management plan.
- 2. On existing roadway segments that are planned to transition to A-F over time, full movement at-grade intersections may be provided at 1.6 km (1 mile) spacing on an interim basis if a plan is established for eventual replacement by an interchange or closure and connection to the supporting road network.
- 3. On existing roadway segments that are planned to transition to A-F over time, additional right-in/right-out intersections may be provided 800 m (½ mile) from full movement intersections on an interim basis if there is a plan established for eventual closure and connection to the supporting road network.
- 4. The first full movement public street intersection on the mainline outside of the A-F segment should be spaced 1.6 km (1 mile) from the cross street of the last interchange. There should be no intervening access within this transition area.

Category 1A (High Priority Interregional Corridors – Rural, Exurban, Bypass)

Category 2A (Medium Priority Interregional Corridors – Rural, Exurban, Bypass)

Category 3A (High Priority Regional Corridors – Rural, Exurban, Bypass)

Category 4A (Principal Arterials in Primary Trade Centers – Rural, Exurban, Bypass)

- 1. Primary, full movement intersections should be spaced at 1.6 km (1 mile) intervals.
- 2. Intervening secondary intersections may be provided 800 m (½ mile) from primary full movement intersections if all of the following conditions are met:
  - a. On existing or planned two-lane undivided highways, an intervening intersection may be provided if the analysis of future traffic conditions, per Section *D., Gap Analysis Procedure,* indicates a low risk conflict condition can be maintained. If the analysis indicates a high risk conflict condition is anticipated, the intervening intersection should not be allowed.
  - b. On existing or planned divided highways, the intervening secondary intersection may provide full movement if the analysis of future traffic conditions per Section *D., Gap Analysis Procedure*, indicates a low risk conflict condition can be maintained. A full movement, intervening secondary intersection will be subject to future conversion to a right-in/right-out or ¾ movement (right-in/right-out/left-in only) intersection if increased traffic growth creates a high risk conflict potential.

If the analysis indicates that a full movement intersection would create a high risk conflict condition, further analysis per Section *D., Gap Analysis Procedure*, should be conducted to determine if restricting the intersection to right-in/right-out only would maintain a low risk conflict condition. If the analysis indicates that a high risk conflict condition would still be created, the intervening intersection should not be allowed, or it should be restricted to a right-in only if practical given the supporting road network.

# Category 5A (Minor Arterials – Rural, Exurban, Bypass) Category 6A (Collectors – Rural, Exurban, Bypass)

- 1. Primary full movement intersections should be spaced at 800 m (½ mile) intervals.
- 2. Intervening secondary intersections may be provided 400 m (¼ mile) from primary full movement intersections if all of the following conditions are met:
  - a. On existing or planned two-lane undivided highways, an intervening intersection may be provided if the analysis of future traffic conditions, per Section *D., Gap Analysis Procedure,* indicates a low risk conflict condition can be maintained. If the analysis indicates a high risk conflict condition is anticipated, the intervening intersection should not be allowed.
  - b. On existing or planned divided highways, the intervening secondary intersection may provide full movement if the analysis of future traffic conditions, per Section *D., Gap Analysis Procedure,* indicates a low risk conflict condition can be maintained. A full movement, intervening secondary intersection will be subject to future conversion to a right-in/right-out or ¾ movement (right-in/right-out/left-in only) intersection if increased traffic growth creates a high risk conflict potential.

If the analysis indicates that a full movement intersection would create a high risk conflict condition, further analysis per Section *D., Gap Analysis Procedure,* should be conducted to determine if restricting the intersection to right-in/right-out only would maintain a low risk conflict condition. If the analysis indicates that a high risk conflict condition would still be created, the intervening intersection should not be allowed, or restricted to a right-in only if practical given the supporting road network.

Category 2B (Medium Priority Interregional Corridors – Urban, Urbanizing)
Category 3B (High Priority Regional Corridors – Urban, Urbanizing)
Category 4B (Principal Arterials in Primary Trade Centers – Urban, Urbanizing)

- 1. Primary full movement intersections should be spaced at 800 m (½ mile) intervals.
- 2. Intervening secondary intersections may be provided 400 m (¼ mile) from primary, full movement intersections under the following conditions:
  - a. On existing or planned two-lane undivided highways, an intervening intersection may be provided if the analysis of future traffic conditions, per Section *D., Gap Analysis Procedure,* indicates a low risk conflict condition can be maintained. If the analysis indicates a high risk conflict condition is anticipated, the intervening intersection should not be provided.

Note: The gap analysis methodology for two-lane undivided roadways can be applied in urban/urbanizing areas, based on the assumption that the roadway corridor will have a limited number of signals and, therefore, operate under a condition of random arrivals.

b. On existing or planned divided highways, the intervening secondary intersection should be restricted to right-in/right-out only. Alternatively, to relieve left-turn demand at adjacent signalized intersections, the intervening intersection may be designed for ¾ movement (right-in/right-out/left-in only) movement upon recommendation of the District/Division Engineer.

Note: The gap analysis methodology for divided roadways is not applicable to divided roadways in urban/urbanizing areas because it assumes a random arrival condition. In Subcategory B areas, it is assumed that the primary intersections may require signalization at some point. Coordinated signal progression at 800 m (½ mile) spacing would prevent full access at 400 m (¼ mile) spacing because platooning traffic flow would never create a gap in both directions at the same time. However, the platooning effect of coordinated signal progression should provide adequate gaps to accommodate right-in/right-out and ¾ movement (right-in/right-out/left-in only) intersections.

#### Category 5B (Minor Arterials – Urban, Urbanizing)

- 1. Primary, full movement intersections should be spaced at 400 m (1/4 mile) intervals.
- 2. Intervening secondary intersections may be provided 200 m (1/8 mile) from primary, full movement intersections under the following conditions:
  - a. On existing or planned two-lane undivided highways, an intervening intersection may be provided if the analysis of future traffic conditions, per Section *D., Gap Analysis Procedure*, indicates a low risk conflict condition can be maintained. If the analysis indicates a high risk conflict condition is anticipated, the intervening intersection should not be provided.

Note: The gap analysis methodology for two-lane undivided roadways can be applied in urban/urbanizing areas, based on the assumption that the corridor will have limited number of signals and, therefore, operate under a condition of random arrivals.

b. On existing divided roadways, the intervening secondary intersection should be restricted to right-in/right-out only. On planned divided roadways, access should be limited to right-in/right-out movements when the median is constructed.

#### Category 6B (Collectors – Urban, Urbanizing)

- 1. Full movement intersections should be spaced at 200 m (1/8 mile) intervals.
- 2. Intervening secondary intersections are not recommended due to the close spacing of the full movement intersections on these roadways.

Category 2C (Medium Priority Interregional Corridors – Urban Core)

Category 3C (High Priority Regional Corridors – Urban Core)

Category 4C (Principal Arterials in Primary Trade Centers – Urban Core)

Category 5C (Minor Arterial – Urban Core)

Category 6C (Collectors – Urban Core)

1. Full movement intersections should be spaced at intervals ranging from 90 m to 200 m (**300 feet to 660 feet**), depending on the established block length of the existing street grid system.

# **B.** Signal Spacing and Operation Guidelines

The signal spacing guidelines have been developed to promote the balance between mobility and accessibility. For both isolated traffic signals and coordinated systems, the recommended spacing of signals is consistent with the recommended spacing of full movement intersections, with two exceptions: Interregional Corridors and Urban Core Areas.

In addition to spacing considerations, all signals must conform to the guidelines established in the Minnesota Manual of Uniform Traffic Control Devices (MN MUTCD) (6).

Signalized access should generally be reserved for public street intersections that provide access to the adjacent land area through an interconnected network of public streets. Signalized access to a private entrance should only be considered if:

- The proposed signalized access is designed to serve a large development area encompassing multiple properties or buildings with a system of internal private roadways connected by cross access easements;
- 2. The access does not negatively impact the accessibility of adjacent land areas by disrupting the connectivity of the local supporting road network;
- 3. The proposed signalized access conforms to the full movement intersection spacing guidelines in Section *V.A.*, *Public Intersection Spacing*.

The recommended spacing for signalized intersections is shown below. Signal requests for new or existing access points that would not conform to the recommended signal spacing will be approved only as a Deviation (for a Type 3 or 5 Access) per Section *VI, Exceptions and Deviations*.

#### Category 1F (High Priority Interregional Corridors – Freeway)

Access is provided by grade-separated interchange only. No signals are allowed on freeways.

Category 1A-F (High Priority Interregional Corridors – Full Grade Separated)

Category 2A-F (Medium Priority Interregional Corridors – Full Grade Separated)

Category 3A-F (High Priority Regional Corridors – Full Grade Separated)

Category 4A-F (Principal Arterials in Primary Trade Centers – Full Grade Separated)

Access is provided by grade-separated interchange only. No signals are allowed on fully-grade separated roadway segments.

On existing roadway segments that are planned to transition to Subcategory A-F over time, signalized intersections at 1.6 km (1 mile) spacing may be provided on an interim basis if there is a plan established for eventual replacement by an interchange or closure and connection to the supporting road network. Interim signals should only be considered after all other alternatives have been examined.

#### Category 1A (High Priority Interregional Corridors – Rural, Exurban, Bypass)

Traffic signals are strongly discouraged on High Priority Interregional Corridors. A signal will only be considered upon approval of a Deviation, and only after other management and access options have been exhausted. If it is determined that a signal is required for safety or other reasons, it should conform to the corridor management plan and be approved on an interim basis only, with a plan established for its replacement with a grade separation or interchange.

#### Category 2A (Medium Priority Interregional Corridors – Rural, Exurban, Bypass)

Traffic signals are strongly discouraged on Medium Priority Interregional Corridors. A signal should only be approved as a Deviation after all other management and access options have been exhausted. If it is determined that a signal is required for safety or other reasons, it should conform to the corridor management plan and may be approved on an interim basis only, with a plan established for its replacement with a grade separation or interchange.

Minimum spacing between interim signals should be 1.6 km (1 mile). At 1.6 km (1 mile) spacing, signals tend to be operated in isolation, therefore, signal timing should favor through movements along the corridor.

#### Category 2B (Medium Priority Interregional Corridors – Urban, Urbanizing)

Traffic signals are strongly discouraged on Medium Priority Interregional Corridors. A signal should only be approved as a Deviation after all other management and access options have been exhausted. If it is determined that a signal is required for safety or other reasons, it should conform to the corridor management plan and may be approved on an interim basis only, with a plan established for its replacement with a grade separation or interchange.

Minimum spacing between interim signals should be 800 m ( $\frac{1}{2}$  mile). Signals spaced at 800 m ( $\frac{1}{2}$  mile) should be coordinated with adjacent signals to promote progression along the corridor.

Category 3A (High Priority Regional Corridors – Rural, Exurban, Bypass)

Category 4A (Principal Arterials in Primary Trade Centers – Rural, Exurban, Bypass)

Category 5A (Minor Arterials – Rural, Exurban, Bypass)

Category 6A (Collectors – Rural, Exurban, Bypass)

In rural and exurban areas, signalized intersections are not anticipated except in rare instances involving the intersection of two high volume Principal and/or Minor Arterials. If a signal is required, it will tend to operate in isolation, therefore, its timing should favor through movement along the higher category roadway.

In bypass areas, signal spacing should coincide with the spacing of primary full movement intersections.

Category 3B (High Priority Regional Corridors – Urban, Urbanizing)

Category 4B (Principal Arterials in Primary Trade Centers – Urban, Urbanizing)

If signalized, signals should be uniformly spaced at 800 m ( $\frac{1}{2}$  mile) intervals. Adjacent signals should be coordinated to provide progression for through traffic along the corridor.

Category 5B (Minor Arterials – Urban, Urbanizing)
Category 6B (Collectors – Urban, Urbanizing)

If signalized, signals should be uniformly spaced at 400 m (¼ mile) intervals. Adjacent signals should be coordinated to provide progression for through traffic along the corridor.

Category 2C (Medium Priority Interregional Corridors – Urban Core)

**Category 3C** (High Priority Regional Corridors – Urban Core)

Category 4C (Principal Arterials in Primary Trade Centers – Urban Core)

Category 5C (Minor Arterial – Urban Core)

Each public intersection is likely to be a full movement intersection. However, to promote signal progression, signals on arterials through urban core areas should be spaced at 400 m (¼ mile) intervals.

#### Category 6C (Collectors – Urban Core)

Each public intersection is likely to be a full movement intersection with intersection spacing dependent on the established block length of the community. Signals on collectors through urban core areas should be spaced at 200 m (1/4 mile) intervals.

#### C. Private Access

Category 1F (High Priority Interregional Corridors – Freeway)

**Type 1, 2 and 3 –** Private entrances are not permitted.

Category 1A-F (High Priority Interregional Corridors – Full Grade Separated)
Category 2A-F (Medium Priority Interregional Corridors – Full Grade Separated)

Category 3A-F (High Priority Regional Corridors – Full Grade Separated)

Category 4A-F (Principal Arterials in Primary Trade Centers – Full Grade Separated)

**Type 1, 2 and 3** – Private entrances are not permitted on fully developed Subcategory A-F roadways. On existing roadway segments that are planned to transition to Subcategory A-F over time, new private access may be approved on an interim basis only as a Deviation, provided there is a plan for its eventual closure and connection to the supporting road network.

Category 1A (High Priority Interregional Corridors – Rural, Exurban, Bypass)
Category 2A (Medium Priority Interregional Corridors – Rural, Exurban, Bypass)
Category 4A (Principal Arterials in Primary Trade Centers – Rural, Exurban, Bypass)

**Type 1, 2 and 3** – Private driveways and entrances are not recommended. New or modified driveways and entrances will be approved only as an Exception or Deviation per Section *VI, Exceptions and Deviations*.

Category 2B (Medium Priority Interregional Corridors – Urban, Urbanizing)

Category 3B (High Priority Regional Corridors – Urban, Urbanizing)

Category 4B (Principal Arterials in Primary Trade Centers – Urban, Urbanizing)

Category 5B (Minor Arterials – Urban, Urbanizing)

**Type 1, 2 and 3** – Private driveways and entrances are not recommended. Access should be provided from a supporting street network. New or modified entrances will be approved only as an Exception or Deviation per Section *VI, Exceptions and Deviations*.

Category 3A (High Priority Regional Corridors – Rural, Exurban, Bypass)
Category 5A (Minor Arterials – Rural, Exurban, Bypass)
Category 6A (Collectors – Rural, Exurban, Bypass)

**Type 1 and 2** – New or modified Type 1 and 2 entrances will be permitted based on the following findings:

- 1. Access control has not been acquired and the affected property retains the right of access.
- Reasonably convenient and suitable access is not available or attainable from the local street network or by shared entrance with an adjacent parcel. If a property abuts two or more public roads, access should be provided from the lower category roadway.
- 3. An analysis of the future traffic conditions, per Section *D., Gap Analysis Procedure*, indicates the entrance will not create a high risk conflict condition.

Type 1 and 2 entrances should conform to the following conditions:

- 1. Only one entrance per parcel should be provided. An additional entrance may be permitted if it is determined that the property cannot otherwise be reasonably developed or utilized and/or that such access would maintain or improve the safety and operations of the roadway. Multiple entrances should be spaced to meet the minimum stopping sight distance shown in Figure 6 or 6M. The additional access may be restricted to specific movements.
- 2. The entrance should not be located within the functional area of an intersection or within the turn lanes to another private entrance.
- 3. On existing divided roadways, the entrance should be limited to right-in/right-out only. On planned divided roadways, access should be limited to right-in/right-out movements when the median is constructed.
- 4. Spacing between Type 2 entrances should be consistent with the stopping sight distance for the posted speed as shown in Figure 6 or 6M. If possible, the entrance should be located on the property line to promote shared access with adjacent future development.
- 5. The entrance should meet intersection sight distance requirements per Mn/DOT Road Design Manual (7), Section 5-2.02.
- 6. Turn lanes should be provided for Type 2 entrances per the Mn/DOT Road Design Manual (7), Sections 5-3.01 and 5-4.01.

All Type 1 and 2 entrance requests that do not meet the above findings or conditions will be approved only as an Exception per Section *VI, Exceptions and Deviations*.

**Type 3** – Type 3 entrances are not recommended and will be approved only as a Deviation per Section *VI*, *Exceptions and Deviations*.

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Category 2C (Medium Priority Interregional Corridors – Urban Core)
Category 3C (High Priority Regional Corridors – Urban Core)
Category 4C (Principal Arterials in Primary Trade Centers – Urban Core)
Category 5C (Minor Arterial – Urban Core)
Category 6B (Collectors – Urban, Urbanizing)
Category 6C (Collectors – Urban Core)
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**Type 1** – Private driveways and entrances are permitted subject to the following conditions:

- 1. Reasonably convenient and suitable access is not available or attainable from the local street network. If a property abuts two or more public roads, access should be provided from the lower category roadway.
- 2. Only one entrance per parcel should be provided. An additional entrance may be permitted if it is determined that the property cannot otherwise be reasonably developed or utilized and that such additional access will not negatively impact the safety and operations of the roadway.
- 3. The entrance should not be located within the functional area of an intersection or within the turn lanes to another private entrance.
- 4. The entrance should be located on the property to meet the intersection sight distance requirements per Mn/DOT Road Design Manual (7), Section 5-2.02.
- 5. On existing divided roadways, the entrance should be limited to right-in/rightout only. On planned divided roadways, access will be limited to right-in/rightout movements when the median is constructed.

**Type 2 and 3** – Private driveways and entrances are permitted, subject to the following conditions:

- Reasonably convenient and suitable access is not available or attainable from the local street network or by shared entrance with an adjacent parcel. If a property abuts two or more public roads, access should be provided from the lower category roadway.
- Only one entrance per parcel should be provided. An additional entrance may
  be permitted if it is determined that the property cannot otherwise be
  reasonably developed or utilized and that such additional access will not
  negatively impact the safety and operations of the roadway. Multiple entrances
  should be spaced to meet minimum stopping sight distance shown in Figure 6
  or 6M.
- 3. The entrance should not be located within the functional area of an intersection or within the turn lanes to another private entrance.
- 4. On existing divided roadways, the entrance should be limited to right-in/rightout only. On planned divided roadways, access will be limited to right-in/rightout movements when the median is constructed.

5. Spacing between entrances should be consistent with the stopping sight distance for the posted speed as shown in Figure 6 or 6M. Figures 6 and 6M represent a minimum spacing requirement and may be superceded by the need to accommodate turn lanes or avoid intrusion on the functional area of the intersection. Joint entrances and cross access agreements should be promoted in order to maintain spacing standards over time. Access points should be located near property lines to facilitate future joint use.

Figure 6 – Minimum Stopping Sight Distance (1)

Speed Limit (mph)	Stopping Sight Distance (feet) (2)(3)(4)
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

- (1) Stopping Sight Distance based on AASHTO Green Book 2001 (8).
- (2) The values shown in this table may be superceded to avoid the functional area of adjacent intersections and driveways, or to accommodate turn lanes for the proposed access.
- (3) Stopping Sight Distance is based on a level roadway without any horizontal curvature. In areas with vertical and horizontal curves, additional distance may be needed.
- (4) The stopping sight distance is measured from the nearest edges of two adjacent entrances. On two-lane undivided roadways, adjacent entrances may be on opposite sides of the roadway.

Figure 6M – Minimum Stopping Sight Distance (1)

Speed Limit (km/h)	Stopping Sight Distance (m) (2)(3)(4)
20	20
30	35
40	50
50	65
60	85
70	105
80	130
90	160
100	185
110	220
120	250
130	285

- (1) Stopping Sight Distance based on AASHTO Green Book 2001 (8).
- (2) The values shown in this table may be superceded to avoid the functional area of adjacent intersections and driveways, or to accommodate turn lanes for the proposed access.
- (3) Stopping Sight Distance is based on a level roadway without any horizontal curvature. In areas with vertical and horizontal curves, additional distance may be needed.
- (4) The stopping sight distance is measured from the nearest edges of two adjacent entrances. On two-lane undivided roadways, adjacent entrances may be on opposite sides of the roadway.
- 6. The entrance should be located on the property to meet the intersection sight distance requirements per Mn/DOT Road Design Manual (7), Section 5-2.02.
- 7. The entrance should not create the need for a signal.
- 8. Turn lanes should be provided per the Mn/DOT Road Design Manual (7), Sections 5-3.01 and 5-4.01.

Private entrance requests that do not meet the above findings and conditions will be approved only as an Exception per Section VI, Exceptions and Deviations.

# D. Gap Analysis Procedure

One of the factors to be evaluated when considering the provision of a secondary intervening intersection or private entrance is the ability of vehicles at the access location to find adequate gaps in mainline flows. If conflicting volumes provide insufficient gaps, longer queues and delays will be experienced and the potential for greater risk taking will occur. In low volume areas, there will be fewer conflicting vehicles and many more gaps available. These low-volume areas provide for easier decision-making and less judgment by the driver. To identify potential high risk areas where additional access is not advised, a simplified approach to gap analysis has been developed for application to unsignalized corridors.

The gap analysis is intended for use when looking at access on Category 1A, 2A, 3A, 4A, 5A and 6A (rural, exurban and bypass areas) roadways. It may also be used on two-lane unsignalized roadways in Category 2B, 3B, 4B and 5B (urbanizing areas).

#### **Risk Conflict Graphs**

Risk conflict graphs have been developed for specific roadway designs based on methodology in the *Highway Capacity Manual 2000 (9)*. The methodology includes the following assumptions:

- Side streets are stop controlled.
- Traffic along the highway is operating under a condition of random arrival. For this reason, the risk conflict graphs are primarily applicable to unsignalized roadway segments.
- Traffic from nearby intersections does not impact the subject intersection or access point.
- Under wide median conditions (Figure 9), vehicles entering and crossing the mainline may use a two-step maneuver.

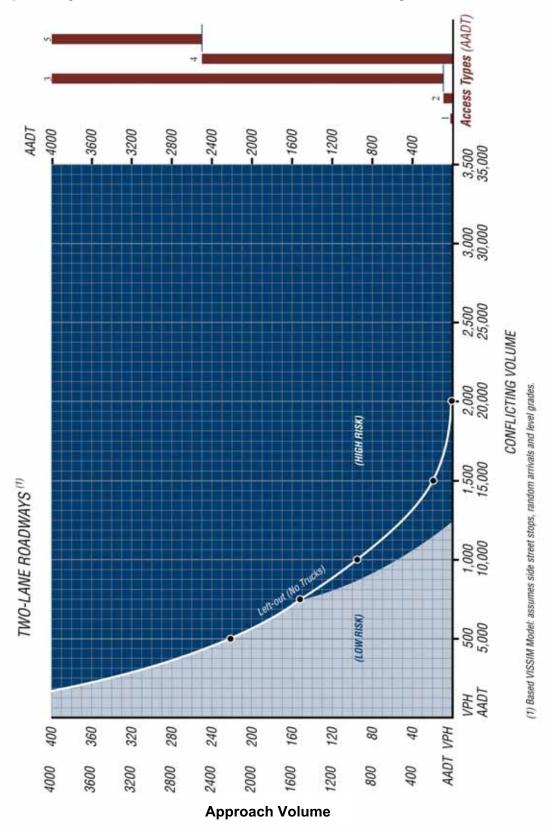
Figures 7, 8 and 9 represent risk conflict conditions based on the roadway design. The selection of the appropriate Figure to use is based on the type of median on the primary highway.

**Figure 7 – Undivided Two-Lane Roadways** – Figure 7 is used for all two-lane undivided roadways. Use this Figure if there is no median along the primary highway.

**Figure 8 – Divided Four-lane Roadways (with Narrow Median)** – Figure 8 is used for divided roadways with a narrow median. A narrow median is defined as having no storage space. Narrow medians require all vehicles crossing or turning left from the cross street to complete the maneuver as a single movement. This Figure is also used when looking at right-in/right-out intersections.

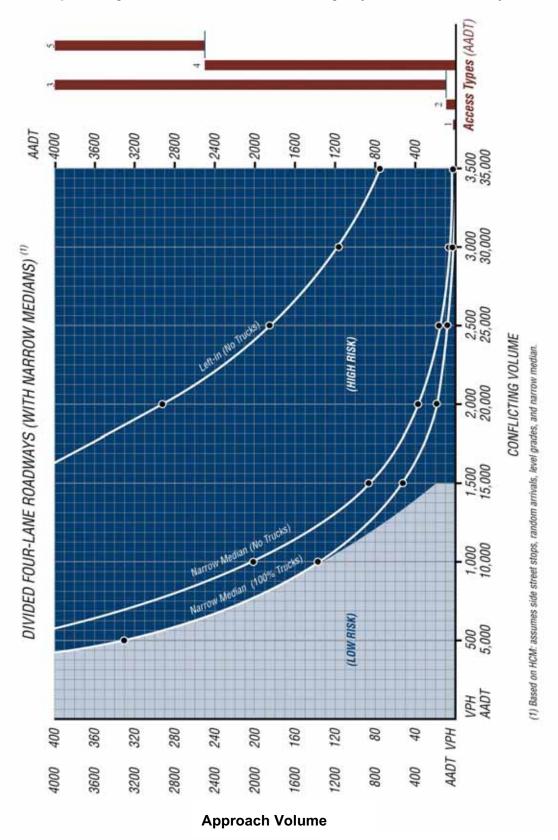
**Figure 9 – Divided Four-Lane Roadways (with Wide Median)** – Figure 9 is used for divided roadways with wide medians. A wide median is defined to have storage for up to two vehicles in the median. This allows vehicles crossing or turning left from a side street to complete the maneuver in two steps.

Figure 7
Gap Analysis for Two-Lane Undivided Roadways



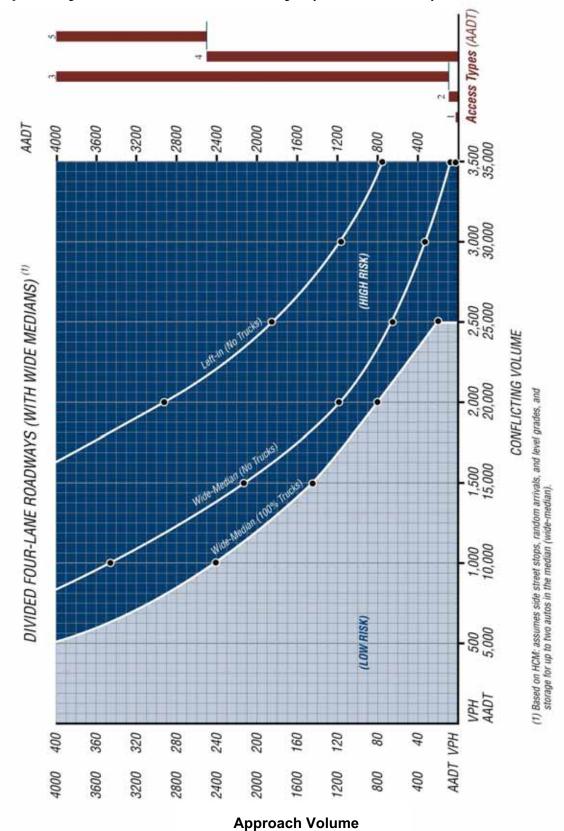
Based on estimated 20-year AADT

Figure 8
Gap Analysis for Divided Roadways (Narrow Median)



Based on estimated 20-year AADT

Figure 9
Gap Analysis for Divided Roadways (Wide Median)



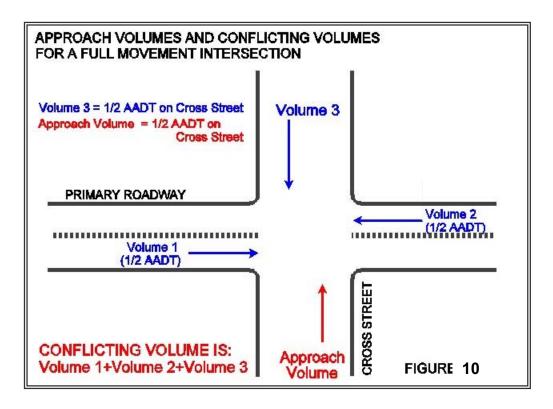
Based on estimated 20-year AADT

#### **Full Movement Intersection Analysis**

The Conflicting Volume (horizontal axis on Figure 7, 8 or 9) is the estimated 20-year AADT of the primary roadway plus ½ of the 20-year cross street AADT (*in Figure 10, the Conflicting Volume is Volume 1 + Volume 2 + Volume 3*). At T-intersections, the horizontal axis of the graphs is only the estimated 20-year AADT of the primary roadway (*in Figure 10, the Conflicting Volume is Volume 1 + Volume 2*).

The Approach Volume (vertical axis on Figure 7, 8 or 9) is one-half of the estimated 20-year AADT of the cross street or access point.

If actual traffic data is available, that data should be used to determine the approach volume and the conflicting volumes.



Compare the Approach Volume (vertical axis) with the Conflicting Volume (horizontal axis) to determine the intersection condition. If the intersection falls within the low risk conflict condition, a full movement intersection may be allowed.

If the intersection falls within the high risk conflict condition and is located on a divided roadway, the intersection should be analyzed a second time to determine if a right-in/right-out only intersection is acceptable.

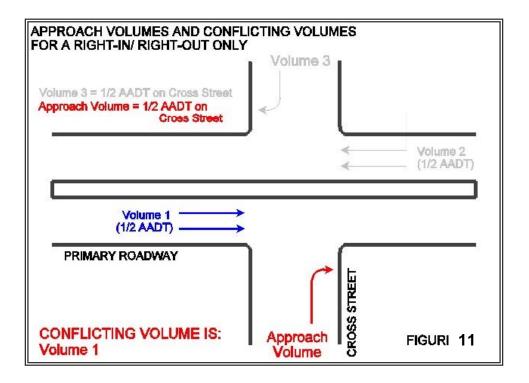
If the intersection or access point falls within the high risk conflict condition and is located on a two-lane undivided roadway, the intersection or access point should not be allowed.

#### Right-in/Right-out Only Intersection Analysis

Figure 8 represents the risk conflict conditions for right-in/right-out only intersections.

The Conflicting Volume (horizontal axis on Figure 8) is the one-half of the estimated 20-year AADT of the primary roadway (in Figure 11, the Conflicting Volume is Volume 1).

The Approach Volume (vertical axis on Figure 8) is one-half of the estimated 20-year AADT of the cross street or access point.



Compare the Approach Volume (vertical axis) with the Conflicting Volume (horizontal axis) to determine the intersection condition. If the intersection falls within the low risk conflict condition, a right-in/right out only intersection may be allowed. If the intersection falls within the high risk conflict condition, no intersection should be allowed. Alternatively, a right-in only intersection may be considered if connectivity to the supporting street network provides full circulation and return movements.

# VI. Exceptions and Deviations

# A. Need for Exceptions and Deviations

Exception and Deviation provisions have been developed to recognize that the complete network of roadways required for full conformance with the access spacing guidelines may not always be available. In very low-density rural areas, a complete hierarchy of roads may never be developed. In these cases, direct property access to the highway may be necessary, but the access should be designed to maximize safety and minimize impacts on through traffic. In urbanizing areas, more opportunity exists to develop the land and the supporting road network concurrently. However, there will be circumstances when the timing of property development will precede development of the supporting road system. In these cases, the Exception and Deviation process serves to accommodate the immediate access needs of the development while providing for the transition to alternate access at a future time.

### 1. Applicability to Access Permits and Development Reviews

Exception and Deviation procedures are intended to apply primarily to the administration of access permits. The procedures interject a broader planning and analysis approach into the permit review process in order to determine the best alternative to accommodate an otherwise non-conforming access. Since more options are usually available if access is considered early in the development process, the analysis associated with Exceptions and Deviations may be most effective if conducted as part of a related development review (e.g., subdivision/plat review, site plan review, conditional use permit, etc.).

The Exception provision is intended to address lower volume access requests. Consideration of an Exception involves local consultation, the review of the proposed access and the surrounding conditions, and minimal traffic analysis.

The Deviation provision is intended for higher volume and more complex access requests that may pose a greater potential impact on the safety and operations of the highway. Consideration of a Deviation requires additional review and analysis to determine the appropriate location and design of the access, as well as potential short and long-term modification to the surrounding road network.

If the location of a requested access is inconsistent with the applicable access guidelines, District staff should determine whether consideration as an Exception or Deviation is appropriate per Figure 12.

# 2. Applicability to Corridor Plans and Construction Project Development

When applying the access categories and spacing guidelines to corridor planning and road design projects, strict application of the spacing guidelines may not be feasible in all circumstances. Analysis of each individual access as an Exception or Deviation is not necessary, but inconsistencies with the access categories and spacing guidelines should be addressed in the corridor management plan or project study report. In some cases, adoption of a Category 7 Specific Access Plan by Mn/DOT and the local government partners may serve as the vehicle to formally approve and memorialize decisions related to the need for future Exceptions and Deviations along a corridor or roadway segment.

Figure 12 – Exception and Deviation Requirements

Access Type								
Catagony	Pri	vate Entrances	Public Streets					
Category Type	Type 1 Residential Agricultural Field Access	Type 2 Low Volume	Type 3 High Volume	Type 4 Low Volume	Type 5 High Volume			
1F		Not Permitted		Interchange Only				
1A-F	Deviation	Deviation	Deviation	Deviation	Deviation			
1A	Deviation	Deviation	Deviation	Deviation	Deviation			
2A-F	Deviation	Deviation	Deviation	Deviation	Deviation			
2A	Exception	Exception	Deviation	Deviation	Deviation			
2B	Exception	Exception	Deviation	Deviation	Deviation			
2C	Permitted	I subject to Conditi	Exception	Deviation				
3A-F	Deviation	Deviation	Deviation	Deviation	Deviation			
3 <b>A</b>	Permitted subject to Conditions (1)	Permitted subject to Conditions (1)	Deviation	Exception	Deviation			
3B	Exception	Exception	Deviation	Exception	Deviation			
3C	Permitted	subject to Conditi	Exception	Deviation				
4A-F	Deviation	Deviation	Deviation	Deviation	Deviation			
4A	Deviation	Deviation	Deviation	Exception	Deviation			
4B	Exception	Exception	Deviation	Exception	Deviation			
4C	Permitted	subject to Conditi	ons <sup>(1)</sup>	Exception	Deviation			
5A	Permitted subject to Conditions (1)	Permitted subject to Conditions (1)	Deviation	Exception	Deviation			
5B	Exception	Exception	Deviation	Exception	Deviation			
5C	Permitted	subject to Conditi	Exception	Deviation				
6A	Permitted subject to Conditions (1)	Permitted subject to Conditions (1)	Deviation	Exception	Deviation			
6B	Permitted	subject to Conditi	Exception	Deviation				
6C	Permitted	Exception	Deviation					

Notes:

<sup>(1)</sup> Access Permitted subject to Condition – If conditions are not met, the access may be approved as an Exception.

# **B. Exception Process**

The Exception Process involves a minor expansion of the routine permit review process. It defines an additional level of criteria for the permitting process that promotes responsible land use and access management. An access may be approved as an Exception if it meets the Required Findings set forth in Section *D., Findings and Conditions of Approval for Exceptions and Deviations*. Additional conditions may also be imposed on the proposed access.

To determine if the Required Findings are met, local Mn/DOT staff responsible for permit reviews will consult with the local land use and road authorities to evaluate the current or potential availability of alternate access via local roads. This consultation will also provide an opportunity to discuss whether there is additional development anticipated in the area and how the general land use, local circulation, and access in the area should be managed in the future. Existing and planned access to adjacent properties should also be examined to determine the potential for consolidating access through joint or cross access arrangements. If the Exception is a request for a public street, the review should include an examination of the planned connectivity of the street to the supporting road network.

#### C. Deviation Process

The Deviation Process is similar to the Exception Process in that there are Required Findings for approval. However, the Deviation Process applies to access locations where safety and operational concerns should be more thoroughly explored. In order to reach conclusions about the Required Findings, a more detailed analysis of the proposal within the context of the surrounding area will be needed. This analysis should focus not only on identifying the best option for accommodating the access needs of the immediate project, but determining how it fits into longer term circulation and access plans for the roadway segment and the surrounding area. Therefore, approval as a Deviation will involve some level of planning for future operations along the affected roadways, including the existing and future land use and circulation of the surrounding area.

The issues and options to be addressed through the Deviation study process will need to be defined in each instance. District staff responsible for this phase of the access permitting process should meet with the applicant, the local unit of government, and any other affected road authorities to define the scope of the study. Some of the issues to be addressed include:

- Geographic area to be included
- Existing and future land use assumptions
- Planning and analysis time frames (e.g., 1 year, 5 year, 20 year)
- Alternatives to be evaluated, which could involve not only alternative road design and supporting road networks, but also alternative land use arrangements or site plan layouts
- Traffic generation and growth rate assumptions
- Corridor traffic impacts and performance measures to be evaluated
- Short and long term funding assumptions for potential state and local improvements
- Responsibilities for study funding and oversight
- Schedule for study completion
- The format and extent of the Deviation Study

Generally, the results of the Deviation process will be one of the following outcomes:

- Approval of a Conforming Alternative Access: An access alternative may
  be identified that conforms to access management guidelines. This may
  include locating the access on a local street or frontage road or combining it
  with an existing conforming access.
- Approval of a Non-Conforming Interim Access with Plans for a Conforming Future Access: An interim plan may be developed that allows a non-conforming access in the short term, but is tied to a long-term plan for future access that conforms with access spacing guidelines. While the interim access may not conform to spacing guidelines, it should be considered safe and minimize corridor impacts to the greatest degree possible. A schedule for transition to the planned conforming access should be developed and included as part of the permit. Timing may be tied to a future road project or development of surrounding properties. Affected sites should be developed in a manner that facilitates transition to the alternate access without significant rearrangement of building and parking layouts. The access permit should include all conditions or special provisions for both the interim access and the future access.
- Approval of a Non-Conforming Access: The study could lead to the
  conclusion that there is no feasible short or long-term alternative to the
  proposed access. For example, environmental constraints may prohibit
  development of an interconnected supporting road network to serve the
  affected property. However, the analysis may identify geometric or operational
  modifications that would maintain safety and mobility, such as the addition of
  turn lanes, closure of medians, modification of signal timing, etc. In this case,
  provision of the modifications by the applicant may become conditions of
  approval as a Deviation.
- Denial of Access: The analysis could conclude that there is no feasible
  alternative and that construction of the proposed access would create an
  unacceptable situation from a safety perspective. In this case, Mn/DOT and the
  affected local unit of government may agree that the access must be denied.
  The local government authority may also deny approval of a plat, subdivision,
  rezoning, or conditional use permit proposal.

# D. Findings and Conditions of Approval for Exceptions and Deviations

#### Access Type 1 (Residential/Agricultural/Field Access)

The approval of a Type 1 entrance as an Exception or Deviation should be based on the following findings and considerations:

#### **Required Findings**

- Access control has not been acquired and the affected property retains the right of access.
- Reasonably convenient and suitable access is not available or attainable from the local street network or by shared entrance with an adjacent parcel. The local governmental unit should be contacted to determine if alternative access is currently available or planned.
- The proposed entrance conforms to the access spacing guidelines, design standards, and sight distance requirements to the greatest degree possible. This finding may take into account topographical restrictions, unique natural features, the lack of a supporting street network, and historical land use and street patterns.
- The proposed entrance is consistent with any corridor plans adopted for the roadway corridor or the surrounding area.

- The entrance should not be located within the functional area of a public intersection or within a turn lane for another private entrance. If inadequate lot frontage makes this physically infeasible, shared or cross access easements to provide access via adjacent parcels should be explored. If these options are not available, the proposed entrance should be located at the greatest distance feasible from the adjacent public intersection or private entrance.
- The entrance may be approved as an interim access if it is determined that alternative access will be available in the future. If the entrance is an interim access, the access permit should contain provisions stating that the access will be closed when alternate access becomes available. The anticipated schedule of availability of the future access, if known, should also be included in the permit. The site should be designed to accommodate transition to the future access with minimal disruption to the building and parking layout.
- Only one entrance per parcel should be provided. An additional entrance may
  be permitted if it is determined that the property cannot otherwise be
  reasonably developed or utilized and that such access will not negatively
  impact the safety and operations of the roadway. Multiple entrances should be
  spaced to meet minimum stopping sight distance shown in Figure 6 or 6M.

- On existing divided roadways, the entrance should be limited to right-in/rightout only, unless weaving or other traffic operations indicate the need for further restrictions on turning movements (e.g. right-in only or right-out only). On planned divided roadways, access will be limited to right-in/right-out movements when the median is constructed. This future condition should be noted in the permit.
- Private entrances on opposing sides of undivided roadways should be aligned.
- The entrance should meet intersection sight distance requirements per Mn/DOT Road Design Manual (7), Section 5-2.02.

#### **Access Type 2 (Low Volume Private Entrances)**

The approval of a Type 2 entrance as an Exception or Deviation should be based on the following findings and considerations:

#### **Required Findings**

All of the findings for Type 1 entrances apply.

#### **Considerations and Potential Conditions of Approval**

- All of the considerations for Type 1 entrances apply.
- Shared entrances or cross access easements should be promoted as a way to achieve conformance with the recommended spacing for private entrances, as summarized in Figures 6 and 6M. Along corridors where additional development is anticipated, access should be located on property lines to facilitate shared and cross access with adjacent property.
- Turn lanes should be provided per the Mn/DOT Road Design Manual (7), Sections 5-3.01 and 5-4.01.

#### **Access Type 3 (High Volume Private Entrances)**

The approval of a Type 3 entrance as a Deviation should be based on the following findings and considerations:

#### **Required Findings**

All of the findings for Type 2 entrances apply.

- All of the considerations for Type 2 entrances apply.
- If the entrance is located in an area of potential development, the entrance should be evaluated to determine the feasibility of developing it as a public street serving the greater surrounding area.
- Residential, commercial, industrial or institutional uses may be granted additional access if it is determined to benefit site circulation and overall corridor operations. If multiple access points are being considered, the additional access points may be limited to ¾ movement (right-in/right-out/left-in only), right-in/right-out only, right-in only, or right-out only. The Deviation study

- process should address operational and safety issues to determine the recommended number, location, and design of the accesses.
- Spacing between entrances should be consistent with the stopping sight distance for the posted speed as shown in Figure 6 or 6M. Figures 6 and 6M represent a minimum spacing requirement and may be superceded by the need to accommodate turn lanes or avoid intrusion on the functional area of the intersection. Joint entrances and cross easement agreements should be promoted in order to maintain spacing standards over time. Access points should be located near property lines to facilitate future joint use.
- The request for a Type 3 entrance may also involve a request for a signal. If so, the Deviation Study should include a Signal Justification Report addressing the following:
  - o The signal meets appropriate MN MUTCD signal warrants and the signal is justified.
  - o Traffic signals on Category 1 roadways (High Priority Interregional Corridors) will be considered only on an interim basis, after all other alternatives have been considered. Approval of a signalized access should include a specific plan and schedule for its removal.
  - o Traffic signals on Category 2 roadways (Medium Priority Interregional Corridors) will be considered only if no other alternatives are feasible. The Signal Justification Report should assess the corridor impacts of restricting turning movements to right-in/right-out only or ¾ movement (right-in/right-out/left-in only) design. Approval of a signalized access may include a plan for its eventual removal.
  - o Signalized access should only be permitted if it serves a large development area designed to serve multiple properties with a system of well-developed internal private roadways connected by cross access easements, and it meets the spacing guidelines for signalized intersections. For signal requests that do not meet the intersection spacing guidelines, the Signal Justification Report should address the feasibility and impacts of developing the access as a public street connecting to the supporting local road network.
  - o If the proposed signal is adjacent to another traffic signal, the signals should be interconnected to facilitate signal coordination.
  - o If the proposed signal would be introduced into a corridor segment with an established coordinated signal system, the Signal Justification Report should include analysis and recommendations for optimizing corridor signal timing to maintain corridor performance.
  - o If the proposed signal would be located at an isolated intersection, greater than 1.6 km (1 mile) from the nearest existing or planned signalized intersection, green time for the through traffic along the primary corridor should be maximized.

#### **Access Type 4 (Low Volume Public Streets)**

The approval of an Exception or Deviation for a Type 4 intersection should be based on the following findings and considerations:

#### **Required Findings**

- The proposed intersection is necessary to provide reasonable connectivity to the supporting road network or to provide public access to an isolated land area due to topographical restrictions, unique natural features, or historical land use and street patterns.
- The proposed intersection conforms to access spacing guidelines, design standards, and applicable intersection and stopping sight distance requirements to the greatest degree possible.
- The proposed intersection will not create a major obstacle to the long-term implementation of the corridor management plan.

- The Exception or Deviation study should evaluate the potential traffic volume generated at the intersection given the intensity of anticipated future development. If the study determines that the estimated 20-year AADT exceeds 2500, the access request should be evaluated as a Type 5 Access.
- An intersection approved as an Exception or Deviation may be an interim access if it is determined that alternative access will be available in the future. If the intersection is an interim access, the access permit should provide that the access would be closed when alternate access becomes available. The anticipated schedule of availability of the future access, if known, should also be included in the permit. The street and property served by the access should be designed to accommodate transition to the future access with minimal disruption to the established lot and street layout.
- Streets should be designed to connect to the supporting road network. If the
  proposed street is serving a single, isolated development, it should be
  designed to provide future access to adjacent parcels via outlots or extension
  of stubbed streets.
- On existing divided roadways, the intersection should be limited to right-in/rightout movements only. On planned divided roadways, the intersection will be limited to right-in/right-out movements when the median is constructed. This future condition should be noted in the permit.
- Turn lanes should be provided per the Mn/DOT Road Design Manual (7), Section 5-3.01 and 5-4.01.

#### **Access Type 5 (High Volume Public Streets)**

The approval of a Deviation for a Type 5 intersection should be based on the following findings and considerations:

#### **Required Findings**

All of the findings for a Type 4 intersection apply.

- All of the Considerations for a Type 4 intersection apply.
- All Type 5 intersections pose the potential for signalization at some point. If a signal is proposed, the Deviation study should include a Signal Justification Report to address the following considerations:
  - o The signal meets appropriate MN MUTCD signal warrants and the signal is justified.
  - o Traffic signals on Category 1 roadways (High Priority Interregional Corridors) will be considered only on an interim basis, after all other alternatives have been considered. Approval of a signalized access should include a specific plan and schedule for its removal.
  - o Traffic signals on Category 2 roadways (Medium Priority Interregional Corridors) will be considered only if no other alternatives are feasible. The Signal Justification Report should assess the corridor impacts of restricting turning movements to right-in/right-out only or <sup>3</sup>/<sub>4</sub> movement (right-in/right-out/left-in only) design. Approval of a signalized access may include a plan for its eventual removal.
  - o If the proposed signal is adjacent to another traffic signal, the signals should be interconnected to facilitate signal coordination.
  - o If the proposed signal would be introduced into a corridor segment with an established coordinated signal system, the Signal Justification Report should include analysis and recommendations for optimizing corridor signal timing to maintain corridor performance.
  - o If the proposed signal would be located at an isolated intersection, greater than 1.6 km (1 mile) from the nearest existing or planned signalized intersection, green time for the through traffic along the primary corridor should be maximized.

## VII. References

#### Works Cited

- 1. *Moving Minnesota From 2000 to 2020,* Minnesota Statewide Transportation Plan, January 2000.
- 2. National Cooperative Highway Research Program Report 420: Impacts of Access Management Techniques, Transportation Research Board, 1999.
- 3. National Cooperative Highway Research Program Report 426: Driveway and Street Intersection Spacing, Transportation Research Board, 1996.
- 4. "Access Operations: Gap Analysis and Signal Spacing", SRF Consulting for the Minnesota Department of Transportation, 2002.
- 5. *Trip Generation Manual, 6<sup>th</sup> Edition*, Institute of Transportation Engineers, 1997.
- 6. *Minnesota Manual on Uniform Traffic Control Devices*, Minnesota Department of Transportation, 1991.
- 7. Road Design Manual, Part I & Part II, Minnesota Department of Transportation, as amended through May 2001.
- 8. A Policy on Geometric Design of Highways and Streets, 4th Edition, American Association of State Highway and Transportation Officials, 2001.
- 9. Highway Capacity Manual 2000, Transportation Research Board.

#### Other References

Access Categories and Spacing Guidelines, Meyer, Mohaddes Associates for the Minnesota Department of Transportation, February 2001.

Access Management System and Standards, Nevada Department of Transportation, July 1999.

Highway Approaches, Access Control, Spacing Standards and Medians, Division 51 Rules, State of Oregon.

Interregional Corridors: A Guide for Plan Development and Corridor Management, Minnesota Department of Transportation, September 2000.

Manual of Uniform Traffic Control Devices, U.S. Department of Transportation and Federal Highway Administration, 1988.

National Cooperative Highway Research Program Report 383: Intersection Sight Distance, Transportation Research Board, 1996.

National Cooperative Highway Research Program Report 400: Determination of Stopping Sight Distance, Transportation Research Board, 1997.

Platoon Dispersion Concept for Critical Block Length, Institute of Transportation Engineers 1993 compendium of Technical Papers, September 1993.

State Highway Access Code, Volume 2, Code of Colorado Regulations 601-1, State of Colorado, August 31, 1998.

State Highway Access Management Manual, Ohio Office of Roadway Engineering and Office of Traffic Engineering, 1998.

State Highway System Access Management Classification System and Standards, Rules of the Florida Department of Transportation Chapter 14-97

Statewide Interregional Corridor Study, SRF Consulting for the Minnesota Department of Transportation, November 1999.

Traffic Access and Impact Studies for Site Development: A Recommended Practice. Institute of Transportation Engineers, 1991.

*Traffic Engineering Handbook, 4<sup>th</sup> Edition,* Institute of Transportation Engineers, 1992.

Toward an Access Classification System and Spacing Guidelines, Minnesota Department of Transportation, February 1999.



# **Appendix C: Aviation**

# Background

Aviation is a component of the Metropolitan Council's 2030 Transportation Policy Plan. Several aviation-related topics are required to be included in the City's comprehensive plan. These include:

- Airspace protection, as reflected in federal regulations
- Land use compatibility within Airport Influence Areas
- City regulations regarding heliports
- Reference to any special aviation facilities within the City

Most aviation guidance for the City of Minneapolis relates to the Minneapolis-St. Paul International Airport. Although the airport is located outside of Minneapolis, the City is within its Airport Influence Area.

Policy guidance for aviation is located both within Chapter 2 Transportation (related to its role as part of the regional transportation system) and Chapter 6 Environment (related to its noise impacts on the City).

# Regional Airspace

The current City of Minneapolis Zoning Code contains provisions for the protection of regional airspace, referred to as the airport zoning ordinance, through the placement of height restrictions on development in proximity to the airport. The regulations are as follows:

From Title 20, Zoning Code

535.60. Height near airport. The following special height limitations shall apply to areas within two (2) miles of the boundary lines of Minneapolis - St. Paul International Airport, except where the primary zoning district is more restrictive:

- (1) Within seven thousand five hundred (7,500) feet of the nearest airport runway boundary, no structure, object of natural growth or portion thereof shall exceed a height of twenty-five (25) feet or one (1) foot for each fifty (50) feet that such structure or object is located away from such runway boundary, whichever height is greater.
- (2) Between seven thousand five hundred (7,500) feet and two (2) miles



from the nearest airport runway boundary, no structure, object of natural growth or portion thereof shall exceed a height of one hundred fifty (150) feet.

The City of Minneapolis also recognizes requirements regarding the protection of the region's general airspace. The relevant notification criteria for airspace obstruction as defined under the Minnesota Aeronautic Rules and Regulations is as follows:

Notification: Any sponsor who proposes any construction or alteration that would exceed a height of 200 feet above ground level at the site, or any construction or alteration of greater height than an imaginary surface extending upward and outward at a slope of 100:1 from the nearest point of the nearest runway of a public airport shall notify the Commissioner [note: Minnesota Department of Transportation] at least 30 days in advance.

This local reporting requirement is in addition to the Federal permitting/review process involving proposal where FAA Form 7460-8 is required.

The Metropolitan Council has outlined in the 2030 Transportation Policy Plan the Land Use Compatibility Guidelines for communities surrounding the Minneapolis/St. Paul International Airport. A copy of Table 3 of these guidelines is included in this appendix, and the guidelines are herein incorporated into the City's comprehensive plan.

Table 3											
Land Use Compatibility Guidelines for Aircraft Noise											
Land Use Category	Compatibility with Aircraft Noise Levels										
Type of Development	New Development and				Infill Development and Reconstruction or						
Maior Francisco Zonos	Major Redevelopment				,	Additions to Existing Structures					
Noise Exposure Zones	1 DNL 75+	DNL 74-70	3 DNL 69-65	DNL 64-60	Buffer Zone*	1 DNL 75+	DNL 75-70	3 DNL 70-65	DNL 65-60	Buffer Zone *	
Residential Single/Multiplex with Individual Entrance	INCO	INCO	INCO	INCO		COND	COND	COND	COND		
Multiples/Apartment with Shared Entrance	INCO	INCO	COND	PROV		COND	COND	PROV	PROV		
Mobile Home	INCO	INCO	INCO	COND		COND	COND	COND	COND		
Educational, Medical, Schools, Churches, Hospitals, Nursing Homes Cultural/Entertainment/Recreational	INCO	INCO	INCO	COND		COND	COND	COND	PROV		
Indoor	COND	COND	COND	PROV		COND	COND	COND	PROV		
Outdoor	COND	COND	COND	COND		COND	COND	COND	COMP		
Office/Commercial/Retail	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP		
Services Transportation-Passenger Facilities	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP		
Transient Lodging	INCO	COND	PROV	PROV		COND	COND	PROV	PROV		
Other medical, Health & Educational Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP		
Other Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP		
Industrial/Communication/Utility	PROV	COMP	COMP	COMP		PROV	COMP	COMP	COMP		
Agriculture Land/Water Areas/Resource Extraction	COMP	COMP	COMP	COMP		COMP	COMP	COMP	COMP		

\*



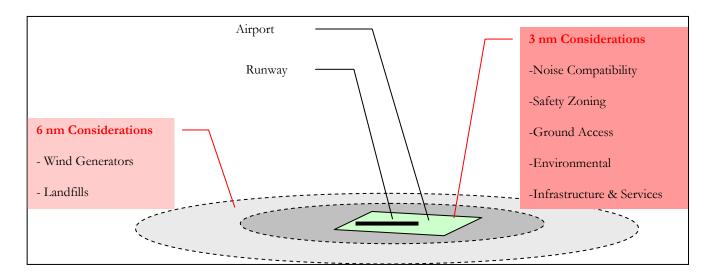
# Airport Influence Area

Both MnDOT Aeronautics and Metropolitan Council have identified "airport influence areas". MnDOT's defined area is based on height limitation and avoiding potential hazards or obstructions to air navigation. At MSP this is approximately defined by a 10,000' radius from each runway end and extending outward into the approach paths of each runway a distance of two miles. All projects of significance within these boundaries are to be coordinated with MnDOT for height limitation evaluation.

Metropolitan Council's "airport influence area" is based on noise impacts associated with four noise policy zones. Zone 1 is the noisiest impact area at 75+ DNL and Zone 4 is the lowest noise impact area at 60-65 DNL. Land Use compatibility within each of the four noise policy zones is indicated in the table above. Since the City is well developed within the airport influence area, the land use restrictions above are largely applicable to infill development or major redevelopment.

The two agencies have designated an Airport Coordination Area around MSP which identifies specific topics of concern within designated areas.

# AIRPORT COORDINATION AREA





# Planning and Development Considerations

#### **Land Use**

Minneapolis-St. Paul International Airport, one of the 20 busiest airports in the world, is an economic driver in the region and the state. Operational activity conflicts with existing neighborhoods in Minneapolis which are predominantly single family residential in the airport vicinity. These neighborhoods were developed before the airport, thus there are few preventive measures available to ensure a greater degree of land use compatibility with the airport. The City has and will continue to aggressively advocate for corrective measures to mitigate noise impacts on residents. The three primary strategies that the City pursues in this regard are:

- Advocate for a 5 decibel sound insulation package for all dwelling units exposed to the airport's 60 DNL and greater noise contour area.
- Advocate noise abatement measures to better manage and reduce noise impacts on a day to day basis.
- Advocate for a long term statewide aviation strategy which allows the metropolitan area to be competitive with other regions and serves all residents of the state with a safe, sustainable and environmentally acceptable aviation system.

The City is currently updating the City Code to incorporate the amended MSP Joint Airport Zoning Board Ordinance. The ordinance addresses both land use safety zoning and height limitation zoning. Additionally, consideration is being given to require additional noise attenuation for expansion of residences that have received sound insulation program measures from the Metropolitan Airports Commission. Table 3 of Appendix H of Metropolitan Council's *Transportation Policy Plan* provides guidance for land use compatibility for both new and infill development.

As shown, any new single family residential development or major redevelopment in areas exposed to noise levels above 60 DNL (annualized average day, night level) are incompatible land uses. Infill development or additions to existing structures within areas exposed to 60 DNL or greater noise levels are deemed conditional land uses if additional noise attenuation is incorporated into the structures. As a matter of federal policy, no new structures constructed after October 1, 1998 within a noise impact area can become eligible for noise mitigation using federal funds.

## Airport Height Limitation Zoning

The current City of Minneapolis Zoning Code provides for height limitation restrictions in proximity to Minneapolis-St. Paul International Airport which are more restrictive than either state or federal guidelines. As provided in Title 20 of the code:



535.60. Height near airport. The following special height limitations shall apply to areas within two (2) miles of the boundary lines of Minneapolis - St. Paul International Airport, except where the primary zoning district is more restrictive:

- (1) Within seven thousand five hundred (7,500) feet of the nearest airport runway boundary, no structure, object of natural growth or portion thereof shall exceed a height of twenty-five (25) feet or one (1) foot for each fifty (50) feet that such structure or object is located away from such runway boundary, whichever height is greater.
- (2) Between seven thousand five hundred (7,500) feet and two (2) miles from the nearest airport runway boundary, no structure, object of natural growth or portion thereof shall exceed a height of one hundred fifty (150) feet.

The City of Minneapolis is currently considering modifying this section of the code to more closely reflect the language of height limitation zoning as adopted by the MSP Joint Airport Zoning Board in 2004.

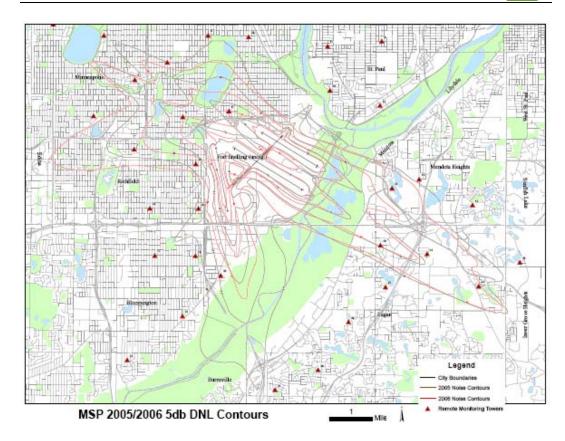
#### **Airport Noise**

The Minneapolis-Saint Paul International Airport (MSP) plays an important role in our region's economy and livability, but the airport also creates environmental impacts, such as noise and air pollution, which are particular concerns for those who live nearby. Airport noise is one of the City's sustainability indicators and is monitored to determine whether noise impacts on the community are getting worse or better. While the City has no direct control over airport operations, it actively encourages and advocates measures to reduce noise impacts in the airport environs. The City's goal is to reduce the average annual noise levels by at least three decibels, the minimum change that is perceptible to the average person's ear, from 2004 levels at all nine monitored locations in Minneapolis.

#### **Trend Analysis**

Despite a 10.6% reduction in air operations from 2005 to 2006 and a continued reduction of older planes, no significant reduction in noise levels was experienced in Minneapolis. Underutilization of the new north south runway resulted in higher than projected use of runways that direct traffic over southwest Minneapolis neighborhoods. The map below illustrates the projected 2005 noise contours as well as the actual noise contours for 2006. As is readily apparent, less noise went to the south than was anticipated resulting in more noise associated with operations off of the parallel runways.





#### Multi-Modal

Minneapolis-St. Paul International Airport is part of our multi-modal system providing global access for freight and passengers. Additionally, the airport is served by light rail, bus, and automobile. The heavily trafficked ring roads around the perimeter of the airport make bike and pedestrian access nearly impossible.

The City implemented a program in 2007 which allows airport users to park in specified downtown City owned parking ramps and use LRT to access the airport. While the program is in its infancy, this proactive step ultimately should help to reduce both congestion and emissions from vehicles particularly those originating from north of the airport.

#### Cargo

Air cargo is an important aspect of service provided at MSP. Cargo includes heavier freight, small package and mail service. Regional commuters carry a small percentage of cargo, but the bulk of cargo is shipped in the belly holds of passenger aircraft or in all-cargo carriers. Nearly 59 percent of cargo was shipped via passenger aircraft while all-cargo carriers shipped about 40 percent. The volume of cargo shipped through MSP remained relatively stable in the 1990's. Since 2000, mail and cargo volumes have been relatively flat reflecting a regional weakness as well as the economic climate.



The Federal Aviation Administration (FAA) and Metropolitan Airports Commission project a 4% annual average growth rate for all cargo tonnage shipped through MSP. This would reflect a growth from 375,874 tons shipped in 2002 to 556,385 tons in 2010 and 823,586 tons by 2020.

The City has supported the development of a Regional Cargo Distribution Center which combined with a foreign trade zone enhance the capability to serve exporters and importers with time saving and cost effective international shipping capacity. At present and for the foreseeable future most air cargo is shipped to/from Chicago by truck due to the significant network advantage that Chicago (314 weekly international passenger flights) holds over Minneapolis-St. Paul (41 weekly international flights).

# Heliports

There are no heliports in the City nor does the City of Minneapolis Zoning Code provide for the establishment of such use. Medical helistops are allowed as a conditional use on the property of a hospital under Chapter 522.40, 538.910 and 540.450 of the City Code and in conformance with state and federal regulations.

There are four licensed helistops in Minneapolis:

- Hennepin County Medical Center
- Abbott Northwestern Hospital
- Fairview Riverside Medical Center
- Fairview University Hospital

# Seaplane Operations

Seaplane activity is prohibited on metropolitan area lakes unless designated by Minnesota Rules 8800.2800. No seaplane activity is allowed on any lakes in the City.

# Navigational Aids and Special Facilities

There are no aviation navigational aids or special aviation facilities located in the City.

# Appendix H. Land Use Compatibility Guidelines For Airport And Heliport Noise

A significant, on-going, environmental issue of public concern in the Twin Cities region is the noise generated by airplanes and helicopters operating in-and-out of the regional system of airports and heliports. There are three methods in which aircraft noise control is focused:

- Reduction of noise at the source,
- Abatement, through alteration of operational procedures, and
- Mitigation preventive and corrective, making land uses more compatible.

The regional, *Land Use Compatibility Guidelines for Aircraft Noise* have been prepared to assist communities in preventive and corrective mitigation efforts that focus on compatible land use. The compatibility guidelines are one of several aviation system elements to be addressed in the comprehensive plans and plan amendments of communities affected by aircraft and facility operational impacts. The Metropolitan Land Planning Act (MLPA), requires all local governmental units to prepare a comprehensive plan for submittal to the Metropolitan Council for review. The MLPA requires periodic update of community comprehensive plans; the next update is scheduled for 2008. The following overall process and schedule applies:

- In 2003 the Council adopted the *Development Framework* chapter of the <u>Metropolitan Development Guide</u> (MDG),
- In 2004 the Transportation Policy/System Plan (TPP) chapter of the MDG is updated and includes the revised *land use compatibility guidelines for aircraft noise*,
- In 2005, after adoption of the new TPP, the Council transmits new *Systems Statements* to each metro community,
- Within nine months after receipt of the *Systems Statements* each community reviews its comprehensive plan and determines if a plan amendment is needed to ensure consistency with the MDG. If an amendment is needed the community prepares a plan amendment and submits it to the Council for review,
- Each community affected by aircraft noise and airport owner jointly prepare a noise program to reduce, prevent or mitigate aircraft noise impacts on land uses that are incompatible with the guidelines; both operational and land use measures should be evaluated. Communities should assess their noise impact areas and include noise program in their 2008 comprehensive plan update. Owners/Operators of system airports should include their part of the noise program in preparation or update of each airports long-term comprehensive plan (LTCP). See Table 1 for listing of noise affected airports and communities.
- Council reviews community plan submittal and approves, or requires a plan modification.
- Airport owner submits long-term comprehensive airport plan or plan update, including noise
  mitigation program, for Council review and approval. A schedule for updates of LTCP's is
  included in the TPP.

Table 1
Noise Impacted Communities

Airport	Community
MSP International	Minneapolis, Bloomington, Richfield, Mendota Heights, Mendota, Eagan, Burnsville
St. Paul Downtown	St. Paul
Anoka County - Blaine	Blaine
Flying Cloud	Eden Prairie
Crystal	Crystal
Airlake	Eureka Twp., Lakeville
South St. Paul	So. St. Paul, Inver Grove Heights
Lake Elmo	Baytown, West Lakeland, Lake Elmo

#### I. AIRPORT NOISE

Both the airport and heliport sections of the land use compatibility guidelines <u>assume</u>:

- ✓ Programs for reduction of noise at its source (engines, airframes),
- ✓ Operational noise abatement measures/plan in place,
- Community comprehensive plans reflect compatible land use efforts occurring through land acquisition, "preventive" land use measures, or "corrective" land use measures,
- Availability of an approved noise policy map for the facility under consideration. The noise exposure maps identify where, geographically, the land use compatibility guidelines are to be applied.

#### **Preventive and Corrective Land Use Measures:**

Airport noise programs, and the application of land use compatibility guidelines for aircraft noise, are developed within the context of both local community comprehensive plans, and individual airport long-term comprehensive plans (LTCP's). Both the airport and community plans should be structured around an overall scheme of preventive and corrective measures. Table 2 depicts the land use measures adopted as part of the MSP Part-150 noise compatibility program for 2007.

The status of noise programs at other system airports, in relation to the land use measures adopted at MSP, are also included to indicate the extent of the current noise control effort on a system-wide basis. Other land use measures may also need to be considered at the reliever airports. The level and extent of noise impacts vary widely between the airports and therefore not all land use measures may be appropriate or the level of emphasis may need to be different for neighborhoods within the same community.

The compatibility guidelines indicate that some uses be 'Discouraged''. Prior to applying the guidelines the comprehensive plan or plan amendment needs to assess what has been or can be done to discourage noise sensitive uses. This should be done when the overall preventive and corrective land use measures are being assessed as part of the overall comprehensive plan.

Table 2
LAND USE MEASURES

MSP International Airport Communities rmance e les for ance YES nance YES nance YES plan, LTCP, EIS, CIP EIS, CIP	ort Communities  ort Communities	Acquire developed property within RPZ's - within runway safety zones	MSP International Airport Communities	Other Regional
Amend local land use plans to bring them into conformance with regional land use compatibility guidelines for Aircraft noise.  Apply zoning performance standards.  Establish a public information program.  Aircraft Communities  YES  YES  YES  YES  YES  Policy Plan, LTCP, Policy Plan, EIS, CIP  EIS, CIP  LTCP, EIS, CIP	ort Communities    Communities	Acquire developed property within RPZ's - within runway safety zones	Airport Communities	
Amend local land use bring them into conformance with regional land use compatibility guidelines for Aircraft noise.       YES       YES         Apply zoning performance standards.       YES       YES         Establish a public information program.       [YES]       [YES]         Policy Plan, LTCP, Policy Plan, EIS, CIP       EIS, CIP	D D D D D D D D D D D D D D D D D D D	Acquire developed property.  within RPZ's within runway safety zones		Airport Communities
bring them into conformance with regional land use compatibility guidelines for Aircraft noise.  Apply zoning performance standards.  Establish a public information program.  [YES]  [YES]  [YES]  Policy Plan, EIS, CIP  LTCP, EIS, CIP	S) □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	- within KPZ's - within runway safety zones		YES
with regional land use compatibility guidelines for Aircraft noise.       YES       YES         Apply zoning performance standards.       YES       YES         Establish a public information program.       [YES]       [YES]         Policy Plan, LTCP, Policy Plan, EIS, CIP       EIS, CIP       LTCP, EIS, CIP	y Plan,	<ul> <li>within runway safety zones</li> </ul>	YES	FCM & STP
Aircraft noise.  Apply zoning performance YES YES Standards.  Establish a public information Policy Plan, LTCP, Policy Plan, EIS, CIP LTCP, EIS, CIP	y Plan,	zones	YES	Airports.
Apply zoning performance standards.       YES       YES         Establish a public information program.       [YES]       [YES]         Policy Plan, LTCP, Policy Plan, EIS, CIP       EIS, CIP	y Plan,	00 1100 . 17.		
Apply zoning performanceYESYESstandards.YESYESEstablish a public information[YES][YES]program.Policy Plan, LTCP, Policy Plan, EIS, CIP	y Plan,	- within DNL 70.	YES	
Establish a public information [YES] [YES] [YES] program. Policy Plan, LTCP, Policy Plan, LTCP, EIS, CIP	Plan,	Part -150 sound insulation	YES	NO
Establish a public information[YES][YES]program.Policy Plan, LTCP, EIS, CIPPolicy Plan, LTCP, EIS, CIP	Plan, FIS CIP	program.	(MAC 5db criteria)	
Policy Plan, LTCP, EIS, CIP	CIP	Property purchase guarantee.	NO	NO
EIS, CIP			(Not supported by	
	1, E15, CH		communities)	
□ Revise building code.   YES   □		Creation of sound barriers.		[YES]Proposed in the
MS 473.192 Builders   MS 473.192	473.192	- walls,		FCM &
Guide Guide Guide	ders Guide	- Berms,	YES	ANE LTCP's.
		<ul> <li>ground runup enclosures</li> </ul>	YES	
☐ Fair property disclosure policy. [YES] Usually [YES] Usually applied	S] Usually applied			
	eveloper or ler.			
□ Dedication of avigation YES YES assements.				
☐ Transfer of development rights. NO NO				
☐ Land banking. NO NO				
(acquisition of undeveloped property)				

The land use compatibility guidelines (contained in Table 3) are defined and described below. Land uses are categorized according to whether they are considered new/major redevelopment or in-fill/redevelopment.

## New Development/Major Redevelopment - or - Infill/Reconstruction

- "New Development" means a relatively large, undeveloped tract of land proposed for development. For example, a residential subdivision, industrial park, or shopping center.
- "Major Redevelopment" means a relatively large parcel of land with old structures proposed for extensive rehabilitation or demolition and different uses. For example, demolition of an entire block of old office or hotel buildings for new housing, office, commercial uses; conversion of warehouse to office and commercial uses.
- "Infill Development" pertains to an undeveloped parcel or parcels of land proposed for development, similar to or less noise-sensitive than the developed parcels surrounding it. For example, a new house on a vacant lot in a residential neighborhood, or a new industry on a vacant parcel in an established industrial area.
- "Reconstruction or Additions to Existing Structures" pertains to replacing a structure destroyed by fire, age, etc., to accommodate the same use that existed before destruction, or expanding a structure to accommodate increased demand for existing use (for example, rebuilding and modernizing an old hotel, or adding a room to a house). Decks, patios and swimming pools are considered allowable uses in all cases.

## **Definition of Compatible Land Use**

The four land use ratings in land use compatibility Table 3 are explained as follows:

- **COMP "Compatible" -** uses that are acoustically acceptable for both indoors and outdoors.
- PROV "Provisional" uses that should be discouraged if at all feasible; if allowed, must meet certain structural performance standards to be acceptable according to MS473.192 (metropolitan area <u>Aircraft Noise Attenuation Act</u>). Structures built after December 1983 shall be acoustically constructed so as to achieve the interior sound levels described in Table 4. Each local governmental unit having land within the airport noise zones is responsible for implementing and enforcing the structure performance standards in its jurisdiction.
- **COND** "Conditional" uses that should be strongly discouraged; if allowed, must meet the structural performance standards, and requires a comprehensive plan amendment for review of the project under the factors described in Table 5.
- **INCO** "**Incompatible**" Land uses that are not acceptable even if acoustical treatment were incorporated in the structure and outside uses restricted.

<u>Noise Policy Area</u> A noise policy area is defined for each system airport and includes - aircraft noise exposure zones; a buffer zone; and , the preventive and corrective land use measures that apply to that facility.

## **Noise Exposure Zones:**

- **Zone 1** Occurs on and immediately adjacent to the airport property. Existing and projected noise intensity in the zone is severe and permanent. It is an area affected by frequent landings and takeoffs and subjected to aircraft noise greater than 75 DNL. Proximity of the airfield operating area, particularly runway thresholds, reduces the probability of relief resulting from changes in the operating characteristics of either the aircraft or the airport. Only new, non-sensitive, land uses should be considered in addition to preventing future noise problems the severely noise-impacted areas should be fully evaluated to determine alternative land use strategies including eventual changes in existing land uses.
- **Zone 2** Noise impacts are generally sustained, especially close to runway ends. Noise levels are in the 70 to 74 DNL range. Based upon proximity to the airfield the seriousness of the noise exposure routinely interferes with sleep and speech activity. The noise intensity in this area is generally serious and continuing. New development should be limited to uses that have been constructed to achieve certain exterior-to-interior noise attenuation and that discourage certain outdoor uses.
- Zone 3 Noise impacts can be categorized as sustaining. Noise levels are in the 65 to 69 DNL range. In addition to the intensity of the noise, location of buildings receiving the noise must also be fully considered. Aircraft and runway use operational changes can provide some relief for certain uses in this area. Residential development may be acceptable if it is located outside areas exposed to frequent landings and takeoffs, is constructed to achieve certain exterior-to-interior noise attenuation, and is restrictive as to outdoor use. Certain medical and educational facilities that involve permanent lodging and outdoor use should be discouraged.
- **Zone 4** Defined as a transitional area where noise exposure might be considered moderate. Noise levels are in the 60-64DNL range. The area is considered transitional since potential changes in airport and aircraft operating procedures could lower or raise noise levels. Development in this area can benefit from insulation levels above typical new construction standards in Minnesota, but insulation cannot eliminate outdoor noise problems.

## • Noise Buffer Zones:

Additional area that can be protected at option of the affected community; generally, the buffer zone becomes an extension of noise zone 4. At MSP, a one-mile buffer zone beyond the DNL60 has been established to address the range of variability in noise impact, by allowing implementation of additional local noise mitigation efforts. A buffer zone, out to DNL 55, is optional at those reliever airports with noise policy areas outside the MUSA.

Table 3

	T Case 1	1:40	2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1. 1. in a fam	( 4) custom: A	00:01				
I and Hay Catarage	Land Osc	Compani	Jiilly Guil	Land Use Companionty Guidennes for Ancian Ivoise	All Clait	Airone	Noise I or	2		
Land Use Category		;		Compati	TIM WILL	ompatibility with Aircrait Noise Levels	Noise Lev	/ers		
Type of Development		New D Major	New Development and Major Redevelopment	t and ment		Infill	Developm dditions to	Infill Development and Reconstruction or Additions to Existing Structures	constructio structures	n or
Noise Exposure Zones	1 DNL	2 DNL	3 DNL	4 DNL	Buffer		2 DNL	3 DNL	4 DNL	Buffer
	75+	74-70	69-65	64-60	Zone*	75+	75-70	70-65	65-60	Zone *
Residential Single/Multiplex with Individual Entrance	INCO	INCO	INCO	INCO		COND	COND	COND	COND	
Multiplex/Apartment with Shared Entrance	INCO	INCO	COND	PROV		COND	COND	PROV	PROV	
Mobile Home	INCO	INCO	INCO	COND		COND	COND	COND	COND	
Educational, Medical, Schools, Churches, Hospitals, Nursing Homes	INCO	INCO	INCO	COND		COND	COND	COND	PROV	
Cultural/Entertainment/Recreational Indoor	COND	COND	COND	PROV		COND	COND	COND	PROV	
Outdoor	COND	COND	COND	COND		COND	COND	COND	COMP	
Office/Commercial/Retail	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Services Transportation-Passenger Facilities	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Transient Lodging	INCO	COND	PROV	PROV		COND	COND	PROV	PROV	
Other medical, Health & Educational Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Other Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Industrial/Communication/Utility	PROV	COMP	COMP	COMP		PROV	COMP	COMP	COMP	
Agriculture Land/Water Areas/Resource Extraction	COMP	COMP	COMP	COMP		COMP	СОМР	COMP	COMP	

Table 4

	Structure Performance Stand	ards 1
Land U	se	Interior Sound Level 2
- Resi	dential	45dBa
- Edu	cational/Medical	45dBa
- Cult	ural/Entertainment/Recreational	50dBa 3
- Offi	ce/Commercial/Retail	50dBa
- Serv	vices	50dBa
- Indu	strial/Communications/Utility	60dBa
- Agr	icultural Land/Water Area/Resource Extraction	60dBa

- 1 Do not apply to buildings, accessory buildings, or portions of buildings that are not normally occupied by people.
- 2 The federal DNL descriptor is used to delineate all the system airport noise policy zones.
- 3 Special attention is required for certain noise sensitive uses, for example, concert halls.

## **MSP Airport Noise Policy Area:**

The noise policy area for MSP International Airport reflects the Part-150 Update process to redefine the MSP aircraft fleet information. That update projects the noise exposure anticipated in 2007 and is included for purposes of planning and review. The noise exposure map and Part-150 document is anticipated to be approved by the MAC and submitted to the FAA for its approval in 2004.

## St. Paul Downtown Airport Noise Policy Area:

The noise policy area for St. Paul Downtown Airport reflects the noise exposure map generated in updating of the airport's long-term comprehensive plan in 2001. The map depicts the noise exposure projected for year 2020 aircraft operations. The MAC has not submitted the plan for Council review pending resolution of environmental and funding issues associated with flood protection of the airport.

## **Anoka County-Blaine Airport Noise Policy Area:**

The noise policy area for the Anoka Co.-Blaine airport reflects the noise exposure map prepared as part of the final EIS in 2003 for the airport's long-term development. The map depicts the noise exposure expected for the year 2015 aircraft operations.

## Flying Cloud Airport Noise Policy Area:

The noise policy area for the Flying Cloud Airport reflects the noise exposure map developed as part of the airport's environmental analysis and input from the City of Eden Prairie in finalizing the airport's long-term comprehensive plan. The map depicts the noise exposure projected for the year 2010 aircraft operations. A final EIS has been prepared on the airport development and a federal record of decision (ROD) is expected in 2005.

## Airlake Airport Noise Policy Area:

The noise policy area for Airlake airport reflects the noise exposure map developed as part of the approved long-term development plan. The map depicts the noise exposure projected for the year 2015 aircraft operations. Land acquisition for the proposed cross runway has not occurred.

## **South St. Paul Airport Noise Policy Area:**

The noise policy area for the So. St. Paul airport has not yet been updated and remains the same as depicted in the 1996 Aviation Policy Plan.

## **Crystal Airport Noise Policy Area:**

The noise policy area for the Crystal airport has not been updated and remains the same as depicted in the 1996 Aviation Policy Plan.

## Lake Elmo Airport Noise Policy Area:

The noise policy area for the Lake Elmo airport reflects the long-term comprehensive development plan approved in 1994. The noise exposure map depicts impact of year 2010 aircraft operations. The noise map in the 1996 Aviation Policy Plan has not been changed, with the exception that application of noise zone D was made optional at the communities discretion.

## **Special Purpose Airports:**

Noise policy areas are not depicted for special purpose airport facilities since they generally do not have sufficient levels of activity to generate an annualized noise contour.

Table 5 Conditional Land Use Review Factors

Land Use Review Factor	Residential:		Education/ Medical	Cultural / Entertai	Cultural / Entertainment / Recreational	Office/ Commercial /Retail	Services
	Single, Multiplex with Individual Entrance, Mobile Home,	Multiplex/ Apartment, with Shared Entrance	Schools, Churches, Hospitals, and Nursing Homes	Indoor	Outdoor		
Indoor Sound level:     Proposed construction design will provide outdoor to indoor attenuation required by structure performance standard in Table 2.	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
<ol> <li>Location: Located under major departure flight track used by jets.</li> </ol>	Incompatible <sup>1</sup>	Compatible	Incompatible	Compatible	Compatible	Compatible	Compatible
<ol> <li>Location: Located parallel to primary runway used by jets.</li> </ol>	Incompatible	Incompatible	Incompatible	Incompatible	Incompatible	Incompatible	Depends upon proposed use.
<ol> <li>Location: Located parallel to runway to be used for unsheilded engine run-ups.</li> </ol>	Incompatible	Compatible	Incompatible	Compatible	Probably Incompatible, depends upon proposed use.	Compatible	Compatible
5. Planning Considerations: Consistent with adjacent land use ambient noise; consistent with the overall comprehensive plan.	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
6. Method of Disclosure: Local government has adopted effective method to inform future occupants of aircraft noise exposure (notice in property deed, truth in housing, informational bulletin, and permit notice).	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible

<sup>1</sup> Incompatible for new development: compatible for redevelopment & infill development if the municipality determines that Factor 5 is satisfied & Factors 1&6 will be enforced

## II. HELIPORTS

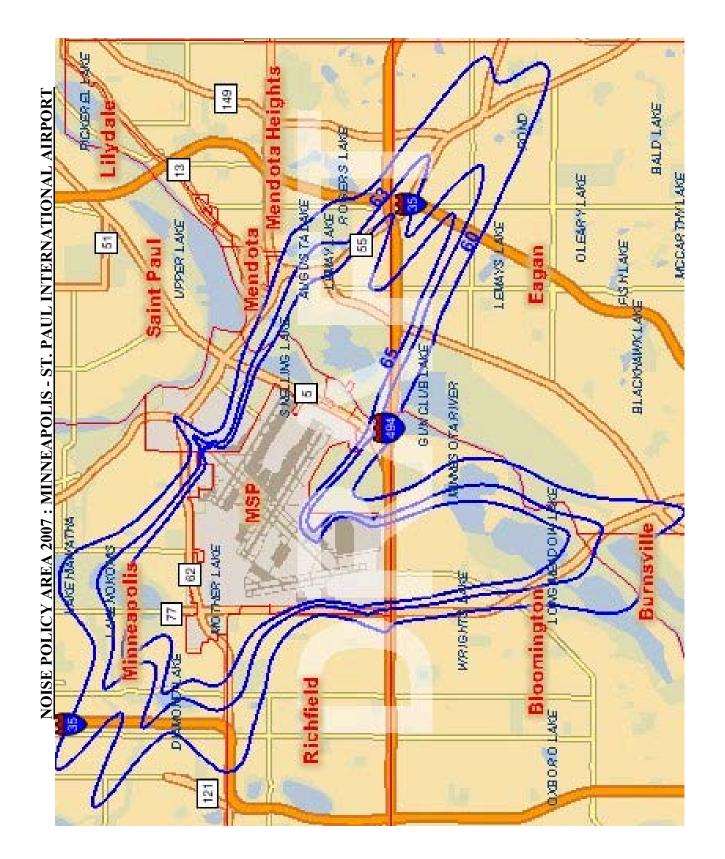
Rotorcraft, including helicopters, can operate at the region's airports; however, one of the key attributes of a helicopter is its ability to be used in very small and hard to reach areas. Often times the landing area is within private property and appropriate operating corridors or buffer area is not adequate. Therefore, a separate model ordinance has been prepared by the Council to assist communities in responding to heliport proposals. The model ordinance is intended to provide the basis for a community to establish appropriate land-use controls (for noise and safety purposes) and administrative procedures for siting a freestanding heliport facility.

The Federal Aviation Administration (FAA) has an advisory circular (AC 150-5020-2) to provide technical guidance for communities and heliport operators in calculating the acoustic environment at heliports, helistops, or helipads. In lieu of adopted federal standards for helicopter noise, the circular is intended to provide assistance in preliminary evaluation of the noise compatibility for new helicopter sites.

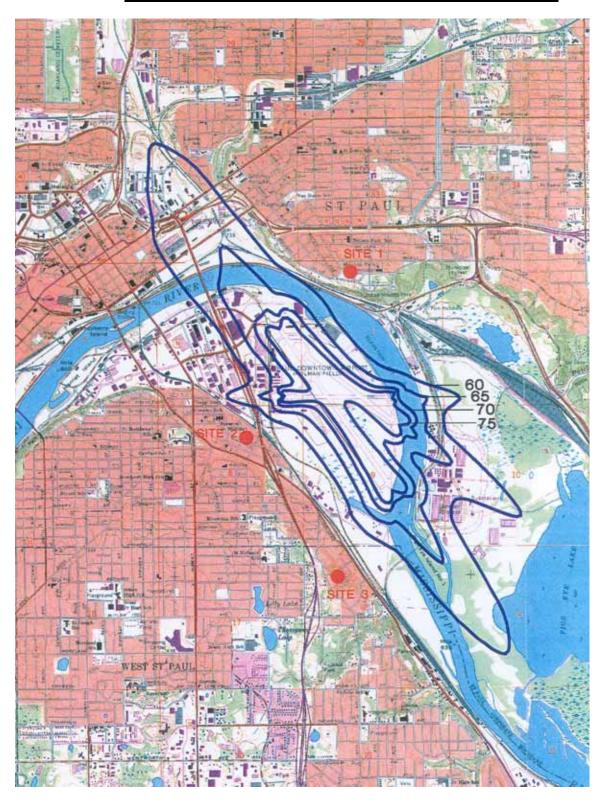
A general discussion of the various helicopter facilities and activities is included in the airport system plan.

# IMPLEMENTATION RESPONSIBILITIES

HELIPORTS	<ul> <li>Metropolitan Council</li> <li>Proposal for any major or intermediate heliport to be reviewed by the Council prior to local approvals.</li> <li>Development of a minor heliport will not require Council review or comprehensive plan amendment.</li> </ul>	<ul> <li>Airport Owners/Operators</li> <li>Include a helicopter element in each airport development and noise abatement operations plan.</li> <li>All heliports proposed to be located within five nautical miles of a System airport is to be reviewed by affected airport manager.</li> </ul>	<ul> <li>Affected Communities</li> <li>Prepare major or intermediate heliport development plans for any heliports approved by city, but not located at a system airport.</li> <li>Heliport plans submitted to the Council must adequately addresses:         <ul> <li>Participation in planning of persons potentially affected by proposal.</li> <li>Identification of potential users, type and frequency of operations.</li> <li>Environmental evaluation of land use compatibility.</li> </ul> </li> <li>Description of facility design, operations and mitigation measures.</li> </ul>
AIRPORTS	<ul> <li>Metropolitan Council</li> <li>Encourage federal and state cooperation to reduce source noise.</li> <li>Define noise policy area for system airports.</li> <li>Encourage cooperation among airport operators and affected communities to develop and implement airport operations plans and community noise mitigation programs</li> <li>Provide general guidance, planning and technical assistance, in application of the guidelines.</li> <li>Review comprehensive plans and land-use agreements.</li> <li>Monitor and evaluate changing conditions in land use, zoning, and operations that might affect the viability of the land use compatibility program.</li> </ul>	<ul> <li>Airport Owners/Operators</li> <li>The MAC and other airport operators should prepare operational plans for each system airport. Airport operating procedures can reduce noise on and off-airport, while distribution of aircraft operations can reduce numbers of people affected by aircraft noise.</li> <li>Participate in preparation and financing of programs to address existing incompatible land uses. The mitigation program should be reflected in the operators capital improvement program.</li> </ul>	<ul> <li>Affected Communities</li> <li>Adopt land use compatibility guidelines to prevent incompatible development.</li> <li>Develop and implement local codes and ordinances.</li> <li>Implement land use planning strategies, such as:         <ul> <li>Insulate structures in noise sensitive areas</li> <li>Adopt building noise attenuation standards.</li> <li>Disclose degree of noise exposure to prospective home buyers.</li> <li>Develop policies on location, relocation and closing of public structures.</li> <li>Develop policies on extension of utilities into noise policy areas.</li> <li>Zone or rezone properties.</li> <li>Redevelop appropriate areas.</li> </ul> </li> </ul>



# NOISE POLICY AREA: ST. PAUL DOWNTOWN AIRPORT



## **NOISE POLICY AREA: ANOKA COUNTY-BLAINE AIRPORT**



# **NOISE POLICY AREA: FLYING CLOUD AIRPORT**

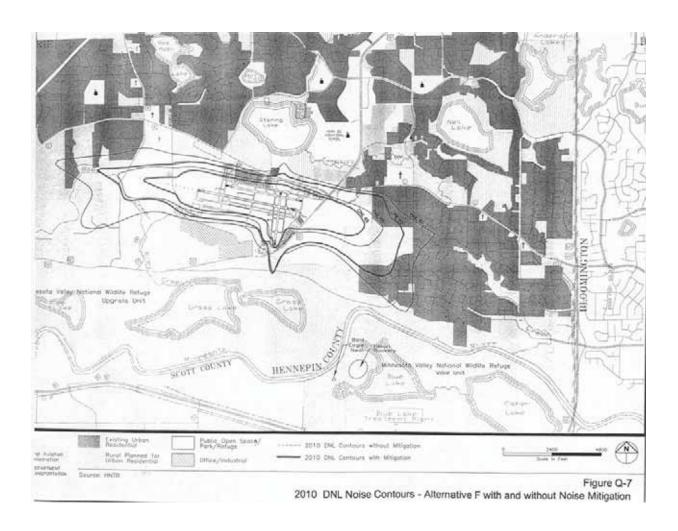


Table 5
TYPICAL LAND USE BY STANDARD LAND USE CODING MAUNAL CODES (SLUCM)

TYPE OF LAND USE		CODE NUMBERS AND SPECIFIC USES
Residential		
- Single/Multiplex with		
Individual Entrance	11	Household units
	11.11	Single units - detached
	11.12	Single units - semi detached
	11.13	Single units - attached row
	11.21	Two units - side-by-side
	11.22	Two units - one above the other
- Multiplex/Apartment with		
Shared Entrance	11.31	Apartments - walk-up
	11.32	Apartments - elevator
	12	Group quarters
	13	Residential hotels
	14	Mobil home parks or courts
- Educational and Medical	1 1	1.10011 Hollie parks of courts
Schools, Churches,		
Nursing Homes	65.1	Hospital
runsing monies	68	Nursing homes
Educational Services	69.1	Religious activities
Educational Services	71	Cultural activities (including churches)
Cultural Entantainment Descriptional	/ 1	Cultural activities (including chulches)
Cultural, Entertainment, Recreational	72	Dublic accombles
- Indoor	72	Public assembly
2.41	72.1	Auditoriums, concert halls
- Outdoor	74	Recreational activities (golf courses, riding stables, water
	7.5	recreation)
	75 76	Resorts and group camps
	76	Parks
Office, Commercial, Retail Services	52	Retail trade - building materials, hardware and farm
	_	equipment
	53	Retail trade - general merchandise
	54	Retail trade - food
	55	Retail trade - automotive, marine craft, aircraft and
		accessories
	56	Retail trade - apparel and accessories
	57	Retail trade - furniture, home furnishings, and equipment
	58	Retail trade - eating and drinking establishments
	59	Other retail trade
-TransportationPassenger Facilities	40	Transportation, communication and utilities
-Transient Lodging	15	Transient lodging
-Other Medical, Health, Educational Services	60	Services
	61	Finance, insurance and real estate services
	62	Personal services
	63	Business services
	64	Repair services
	65	Professional services
	35	Professional, scientific and controlling instruments;
		photographic and optical goods; watches and clocks
		manufacturing



# Appendix D: Housing

## Introduction

This appendix provides supporting content for the housing polices contained in Chapter 3: Housing. In addition, it satisfies Metropolitan Council requirements related to housing. By law, the comprehensive plan must include a housing element and implementation program that address existing and projected housing needs.

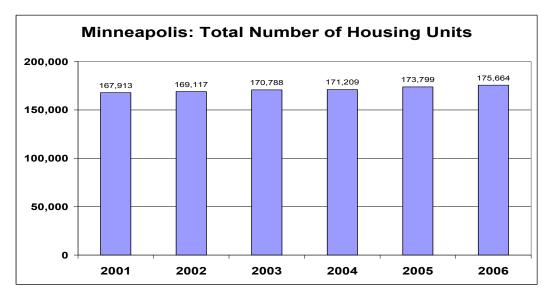
The housing plan must acknowledge the community's share of the region's need for low- and moderate-income housing, and include an implementation section identifying the programs, fiscal devices, and official controls the community will use to address their housing needs. These elements are addressed in Chapter 11: Implementation, but also replicated here with additional information included.

The comprehensive plan must also include an assessment of current housing stock, which is included below. Some of the data are given by community, referring to the eleven communities which cover the City. For a map of the community boundaries, see Map 0.4.

# Assessment of Current Housing Stock

As of Jan. 1<sup>st</sup> 2007, the City Assessor's records show that there are 175,664 housing units in the City, contained within 110,646 buildings.

Figure D.1: Minneapolis Total Number of Housing Units



Source: City of Minneapolis Assessor



Since 2001, the City has added 7,751 housing units or just over 1,500 units annually. This is the highest volume growth of any municipality in this metro area during this same period.

The distribution of housing type varies greatly across the City. The most central communities, such as Central, Calhoun Isle, and Phillips, tend to have fairly high percentages of multi-family buildings and units. Conversely, communities farther out, including Camden, Nokomis, Northeast, and Southwest, tend to be predominantly single family.

Table D.1: Housing Type by Community: Number and Percentage of **Units** by Type, 2006

Community	Single Family	Condo/ Townhouse	Duplex/ Triplex	Four or Five	Six or more	Total Units
Calhoun	3,578	2,815	1,797	922	9,717	18,829
Isles	19%	15%	10%	5%	52%	100%
Camden	9,614	185	1,036	180	954	11,969
	80%	2%	9%	2%	8%	100%
Central	44	6,314	106	81	12,707	19,252
	0%	33%	1%	0%	66%	100%
Longfellow	7,760	630	1,697	315	3,198	13,600
	57%	5%	12%	2%	24%	100%
Near North	5,917	345	2,599	470	2,838	12,169
	49%	3%	21%	4%	23%	100%
Nokomis	13,643	760	1,322	156	750	16,631
	82%	5%	8%	1%	5%	100%
Northeast	8,361	437	4,837	701	3,307	17,643
	47%	2%	27%	4%	19%	100%
Phillips	1,000	839	1,386	529	3,804	7,558
	13%	11%	18%	7%	50%	100%
Powderhorn	8,148	1,861	4,178	1,398	8,104	23,689
	34%	8%	18%	6%	34%	100%
Southwest	15,250	874	2,392	427	2,756	21,699
	70%	4%	11%	2%	13%	100%
University	2,290	1,894	1,465	447	6,529	12,625
	18%	15%	12%	4%	52%	100%



City	75,605	16,954	22,815	5,626	54,664	175,664
	43%	10%	13%	3%	31%	100%

Source: City of Minneapolis Assessor

Table D.2: Housing Type by Community: Number and Percentage of **Buildings** by Type, 2006

Community	Single Family	Condo/ Townhouse	Duplex/ Triplex	Four or Five	Six or more	Total Units
Calhoun	3,760	2,815	899	282	541	8,297
Isles	45%	34%	11%	3%	7%	100%
Camden	9,703	185	521	45	104	10,558
	92%	2%	5%	0%	1%	100%
Central	376	6,314	49	24	375	7,138
	5%	88%	1%	0%	5%	100%
Longfellow	7,892	630	844	90	192	9,648
	82%	7%	9%	1%	2%	100%
Near North	6,057	345	1,317	122	230	8,071
	75%	4%	16%	2%	3%	100%
Nokomis	13,717	760	660	40	94	15,271
	90%	5%	4%	0%	1%	100%
Northeast	8,478	437	2,420	202	271	11,808
	72%	4%	20%	2%	2%	100%
Phillips	1,102	839	690	147	217	2,995
	37%	28%	23%	5%	7%	100%
Powderhorn	8,430	1,861	2,061	380	684	13,416
	63%	24%	15%	3%	5%	100%
Southwest	15,386	874	1,209	105	207	17,781
	87%	5%	7%	1%	1%	100%
University	2,453	1,894	702	122	492	5,663
	43%	33%	12%	2%	9%	100%
City	77,354	16,954	11,372	1,559	407	110,646
	70%	15%	10%	1%	3%	100%

Source: City of Minneapolis Assessor



## **Housing Type**

Compared to the region and the state, Minneapolis has a much lower percentage of single detached homes, and a much higher percentage of residential buildings with ten or more units. In fact, 23% of the units regionally in these type of buildings are in Minneapolis. This is understandable, given its role as an urban center. Single family homes still dominate the landscape in many neighborhoods: even though only 45.6% of the units are single family, they are around 70% of the residential structures.

Table D.3: Units in Structure by Area, 2006

	Minneapolis		Twin Cities MSA		Minnesota	
Housing Type	Number	Percent	Number	Percent	Number	Percent
Single Family detached	78,697	45.6%	816,888	62.3%	1,559,108	68.3%
Single Family attached	8,171	4.7%	137,975	10.5%	158,738	7.0%
Duplex	15,454	9.0%	33,724	2.6%	52,911	2.3%
3 or 4 units	8,590	5.0%	27,554	2.1%	47,791	2.1%
5 to 9 units	7,155	4.1%	31,467	2.4%	54,695	2.4%
10 to 19 units	13,462	7.8%	50,960	3.9%	78,203	3.4%
20 to 49 units	16,925	9.8%	81,599	6.2%	113,860	5.0%
50 units or more	23,608	13.7%	106,157	8.1%	127,303	5.6%
Mobile home	527	0.3%	24,228	1.8%	89,891	3.9%
Boat, RV, van, etc.	65	0.0%	268	0.0%	337	0.0%
Total Units	172,654(**)	100.0%	1,310,820	100.0%	2,282,837	100.0%

Source: US Census 2006 American Community Survey (\*)

<sup>(\*)</sup> The American Community Survey (ACS) is a new nationwide survey designed to provide communities a fresh look at how they are changing. It is a critical element in the Census Bureau's reengineered 2010 census plan. The ACS collects information such as age, race, income, commute time to work, home value, veteran status, and other important data from U.S. households. The ACS collects and produces population and housing information every year instead of every ten years. About three million households are surveyed each year, from across every county in the nation. For further information see: http://www.census.gov/acs/www/

<sup>(\*\*)</sup> There are differences in methodology and timing for counting total housing units: the Census Bureau's estimate of 172,654 units is based on their 2006 survey; and the City Assessor's count of 175,664 units is based on tax records as of January 2<sup>nd</sup> 2007.



## **Housing Occupancy**

According to the 2006 American Community Survey, the City has a vacancy rate of 9.9%, up substantially from 2000. The vacancy rate is slightly higher than the rate for region. As of 2006, Minneapolis contained about 13.2% of all the housing units in the region.

Table D.4: Housing Occupancy by Area, 2000

	Minneapolis	Twin Cities MSA	Minnesota
Occupied	162,262	1,136,615	1,895,127
Vacant	6,261	33,160	170,819
Percent Vacant	3.7%	2.8%	8.3%
Total Housing Units	168,624	1,169,775	2,065,946

Source: US Census 2000

Table D.5: Housing Occupancy by Area, 2006

	Minneapolis	Twin Cities MSA	Minnesota
Occupied	155,646	1,232,889	2,042,297
Vacant	17,008	77,931	240,540
Percent Vacant	9.9%	5.9%	10.5%
Total Housing Units	172,654	1,310,820	2,282,837

Source: US Census 2006 American Community Survey

## **Tenure**

The percentage of owner occupied housing units in Minneapolis is around 54.1%, significant lower than the region.

Table D.6: Tenure by Area, 2006

	Minneapolis	Twin Cities MSA	Minnesota
Owner occupied	84,156	927,748	1,558,206
Percent owner	54.1%	75.2%	76.3%
Renter occupied	71,490	305,141	484,091
Percent renter	45.9%	24.8%	23.7%
Total occupied Units	155,646	1,232,889	2,042,297

Source: US Census 2006 American Community Survey



This disparity in owner occupancy compared to regional and state levels is related directly to the high concentration of rental units in the City, particularly in multifamily buildings. Single family detached homes have a rate of ownership over 85.9% - compared to just 18.9% in buildings with 50 or more units. The vacancy rate for single family detached homes is also lower than other types of residential structures.

**Ownership and Rental Status of** Occupied Units by Housing Type, 2006 100% 80% 60% 40% 20% 20 27 Single Single Triplex 10 to 19 20 to 49 50 units or City Total Family Family and 4 more detached attached

Figure D.2: Ownership and Rental Status by Housing Type

Source: US Census 2006 American Community Survey

Larger units are also more likely to be owner occupied. This is closely related to the fact that many of the larger units are also single family homes.

■ Renter

Owner



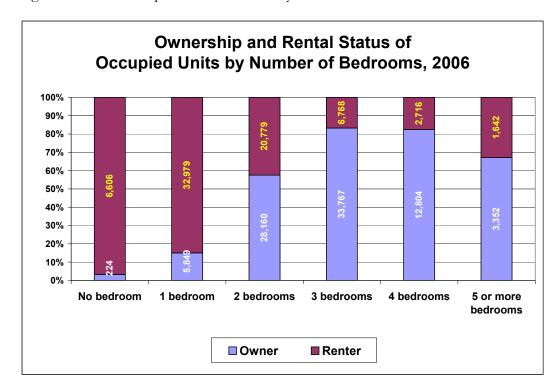


Figure D.3: Ownership and Rental Status by Number of Bedrooms

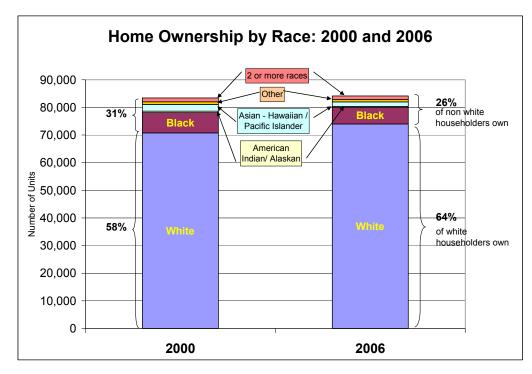
Source: US Census 2006 American Community Survey

Housing ownership also varies by race. In 2000, approximately 58% of white residents owned their homes, while the ownership rates for non-white residents ranged from 13-36%. By 2006, these percentages had changed to 64% for white residents, and 21-43% for non white residents.

Thus the gap between white and non white home ownership rates increased over this period, from 27 percent in 2000 to 38 percent in 2006. The city has not studied these numbers in detail, but is monitoring this trend and is a supporter of the Emerging Markets Initiative, which is addressing this topic on a state-wide basis. Potential explanations may be found in overall demographic patterns showing that in general, non-white residents are younger than whites, have less household income, and are more likely to be newcomers to this area, or to the country.

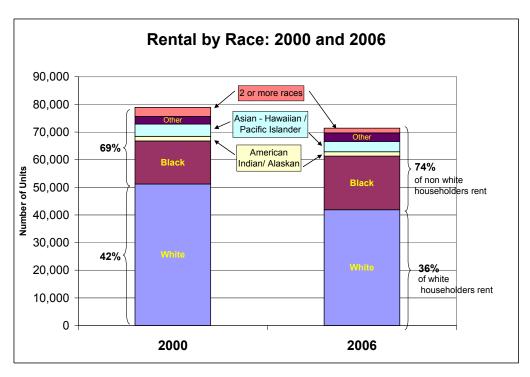


Figure D.4: Home Ownership by Race



Source: US Census 2000 and 2006 American Community Survey

Figure D.5: Rental by Race



Source: US Census 2000 and 2006 American Community Survey



Age is another differentiating factor in owner versus renter occupancy. The rate of ownership generally increases with age. This is tied to race, since non-white residents tend to be younger on average than white residents.

Owner and Renter By Age Group, 2006 25,000 20,000 Number of Units 15,000 10,000 5.000 15 to 24 25 to 34 35 to 44 45 to 54 55 to 59 60 to 64 65 to 74 years years years years years years years Owner Renter

Figure D.6: Owner and Renter by Age Group

Source: US Census 2006 American Community Survey

Additionally, ownership (measured here by homestead status) varies across the City by community. Reflecting the mix of housing types, ownership levels tend to be lower in central neighborhoods and higher in those farther from the center.



Table D.7: Homestead Status by Community, 2006

	Housing Units				
	Homestead	Percent Homestead	Non- Homestead	Percent Non- Homestead	
Calhoun Isle	6,691	36%	12,138	64%	
Camden	8,342	70%	3,627	30%	
Central	4,322	22%	14,930	78%	
Longfellow	8,857	65%	4,743	35%	
Near North	5,080	42%	7,089	58%	
Nokomis	13,916	84%	2,715	16%	
Northeast	11,001	62%	6,642	38%	
Phillips	2,011	27%	5,547	73%	
Powderhorn	11,247	47%	12,442	53%	
Southwest	16,167	75%	5,532	25%	
University	3,661	29%	8,964	71%	
City wide	91,295	52%	84,369	48%	

Source: City of Minneapolis Assessor

## **Rental Costs**

The median gross rent for occupied rental units in the City in 2006 was \$672. This is lower than the regional median, but higher than the statewide one.

Table D.8: Median Rent, 2000 and 2006

	Minneapolis	Twin Cities MSA	Minnesota
2000	\$575	\$641	\$566
2006	\$672	\$724	\$636

Source: US Census 2000 and 2006 American Community Survey



Number of Units by Rental Rates, 2000 and 2006 20,000 15,000 Number of Units 10,000 5,000 < \$200 \$200 to \$300 to \$400 to \$500 to \$600 to \$700 to \$1,000+ \$299 \$399 \$499 \$599 \$699 \$999 **2000 2006** 

Figure D.7: Number of Units by Rental Rates

Source: US Census 2000 and 2006 American Community Survey

Not surprisingly, rent levels have increased from 2000 to 2006. Though the number of rental units remained decreased during that time period, there are now three times units costing \$1,000 or more for monthly rent.



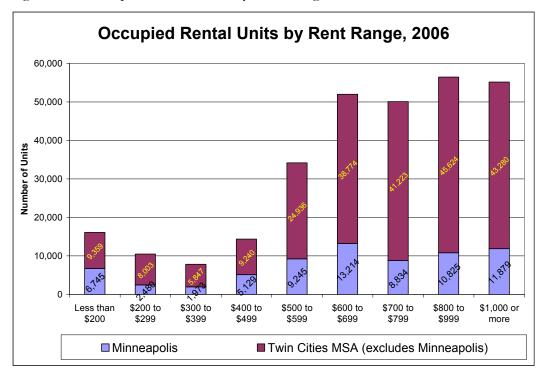


Figure D.8: Occupied Rental Units by Rent Range

Source: 2006 American Community Survey

Rent generally varies directly with unit size. Rental rates from 2006 show that rents have continued to rise since 2003, although they may have declined slightly from 2005 to 2006. In 2006, rent averages ranged from \$601-1,244 depending on unit size.



Average Rent by Unit Size, 2000 to 2006 \$1,600 \$1,400 \$1,200 \$1,000 \$800 \$600 \$400 \$200 2000 2001 2003 2005 2006 2002 2004 Three Bedrooms ◆ Studio One Bedroom Two Bedroom Note: Dollar amounts are not adjusted for inflation.

Figure D.9: Average Rent by Unit Size

Source: GVA Marquette Advisory, Apartment Trends Report

The median percentage of income a renting Minneapolis household paid for rent in 2006 was 32%, slightly higher than the percentages for the region and state. Approximately 52% of renting households in Minneapolis were paying 30% or more for their rent. The numbers were 47% and 44% for the region and state respectively.

Table D.9: Gross Rent as a Percentage of Household Income, 2006

	Minneapolis	Twin Cities MSA	Minnesota
2000	25.7%	25.0%	24.7%
2006	31.8%	29.8%	29.0%

Source: US Census 2000 and 2006 American Community Survey



Minneapolis: Income Distribution of Households Spending 30% or more of their Income on Housing (Gross Rent) 40,000 1.130 35,000 3.169 185 30,000 8,473 Number of Households 975 25,000 7,116 20,000 15,000 10,000 5.000 0 2006 (37,403 households) 2000 (29,810 households) ■ Less than \$20,000 ■\$20,000 to \$34,999 □\$35,000 to \$49,999 ■\$50,000 to \$74,999 ■\$75,000 or more

Figure D.10: Income Distribution of Households Spending 30%+ on Housing

Source: US Census 2000 and 2006 American Community Survey

HUD defines households which spend 30% or more of their incomes on housing costs as "housing cost burdened." During the past six years, the number of renter householders in this group increased by just over 25%, reflecting the fact that housing costs grew faster than household incomes. As one would expect, there are higher numbers of cost burdened households at lower income levels, but this trend was evident at all income levels.

## Ownership Costs

The median monthly costs associated with ownership housing in the City are somewhat lower than comparable values for the region and higher than the state for households with a mortgage. However, as a percentage of household income, they are roughly the same. This reflects the City's lower median income level. Predictably, households without a mortgage paid significantly lower per month in both amount and percentage than did those with a mortgage.

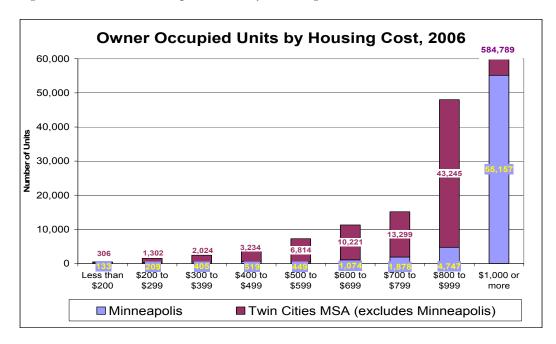


Table D.10: Median Value and Costs of Owner Occupied Homes, 2006

	Minneapolis	Twin Cities MSA	Minnesota
Median monthly cost with mortgage	\$1,535	\$1,624	\$1,436
Median monthly cost without mortgage	\$497	\$478	\$400
Median monthly costs as percentage of	income		
Total	23.3%	23.0%	21.5%
With mortgage	25.0%	25.2%	24.4%
Without mortgage	15.2%	12.4%	12.0%

Source: US Census 2006 American Community Survey

Figure D.11: Owner Occupied Units by Housing Cost



Source: US Census 2006 American Community Survey



Minneapolis: Income Distribution of Households Spending 30% or more of their Income on Housing (Owner Occupied) 30,000 2,804 25.000 6,411 Number of Households 20,000 627 6,252 15,000 **▼** 980 2,641 6,458 10,000 5.369 5,000 2006 (28,963 households) 2000 (14,514 households) ■\$20,000 to \$34,999 □\$35,000 to \$49,999 ■ Less than \$20,000 ■ \$50,000 to \$74,999 ■ \$75,000 or more

Figure D.12: Income Distribution of Households Spending 30%+ on Housing

Source: US Census 2006 American Community Survey

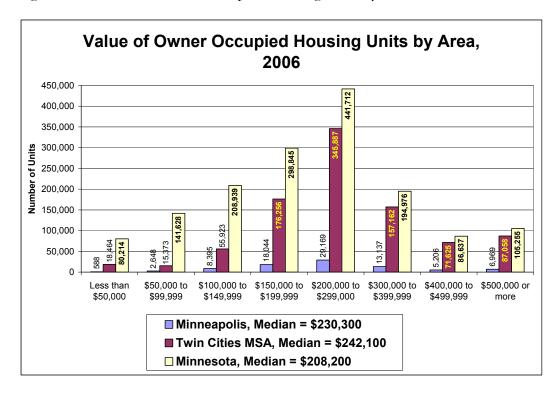
The number of ownership householders who spent 30% or more of their income on housing increased at a rate that was four times as fast as renter households, almost doubling from 2000 to 2006. This reflects the larger and growing gap in the costs of ownership compared to household incomes. These costs were driven by both increases in home values, which doubled during this period, [see figure 12\_] and mortgage interest rates, particularly on sub-prime mortgages. As with renters, this increase was evident across all income groups.



### Value

The median housing value for the City in 2006 was lower than that for the region and higher than the state. However, the state as a whole had a higher percentage of the lowest value housing, under \$150,000.

Figure D.13: Value of Owner Occupied Housing Units by Area



Source: US Census 2006 American Community Survey

The value of owner occupied housing increased significantly from 2000 to 2006. While the total number of units increased rather modestly by 18%, there were four times as many units with values over \$150,000. The median value increased 51% during this time period.



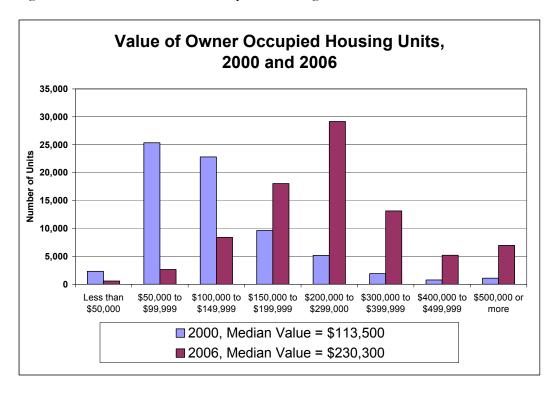


Figure D.14: Value of Owner Occupied Housing Units

Source: US Census 2000 and 2006 American Community Survey

Housing value for single family homes ranges quite substantially across the City. The highest values were in Calhoun Isles, Southwest, and University areas. The lowest were in Near North, Camden, and Phillips. These differences largely parallel income levels in the various neighborhoods. Recent data suggest that, overall, the City's housing stock has continued to increase in value, at least through 2006. However, values in some communities actually declined between 2005 and 2006, pointing to the beginnings of a slowdown in the residential market.



Table D.11: Median Estimate Market Value of Residential Units by Community

	2000	2006
Calhoun-Isles	\$ 177,000	\$ 323,750
Camden	\$ 71,750	\$ 157,000
Central	\$ 67,250	\$ 156,500
Longfellow	\$ 99,000	\$ 208,250
Near-North	\$ 58,500	\$ 168,000
Nokomis	\$ 113,000	\$ 231,500
Northeast	\$ 91,500	\$ 202,500
Phillips	\$ 53,250	\$ 180,000
Powderhorn	\$ 83,500	\$ 194,750
Southwest	\$ 178,000	\$ 322,500
University	\$ 111,125	\$ 234,000
City	\$ 101,000	\$ 210,000

#### Age

Fitting with its role as a historic urban center, the age of Minneapolis' housing stock is significantly older than the region's or state's. In fact, though it contains just 14% of the region's housing units, Minneapolis is home to 44% of the units in the region built before 1940. In contrast, it has only 4.5% of the units built in the region after 1999.



Table D.12: Housing Units: Year Structure Built by Area, 2006

	Minneapolis	Twin Cities MSA	Minnesota
Built 2005 or later	1,714	25,345	37,713
Built 2000 to 2004	5,415	132,783	206,964
Built 1990 to 1999	4,614	195,586	315,938
Built 1980 to 1989	11,175	198,091	308,031
Built 1970 to 1979	15,436	220,561	380,883
Built 1960 to 1969	13,288	141,418	240,026
Built 1950 to 1959	16,009	132,266	239,460
Built 1940 to 1949	13,990	58,568	123,444
Built 1939 or earlier	91,013	206,202	430,378
Total	172,654	1,310,820	2,282,837
Median year built	1940	1975	1973

Source: US Census 2006 American Community Survey

53% of the housing units in the City were built before 1940. Ownership and rental housing have been developed in roughly even proportions in recent years. However, a substantial number of rental units were built in the 1960's and 1970's, some of which reflected urban renewal activities of that time.



Table D.13: Housing Units: Year Structure Built by Ownership status in Minneapolis, 2006

	Total	Owner	Renter	Vacant
Built 2005 or later	1,714	329	1,029	356
Built 2000 to 2004	5,415	1,557	3,341	517
Built 1990 to 1999	4,614	1,741	2,462	411
Built 1980 to 1989	11,175	4,396	5,212	1,567
Built 1970 to 1979	15,436	2,834	10,692	1,910
Built 1960 to 1969	13,288	2,939	8,541	1,808
Built 1950 to 1959	16,009	7,900	6,834	1,275
Built 1940 to 1949	13,990	8,668	4,685	637
Built 1939 or earlier	91,013	53,792	28,694	8,527
Total	172,654	84,156	71,490	17,008

Source: US Census 2006 American Community Survey

Looking at housing type by community and era, it is clear that the City has been home to a diversity of housing types for much of its history. However, the type constructed has varied by time. Townhouses, duplexes, and triplexes tend to date from before 1920, single family homes from between 1920 and 1959, and units in buildings of four or more from 1960 to present.



Table D.14: Housing Units: Structures Built Before 1920 by Community, 2006

	Single Family	Condo or Townhouse	Duplex or Triplex	Four or Five	Six or more
Calhoun Isle	2,270	628	1,313	730	2,351
Camden	2,235	24	524	28	60
Central	38	1,133	93	56	4,808
Longfellow	3,343	4	905	157	143
Near North	2,615	156	1,831	258	222
Nokomis	1,425	0	117	7	13
Northeast	2,868	24	3,860	526	549
Phillips	731	211	1,261	365	888
Powderhorn	4,956	428	3,146	935	1,281
Southwest	4,691	95	591	112	219
University	1,183	111	870	280	749
City	26,355	2,814	14,511	3,454	11,283

Table D.15: Housing Units: Structures Built Between 1920 and 1959 by Community, 2006

	Single Family	Condo or Townhouse	Duplex or Triplex	Four or Five	Six or more
Calhoun Isle	1,097	447	416	173	2,151
Camden	6,672	0	393	99	120
Central	3	476	4	6	1,455
Longfellow	3,966	10	646	131	126
Near North	2,103	15	519	121	246
Nokomis	11,827	29	1,113	93	152
Northeast	4,520	48	607	97	221
Phillips	71	146	36	52	413
Powderhorn	2,791	410	906	403	2,560
Southwest	9,829	405	1,600	306	1,033
University	968	66	333	80	1,281
City	43,847	2,052	6,573	1,561	9,758

Source: City of Minneapolis Assessor



Table D.16: Housing Units: Structure Built Since 1960 by Community, 2006

	Single Family	Condo or Townhouse	Duplex or Triplex	Four or Five	Six or more
Calhoun Isle	211	1,740	68	19	5,215
Camden	707	161	119	53	774
Central	3	4,705	9	19	6,444
Longfellow	451	616	146	27	2,929
Near North	1,198	174	249	91	2,370
Nokomis	391	731	92	56	585
Northeast	973	365	370	78	2,537
Phillips	198	482	89	112	2,503
Powderhorn	401	1,023	126	60	4,263
Southwest	730	374	201	9	1,504
University	139	1,717	262	87	4,499
City	5,402	12,088	1,731	611	33,623

#### Condition

As of January, 2007 around 2.6% of the units in the City were considered to be below average condition, while 7.8% were considered to be above average(\*\*\*). A large majority, 89.6%, were classified as average.

Near North has by far the largest percentage of below average units, with 9.3% of its units fitting that description. The lowest percentage of below average units is in University, with only 1.3%. Central has the highest percentage of above average units, with 23.6%, which may reflect a relatively newer housing stock than on average. The lowest percentage of above average units is in Longfellow, with 2.3%.



Table D.17: Number of Housing Units Rated "Below Average" Condition, 2006

	Single Family	Condo or Town house	Duplex or Triplex	Four or Five	Six or more	Total	Percent
Calhoun Isles	70	7	105	74	35	291	1.5%
Camden	221	0	114	12	22	369	3.1%
Central	5	53	4	2	161	225	1.2%
Longfellow	166	0	32	16	42	256	1.9%
Near North	340	0	317	113	357	1,127	9.3%
Nokomis	224	0	16	5	0	245	1.5%
Northeast	125	0	157	56	59	397	2.3%
Phillips	69	0	80	87	241	477	6.3%
Powderhorn	280	1	248	105	163	797	3.4%
Southwest	176	3	29	4	20	232	1.1%
University	57	0	35	23	45	160	1.3%
City	1,733	64	1,137	497	1,145	4,576	2.6%

(\*\*\*) The City Assessor currently uses a 7 point scale (#1 thru #7):

- O Condition #1 and #2 are considered "Above Average" condition
- Condition #3, #4 and #5 are considered "Average" condition
- Condition #6 and #7 are considered "Below Average" condition.

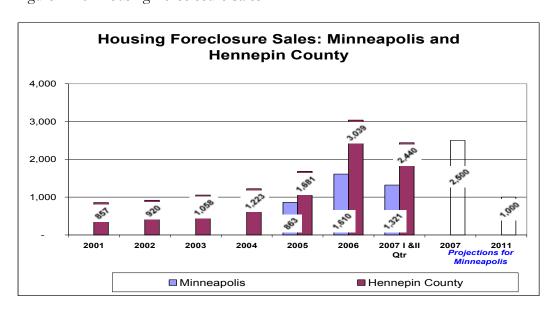


#### **Current Trends Impacting Housing Need**

#### **Foreclosures**

Certain neighborhoods, particularly low-income neighborhoods in North Minneapolis, have been targeted by predatory lenders, resulting in sharp increases of foreclosures and vacant/boarded structures. The Federal Reserve performed an analysis of 2002 foreclosure sales in Hennepin and Ramsey Counties. Of 414 Minneapolis foreclosure sales that year, the foreclosed mortgages, particularly compared to typical mortgages in their neighborhoods, were smaller in amount, had higher interest rates, and were more likely to have been originated by a non-bank or sub-prime lender; foreclosed properties in this area were also more likely to have another mortgage on the property as well. (Federal Reserve Bank of Minneapolis Community Affairs Report, Report No. 2006-1, Targeting Foreclosure Interventions: An Analysis of Neighborhood Characteristics Associated with High Foreclosure Rates in Two Minnesota Counties, Grover, Smith, and Todd, Oct. 2006, at 12) Predatory lending appears to be a factor in the rapid rise of foreclosures; this study found 80% of borrowers in foreclosure owed more on their mortgage than the original principal amount. Foreclosed mortgages were disproportionately of recent origin and carried higher interest rates; 46% originated after 1999. Other factors include indicators of credit risk and indicators of high or increasing minority presence. Finding that rising minority homeownership seemed to have a strong association with foreclosure sale rates, this study recommends that foreclosure mitigation efforts will be crucial in preserving gains in promoting minority homeownership; access to timely, accurate and inexpensive data should lead to better monitoring of foreclosure trends and delivery of effective services.

Figure D.15: Housing Foreclosure Sales





Since 2002, this trend has accelerated; Minneapolis had 863 mortgage foreclosure sales in 2005 (Results Minneapolis CPED, CPED, Oct. 26, 2006, at 21). In 2006, 1,610 homes in Minneapolis went to foreclosure sale, over half of them in North Minneapolis (Minneapolis Trends, Fourth Quarter 2006, CPED, Vol. 5, No. 4).

#### Increase in Vacant and Boarded Housing

This dramatic rise in foreclosures mirrors a sharp increase in vacant and boarded structures. According to statistics maintained by the Minneapolis Inspections Division, at the end of 2005, the City had 163 condemned and boarded homes and 112 homes registered as vacant. By the end of 2007, there were 484 condemned and boarded structures and 285 homes registered as vacant. One hundred and ninety-seven (197) housing units were demolished in 2006. Police reports reflect a growing trend in these structures being stripped of their copper pipe and wiring, increasing the cost of rehabilitation of vacant and boarded homes. Several vacant homes exploded in 2006, due to copper pipe stripping.

While prevention and remedial measures are now pending before the state legislature, these trends threatens to have long term adverse effect on the preservation of affordable owner occupied homes, the housing stock in impacted neighborhoods, and particularly homeownership in minority communities.

#### **Condominium Market**

The City has seen an increase of conversion of existing rental units to condominiums, some of which may provide affordable ownership opportunities. However, recent surveys indicate that this trend may have an adverse impact on the available rental housing market, reducing the supply of affordable rental units. Based on information voluntarily provided by property owners of converted developments to the City Assessor, there were 1,252 housing units converted to condominiums from 2001 to 2005. It should be noted that this data is only a sampling, and not all property owners provided this information. Approximately 23 per cent, or 283 units, were previously affordable rental units to those at or below 50% MMI (Minneapolis' Condo Conversion Trend and Its Effect on Affordable Housing, 2001-2005, CPED, 2006). While often there is no public action involved in creating many of these condominiums, nonetheless, their creation can reduce the supply of rental housing in Minneapolis. The popularity of condominiums as a housing option is also increasing the supply of owner occupied housing.

#### **Immigration**

Significant increases of immigrants have settled in Minneapolis since 2000. In 2004 alone, 9,814 of immigrants who were granted permanent residence settled in the Minneapolis St. Paul metro area (Immigration totals to United States and Minneapolis-St. Paul metro area, 2004, US Department of Homeland Security's Office of Immigration Statistics, Feb. 16, 2004). This number does not include secondary migration to this area from other states, and does not include illegal



immigrants. (According to the Office of Immigration Statistics, 60,258 legal immigrants established residence in Minnesota between 2000 and 2005.) 2005 population estimates from the U.S. Census Bureau put minority populations in Hennepin County as 23.9 percent of the total; more than half of the statewide total minority populations live in either Hennepin or Ramsey County. Statewide, nonwhite and Latino populations grew 21% (62% of total population gain) between 2000 and 2005, compared to a 2% increase for white population (Population Notes: Nonwhite and Latino Populations in Minnesota Continue to Grow Rapidly, McMurry, Aug. 30, 2006.) More immigrants arrived in Minnesota in the year ending Sept. 30, 2005 than in any of the previous 25 years.

Minnesota ranked second only to California nationwide in the number of refugee arrivals. (Record number of immigrants arrived in Minnesota in 2005, State Demographic Center, July 11, 2006) Almost a quarter of children under age 1 are nonwhite or Latino, compared to only 2 percent of people 85 and older. (Halftime Highlights: Minnesota at Mid-Decade, Minnesota State Demographic Center, Dec. 2006 at 11)

#### Minneapolis Resident Survey

The City included several questions about housing in its most recent resident survey, taken in the fall of 2005, with results reported in March 2006. Key findings included:

On Housing / Affordability / Availability / Condition questions:

39% of respondents noted housing as a major challenge facing the City. Some described the challenge as 'affordable housing for all incomes' (18%) while others mentioned 'housing in general' as an issue (16%). 2% specifically mentioned 'homelessness.'

When asked whether Minneapolis residents have a good choice of different housing types, 60% agreed or strongly agreed, whereas 35% disagreed or strongly disagreed.

#### Housing Implementation Program

Like its two predecessors, this update to the comprehensive plan is required to have a housing implementation program, that identifies official controls, programs and fiscal tools the City will use to implement its housing goals and policies. These are outlined below. Similar information is included in the Implementation chapter of the plan.

In its guidance for this round of comprehensive plan updates, the Metropolitan Council has recognized the need for the increased availability of affordable housing throughout the region. In order to ensure an equitable distribution of this housing throughout the region, it has set targets for each municipality to achieve between 2011 and 2020, to meet an overall regional goal of 51,000 newly constructed affordable housing units. The City of Minneapolis' share of this overall goal is 4,088



new affordable housing units. The <u>full report on housing goals</u> is available online. The allocation of these goals by jurisdiction was determined by three factors:

- Proximity to low wage jobs compared to the number of local low wage workers
- Existing percentage of affordable housing
- Level of transit services

The City of Minneapolis acknowledges its share in the regional need for low- and moderate-income housing. It is committed to achieving the goal as stated above. Additionally, the city is committed to growing its housing stock at all income levels, consistent with Metropolitan Council demographic projections for 2030.

#### Affordable Housing Programs and Fiscal Devices

Housing policy implementation at the City of Minneapolis is managed primarily through the Community Planning and Economic Development Department's Housing Policy & Development Division, in partnership with Regulatory Services, Health and Family Support, and other departments and partners. The Housing Division administers a range of programs which develop and preserve affordable housing, eliminate blighting influences, encourage private market activities, and assist low income households in purchasing and rehabilitating homes. These include direct assistance programs as well as various fiscal devices, and are funded through a variety of different sources. As of the date of this plan's adoption, these include:

- Affordable Housing Trust Fund Program (AHTF)
- Affordable Ownership Housing Development Program
- Emergency Shelter Grant (ESG) Program
- Higher Density Corridor Housing Program
- Low-Income Housing Tax Credits (LIHTC)
- Multifamily Housing Revenue Bond (HRB) Program
- Nonprofit Development Assistance Program
- Tax Increment Financing (TIF)
- Capital Acquisition Revolving Fund (CARF)
- Century Homes Program



- Distressed Properties Vacant Housing Recycling Program
- The Home Ownership Program
- Home Ownership Works (HOW) Program
- Housing Replacement Tax Increment Districts
- Senior Housing Regeneration Program<sup>TM</sup> (SHRP)
- CityLiving Mortgage Loans
- Code Abatement Loans
- Home Repair Loans
- American Dream Downpayment Initiative Affordability Loan
- Minneapolis Advantage
- Don't Borrow Trouble
- Five-Point Strategy
- Northside Home Fund

More information about these programs and fiscal devices is available online. Details about specific progress on program objectives is described in the annual HUD Consolidated Plan for Housing and Community Development, and the Consolidated Annual Performance Report.

#### Housing Goals and Policies

The plan is required to include goals and policies addressing the need to add low-and moderate-income affordable housing or other housing to meet special needs, other development and redevelopment expectations, housing maintenance and preservation, density and diversity of housing type. These goals and polices are contained within Chapter 3 – Housing.

City of Minneapolis
Department of Community
Planning and Economic
Development (CPED)



#### 2007 Housing Development, Rehabilitation and Ownership Resource Guide







#### **Cover Images**

#### Top

Project: Greenleaf Lofts
Address: 2000 Nicollet Ave
Developer: Master Civil and

**Construction Engineering** 

Architect: BKV Group

#### Middle

Project: Many Rivers West Address: 1400 East Franklin Ave

Developer: American Indian

Community Development Corporation (AICDC)

Architect: DJR Architecture, Inc.

#### **Bottom**

Project: Heritage Housing Address: 1110 Howell Drive

Developer: Sienna Corporation & NRRC

(Northside Residents Redevelopment Council)

Architect: LHB + Madson

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# Multifamily Housing Development Programs

http://www.ci.minneapolis.mn.us/cped/multifamily\_home.asp

#### Introduction

The Multifamily Housing Development section of CPED administers financing programs to develop and preserve affordable housing throughout Minneapolis. The programs focus on mixed-income multifamily rental housing and ownership housing projects with 10 or more units.

The City of Minneapolis Unified Housing Policy requires that all projects of 10 or more units receiving assistance under any of these programs set aside 20 % of the units as "affordable." "Affordable" is defined as housing costs (rent or mortgage payment), which are less than or equal to one-third (30 %) of the gross income of households earning less than 50 % of the metropolitan median income (MMI).

Important note: numerous City and federal funding requirements will apply to the multifamily financing programs. Program applicants will find more detailed information on funding requirements in the respective request for proposals (RFP) and program documents.

#### Affordable Housing Trust Fund Program (AHTF)

Purpose: "...to finance the production and preservation/ stabilization of affordable and mixed-income rental housing projects in Minneapolis."

#### **Quick Facts**

- Who is Eligible: Nonprofit and for-profit developers
- 2007 Budget: Approximately \$8 million to \$10 million
- Application Procedure: Annual competitive request for proposal process
- Contact Person: Donna Wiemann, 612-673-5257, <u>Donna.Wiemann@ci.minneapolis.mn.us</u>, CPED Multifamily Housing section

#### **Program Summary**

The AHTF Program provides gap financing (the difference between conventional financing and project costs) for affordable and mixed-income rental housing production and preservation projects. Program funds include HOME, Community Development Block Grant (CDBG) and other sources. Minneapolis neighborhoods may elect to dedicate their Phase II Neighborhood Revitalization Program (NRP) funds to the new "Affordable Housing Investment Fund," which is administered under the CPED AHTF program. CPED makes these funds available through a periodic competitive RFP process that is generally coordinated with Minnesota Housing Finance Agency RFPs. The purpose of this program is to finance the production and preservation/stabilization of affordable and mixed-income rental housing projects in Minneapolis. Program funds are targeted to housing for large families, supportive housing for homeless adults and families, and senior/elderly populations.

# Affordable Ownership Housing Development Program

Purpose: "...to assist developers in the rehabilitation and construction of new single family, duplex or multi-unit housing for owner occupancy with long-term or perpetual affordability mechanisms, including limited equity cooperatives."



- Who is Eligible: Nonprofit developers, for-profit developers, and low- to moderate-income households
- 2007 Budget: Approximately \$1,000,000
- Application Procedure: Competitive request for proposals process
- Contact Person: Cherré Palenius, 612-673-5241, <u>Cherre.Palenius@ci.minneapolis.mn.us</u>, CPED Multifamily Housing section and/or Earl Pettiford, 612-673-5231, <u>Earl.Pettiford@ci.minneapolis.mn.us</u>, CPED Single Family Housing section

#### **Program Summary**

This program is a joint effort between the Single Family and Multifamily Housing sections to create affordable single family, duplex, and multifamily ownership units in Minneapolis. Program funds are available to developers to cover construction gap – the difference between total development costs and the sales price of a completed unit/ home (appraised value) – or affordability gap. Developers must provide documentation that the project will remain affordable to the same income group for more than 30 years. Cooperative funds generally will be structured as long-term, low-interest deferred loans, either as a blanket loans to the cooperative or as individual share loans.

In no case shall CPED assistance exceed \$45,000 per unit for units affordable to households earning 50% or below of the metropolitan median income (MMI) and \$30,000 per unit for units affordable to households earning 60% or below of MMI. For all projects with 10+ units, at least 20% of the units must be affordable to and occupied by households earning 50% or below of MMI. Land trust models or limited equity cooperatives are encouraged to apply.

## Emergency Shelter Grant (ESG) Program

Purpose: "...to renovate, rehabilitate, and convert buildings for use as emergency shelters or transitional housing for homeless people."

#### **Quick Facts**

• Who is Eligible: Nonprofit and for-profit developers

• **2007 Budget**: \$550,000

• Application Procedure: Periodic competitive request for proposal process

• **Contact Person**: Donna Wiemann, 612-673-5257, Donna.Wiemann@ci.minneapolis.mn.us, CPED Multifamily Housing section

#### **Program Summary**

Emergency Shelter Grant Program (ESG) funds may be used to renovate, rehabilitate, and convert buildings for use as emergency shelters or transitional housing for homeless people. The properties may be located either in the City of Minneapolis or in an adjacent Hennepin County suburb. These ESG funds, provided to the City by the U.S. Department of Housing and Urban Development (HUD), may not be used for new construction. ESG program funds may be used for furniture, security, and equipment (up to a certain maximum amount) in a new construction project.

#### Higher Density Corridor Housing Program

Purpose: "...CPED acquisition of property for the development of new mixed-income rental and ownership multifamily housing along transit and commercial corridors."

#### **Quick Facts**

- Who is Eligible: Site nominations accepted from neighborhood organizations, nonprofit and for-profit developers, CPED staff and other interested parties. Public (CPED) acquisition required.
- 2007 Budget: \$943,000
- **Application Procedure**: Site nominations from neighborhood organizations and developers solicited year-round. CPED staff nominations considered year-round.
- Contact Person: Kevin Dockry, 612-673-5075, <u>Kevin.Dockry@ci.minneapolis.mn.us</u>, CPED Multifamily Housing section

#### **Program Summary**

The program provides a new funding source for public (CPED) acquisition of sites for multifamily housing development on or near community, commercial and transit corridors (defined in *The Minneapolis Plan*). Funds will be used to assemble larger sites for new mixed-income rental and ownership multifamily housing development. CPED solicits site-specific suggestions in the spring via a site nomination form. Leverage/matching acquisition funds encouraged.



Purpose: "...to facilitate the acquisition and rehabilitation or new construction of multifamily rental units for people with low incomes."

#### **Quick Facts**

- Who is Eligible: Nonprofit and for-profit developers
- **2007 Budget**: Allocation of \$1,109,037
- Application Procedure: An annual request for proposals (RFP), reflecting designations made in the City's Qualified Allocation Plan (QAP). A non-refundable application fee is required with each application. The fee for for-profit developers is based on the total number of units, with a maximum fee of \$2,000. Nonprofit developers pay an application fee of \$700. Request a LIHTC manual for more details.
- Contact Person: Dollie Crowther, 612-673-5263, <u>Dollie.Crowther@ci.minneapolis.mn.us</u>, CPED Multifamily Housing section

#### **Program Summary**

CPED is a "suballocator" of Low-Income Housing Tax Credits (LIHTC) for the state. The program offers a reduction in the owners and investors' tax liability for eligible new construction, rehabilitation and/or acquisition of existing rental buildings that offer housing affordable to people earning 60% or below of the metropolitan median income (MMI).

#### Multifamily Housing Revenue Bond (HRB) Program

Purpose: "...tax-exempt financing to facilitate the acquisition and rehabilitation or new construction of low- and moderate-income multifamily rental units."

#### **Quick Facts**

• Who is Eligible: Nonprofit and for-profit developers

• 2007 Allocation: \$36,848,000

- Application Procedure: Applicants for Housing Revenue Bond financing should submit documents to the Project Coordinator assigned to the project. A full and complete application packet must be submitted to the Project Coordinator at least thirty (30) days before the Community Development Committee Meeting at which the project will be considered. The City charges an application review fee of \$3,000.
- Contact Person: Dollie Crowther, 612-673-5263, <u>Dollie.Crowther@ci.minneapolis.mn.us</u>, CPED Multifamily Housing section

#### **Program Summary**

The Multifamily section administers the City's Multifamily Housing Revenue Bond (HRB) program. Tax-exempt financing is provided for affordable and mixed-income rental housing for families and seniors. The City receives an annual entitlement allocation of Housing Revenue Bonds with automatic 4% Low-Income Housing Tax Credits. The Multifamily section also administers ongoing requests for nonprofit 501(c)(3) and refunding bonds.



Purpose: "...to encourage the development of affordable multifamily housing."

#### **Quick Facts**

• Who is Eligible: Nonprofit developers

• **2007 Budget**: Approximately \$213,327

• Contact Person: Cherré Palenius, 612-673-5241, Cherre Palenius @ci.minneapolis.mn.us, CPED Multifamily Housing section

#### **Program Summary**

This program provides funding to offset nonprofit housing developers' administrative costs when developing affordable multifamily rental, ownership and cooperative housing projects. Up to \$30,000 is awarded per project, depending on the number of proposed units.



## Tax Increment Financing (TIF)

Purpose: "...to help finance the development of new affordable rental and ownership housing projects."

#### **Quick Facts**

- Who is Eligible: Nonprofit and for-profit developers with affordable and mixed-income multifamily housing and mixed-use projects
- 2007 Budget: Project-driven
- Application Procedure: Applications for Tax Increment Financing can be submitted at any time. The City charges an initial application review fee of \$3,000 that is due at the time the application is submitted. A staff team will be assigned to review and analyze the application. The team will normally consist of a Project Coordinator, a Development Finance Analyst and an attorney. It may also include other CPED and City of Minneapolis staff.
- Contact Person: Kevin Walker 612-673-5236, Kevin.Walker@ci.minneapolis.mn.us, CPED Multifamily Housing section

#### **Program Summary**

Tax Increment Financing (TIF) assists the development of new affordable rental and ownership housing projects. Projects must comply with all requirements of the Minnesota Tax Increment Financing Act, as amended. See TIF policy and TIF application at the links below.

CPED TIF policy: www.ci.minneapolis.mn.us/cped/tax\_increment\_policy.asp TIF application: www.ci.minneapolis.mn.us/cped/docs/tif\_application.pdf

# Joint Multifamily Housing & Business Development Program

#### Capital Acquisition Revolving Fund (CARF)

Purpose: "...acquisition funding for housing and economic development."

#### **Quick Facts**

- Who is Eligible: Nonprofit and for-profit developers for commercial and mixeduse development
- 2007 Budget: \$1,000,000
- Application Procedure: Open nomination process via a site nomination form
- Contact Person: Kristin Guild, 612-673-5168 <u>Kristin.Guild@ci.minneapolis.mn.us</u>, CPED Business Development section

#### **Program Summary**

Loans to finance property acquisition for redevelopment of sites located on commercial and transit corridors and at commercial nodes (designated in *The Minneapolis Plan*) for mixed commercial and residential use. Funds will be used to assemble or aid in assembly of larger sites for new mixed-use and mixed-income rental and ownership multifamily housing and commercial development. At least 20% of the housing units must be affordable at or below 50% of the metropolitan median income (MMI). Loan repayment proceeds and interest will return to the fund.

#### Single Family Housing Development Programs

http://www.ci.minneapolis. mn.us/cped/singlefamily\_home. asp

#### Introduction

The Single Family Housing Development section of CPED facilitates the elimination of blighting influences in Minneapolis through the acquisition of substandard, vacant, boarded, obsolete, or non-conforming structures. The Single Family Housing Development section provides financing and administers programs that promote and facilitate housing development, preservation and rehabilitation for projects less than 10 units.

In addition, the Single Family Housing Development section encourages private market activities through the marketing and disposition of land inventory. The section markets the available inventory through the "Lot List" on the CPED website and via monthly advertisements in the *Minneapolis Star Tribune* and *Finance & Commerce*. Copies of the "Lot List" are also available at the Single Family Housing Development section office at 105 Fifth Avenue South, Suite 450, or by calling the marketing line at 612-673-5225, or by email at residentiallots@ci.minneapolis.mn.us

## Century Homes Program

Purpose: "...to rehabilitate and develop single family homes within the City of Minneapolis."

#### **Quick Facts**

- Who is Eligible: A partnership between the City of Minneapolis and the Greater Metropolitan Housing Corporation (GMHC).
- 2007 Budget: \$500,000
- Estimated Annual Production: 20 units
- **Application Procedure**: Staff from CPED and GMHC review and discuss development opportunities and select sites to pursue. Public (CPED) acquisition required.
- Contact Person: Earl Pettiford, 612-673-5231, <u>Earl.Pettiford@ci.minneapolis.mn.us</u>, CPED Single Family Housing section

#### **Program Summary**

The Century Homes Program is a partnership between the City of Minneapolis and GMHC. It was established in 1997 to rehabilitate and develop new homes within the City of Minneapolis. The partnership develops high quality market-rate homes for sale exclusively for owner occupancy. The homes are sold for their full fair market value. The program provides for the partners to share equally in the profits and losses.

## Distressed Properties Vacant Housing Recycling Program

Purpose: "...to remove and redevelop blighted properties in Minneapolis neighborhoods."

#### **Quick Facts**

• Who is Eligible: Nonprofit and for-profit developers

• 2007 Budget: \$600,000

• Estimated Annual Production: 30 units

• Application Procedure: Developer tenders a completed "Offer to Purchase" document

• Contact Person: Elfric Porte, 612-673-5145, <u>Elfric.Porte@ci.minneapolis.mn.us</u>, CPED Single Family Housing section

#### **Program Summary**

The Distressed Properties - Vacant Housing Recycling Program is a planning and redevelopment mechanism designed to address redevelopment needs within Minneapolis neighborhoods. The program is implemented in partnership with the neighborhood groups, the Council Members, development partners in the Northside Home Fund cluster areas and other partners. It is designed to bring together the expertise of CPED, the NRP and the neighborhood organizations to remove blight and work with the development community in redeveloping the individual properties or assembling more than one property (parcel) through neighborhood-based efforts. This program allows for a matching fund for acquisition and disposition of properties for development through the Lot Redevelopment memorandum of understanding with the neighborhood group.



Purpose: "...to provide affordable home ownership opportunities in non-impacted areas of Minneapolis."

#### **Quick Facts**

• Who is Eligible: A partnership between the City of Minneapolis and the Greater Metropolitan Housing Corporation (GMHC).

• 2007 Budget: \$1,000,000

• Estimated Annual Production: 15 units

• **Application Procedure**: Staff from CPED and GMHC review and discuss development opportunities and select sites to pursue.

• Contact Person: Earl Pettiford, 612-673-5231, <u>Earl.Pettiford@ci.minneapolis.mn.us</u>, CPED Single Family Housing section

#### **Program Summary**

This program offers affordable home ownership opportunities in non-impacted areas of the city to buyers with incomes at or below 80% of the metropolitan median income (MMI). This program is funded using community development block grant (CDBG) funds with the entire gap covered by the City. In addition to funds available to the developer for the construction gap, the City provides up to \$30,000 per home in affordability gap financing to the homebuyer in the form of a deferred loan due and payable at the time of sale of the property.



#### **Home Ownership** Works (HOW) **Program**

Purpose: "...to provide affordable home ownership opportunities to first-time homebuyers."

#### **Quick Facts**

- Who is Eligible:
  - **Development funds**: CPED contracts with nonprofit developers to oversee construction and market the completed projects.
- ▶ **HOW homes**: Moderate and low-income first-time homebuyers
- **2007 Budget**: \$600,000
- Estimated Annual Production: 15 units
- Application Procedure:
- **Developers**: CPED is the developer. CPED selects eligible properties with input from neighborhood groups and nonprofit developers.
- Potential homebuyers: Contact the HOW marketing representative who will show available homes and explain the HOW program requirements.
- Contact Person:
  - **Developers**: Edie Oliveto-Oates, 612-673-5229, Edythe.Oliveto-Oates@ci.minneapolis.mn.us, CPED Single Family Housing section
  - Potential Homebuyers: Erin Green, HOW marketing representative, 612-721-7556 x12

#### **Program Summary**

Using federal funds, CPED buys older homes in Minneapolis that need moderate to substantial rehabilitation. In 2006, a new construction component of the program was introduced. CPED contracts with nonprofit developers for the construction and rehabilitation of the projects. The homes are then sold to first-time homebuyers with income at or below 80% of the metropolitan median income (MMI). Homebuyers have the luxury of moving into a home that offers the convenience of a newer home

#### Housing Replacement **Tax Increment Districts**

Purpose: "...a financing tool that allows the City of Minneapolis to be reimbursed for eligible costs incurred in acquiring and preparing blighted properties for redevelopment."

#### **Quick Facts**

- Who is Eligible: Development partners of the Northside Home Fund Clusters
- Funding: Tax-generated reimbursements
- Estimated Annual Production: 20 units
- Application Procedure: The developer notifies CPED of potential acquisition and CPED program manager seeks authorization from the City Council for inclusion in the District.
- Contact Person: Edith Johnson, 612-673-5262, Edith.Johnson@ci.minneapolis.mn.us, CPED Single Family Housing section

#### **Program Summary**

The Housing Replacement Tax Increment Finance (TIF) District is a tool that allows the City of Minneapolis to be reimbursed for costs incurred in acquiring blighted properties and preparing them for redevelopment. Parcels/sites will be redeveloped as market-rate single family housing. Unlike other tax increment districts, the Housing Replacement District's geographic boundary is citywide and allows for the inclusion of properties throughout the city (non-contiguous parcels known as "scattered sites").

#### Senior Housing Regeneration Program™ (SHRP)

Purpose: "...to ensure that the Minneapolis senior population is appropriately housed."

#### **Quick Facts**

- Who is Eligible: Senior homeowners, 55+ years old, living within the City of Minneapolis, whose property is in the lower to median valued range, who are experiencing a need to transition to housing options better suited to accommodate senior living. The homes may need repairs or updates.
- **2007 Budget:** \$300,000
- Estimated Annual Production: 10 units
- **Application Procedure:** Staff from CPED and GHMC review and discuss potential program opportunities from referrals and select sites to pursue. The sites may be acquired by CPED or GMHC.
- Contact Person: Earl Pettiford, 612-673-5231
  <a href="mailto:Earl.Pettiford@ci.minneapolis.mn.us">Earl.Pettiford@ci.minneapolis.mn.us</a>, CPED Single Family Housing section

#### **Program Summary**

The Senior Housing *Regeneration* Program<sup>TM</sup> is a partnership between the City of Minneapolis and the Greater Metropolitan Housing Corporation (GMHC) under the Century Homes program. GMHC created the SHRP program in 2003, and in cooperation with CPED expanded the program to Minneapolis in 2006. SHRP assists seniors in their transition to new housing options that better meet their lifestyle such as condos, town homes, or assisted living. SHRP offers to purchase the properties from the owner at fair market value and renovates the home where necessary. The property is then sold to persons earning an income at or below 115% of the metropolitan median income (MMI), adjusted for family size. The program provides for the partners to jointly make important decisions and share in the costs. This program is designed to work in conjunction with other already existing City programs.

\*Universal Design -- For seniors, as well as others, needing special accommodations to make their homes more livable, i.e. accessible bathrooms, wider doorways, etc., free consultation and construction management assistance is available through the Greater Metropolitan Housing Corporation's three HousingResource Centers which can be reached at 612-378-7895 in Minneapolis.



#### Mortgage & Home **Improvement Programs**

www.ci.minneapolis.mn.us/cped/ city living.asp.

#### Introduction

CPED offers special financing to help low and moderate income households purchase a home in the city or if they already own a home, to complete the repair of any housing maintenance code violations.

The CityLiving Home Program was created in partnership with the City of Saint Paul to help low and moderate income households buy a home. This innovative program typically offers an interest rate that is ½ percent or more below interest rates normally found in the marketplace, In addition, CityLiving provides other assistance that accompanies the primary mortgage that is used to help pay for closing costs and down payment for the home buyer.

For homeowners whose household income is within 80% of the area median, there is help with the cost of completing the repair code violations. The City has arranged for the Greater Metropolitan Housing Corporation to take applications for financing and to even guide the homeowner through the process of obtaining bids for the work to be completed.

#### CityLiving -**Mortgage Loans**

Purpose: "...to provide mortgage financing and assistance to help low and moderate-income buyers purchase homes."

#### **Quick Facts**

- Who is Eligible: Any homebuyers that meet the income and property sale price guidelines.
- Application Procedure and Contact Person: To apply for one of these loans, contact a participating lender. For a list of participating lenders and more program details, visit www.ci.minneapolis.mn.us/cped/city living.asp.

#### **Program Summary**

CityLiving, a program sponsored by the cities of Minneapolis and Saint Paul, provides mortgage financing and special assistance for down payment and closing costs. City-Living loans offer homebuyers an opportunity to buy Minneapolis homes at an interest rate that historically has been below market. More program details and FAQs can be found at www.ci.minneapolis.mn.us/cped/city living.asp.

### Code Abatement Loans

Purpose: "...to maintain the quality and unique character of the City's housing stock."

#### **Quick Facts**

- Who is Eligible: Low-income owner-occupants of a home with three units or less that needs repairs ordered by the City of Minneapolis Department of Inspections. Funds may only go toward City-ordered repairs.
- Application Procedure and Contact Person: To apply for these loans, contact the Greater Metropolitan Housing Corporation at 612-378-7985 or <a href="https://www.housingresourcecenter.org/default.htm">www.housingresourcecenter.org/default.htm</a>.

#### **Program Summary**

The City of Minneapolis offers interest-free loans to owner-occupants of properties with three units or less which have repairs ordered by the City of Minneapolis Department of Inspections. Eligible households must earn 50% or below of the metropolitan median income (MMI). The maximum loan amount is \$20,000. The loan is repaid at the time the house is sold. Loan funds may only go toward City-ordered repairs.

#### **Home Repair Loans**

Purpose: "...to maintain the quality and unique character of the City's housing stock."

#### **Quick Facts**

- Who is Eligible: Low- and moderate-income households.
- Application Procedure and Contact Person: To apply for these loans, contact the Greater Metropolitan Housing Corporation at 612-378-7985 or <a href="https://www.housingresourcecenter.org/default.htm">www.housingresourcecenter.org/default.htm</a>.

#### **Program Summary**

The City of Minneapolis offers amortizing loans for home repairs. Eligible applicants must own and live in the home, whether it is a single family home or a rental property with four units or less. The maximum loan amount is \$25,000, depending upon household affordability guidelines and amount of equity in the home. This program has an interest rate of one percent and the maximum term is 20 years. The maximum household income to qualify for these loans is 80% of the metropolitan median income (MMI). This loan can only be used to complete City-ordered repairs.



#### **American Dream** Downpayment Initiative -**Affordability Loan**

Purpose: "... to provide downpayment and closing cost assistance to help low and moderate-income firsttime homebuyers, displaced homemakers and single parents purchase homes."

#### **Quick Facts**

- Who is Eligible: First-time homebuyers, displaced homemakers or single parents who earn less than Section 8 limits set by the Department of Housing and Urban Development for the Minneapolis-St. Paul Standard Metropolitan Statistical Area (SMSA). Preference given to applicants who currently reside in government subsidized public housing or who are recipients of Section 8 rental assistance.
- 2007 Budget: \$552,158
- Application Procedure and Contact Person: Must be used in conjunction with a CityLiving mortgage program. To apply, contact a participating lender. For a list of participating lenders and more program details, visit www.ci.minneapolis. mn.us/cped/city living.asp.

#### **Program Summary**

American Dream Downpayment Initiative (ADDI) assistance comes in the form of a 0% interest affordability loan with no monthly payments. The maximum loan amount is 6% of the sale price or \$10,000, whichever is greater; the minimum loan amount is \$1,000. The loan will be forgiven over a five year time period from the date of closing with forgiveness occurring at a rate of 20% each year on the anniversary of closing date. The loan is due on sale, transfer of title, or when the primary mortgage is paid off, except in the case of a refinance. The loan may be subordinated subject to the CPED Subordination Policy in effect at the time of the request for subordination.

The funds may be used towards a downpayment or normal and usual closing costs. Eligible properties are located in Minneapolis and have been constructed during or after 1978 or have been newly rehabilitated. The maximum purchase price must be at or below the following limits: \$251,750 for a single family house (including condominium or townhome). If the house is newly renovated, it must have been rehabilitated to a standard that eliminates any health and safety deficiencies and addressed lead abatement or containment according to federal regulations associated with federal funding sources. Existing structures that were not constructed during or after 1978 and have not been renovated recently (including renovation of the common areas of a townhome or condominium) are not eligible.

Applicants must complete home ownership counseling through an approved organization and must provide a certificate indicating completion of the home ownership counseling prior to closing of the loan.

The loan must be secured by a Promissory Note and a Mortgage. The loan may be secured in a lower lien position behind other program funds. No title insurance is required. No mortgagee clause is required in the owner's hazard insurance policy.

#### **Glossary of Terms**

ADDI: American Dream Downpayment Initiative **Affordability Gap:** The difference between the buyer's mortgage amount and the sales price of a completed unit/home. AHTF: Affordable Housing Trust fund Program CARF: Capital Acquisition Revolving Fund CDBG: Community Development Block Grant Construction gap: The difference between total development costs and the sales price of a completed unit/home (appraised value). Department of Community Planning and Economic Development CPED: ESG: Emergency Shelter Block Grant Program Gap financing: The difference between conventional financing and project costs. **GMHC:** Greater Metropolitan Housing Corporation HOW: Home Ownership Works Program HRB: Housing Revenue Bond **HUD:** US Department of Housing and Urban Development LIHTC: Low-Income Housing Tax Credits MMI: Metropolitan median income **NRP** Neighborhood Revitalization Program QAP: Qualified Allocation Plan RFP: Request for proposals SHRP: Senior Housing Regeneration Program™ TIF: Tax Increment Financing



#### Appendix E: Water Resources

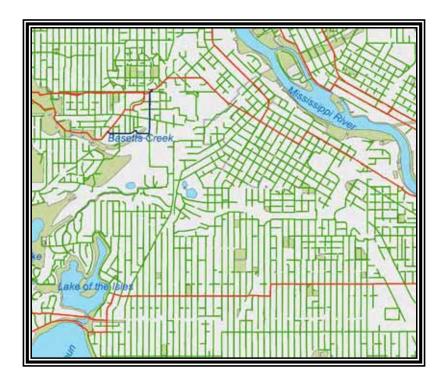
#### Overview

Minnesota law requires all municipalities to develop three chapters that constitute their water resources management plan:

- A wastewater and comprehensive sewer plan that specifies areas to be sewered by the public system, sets standards of operation for private systems and identifies areas that are not suitable for public or private systems.
- A surface water management plan that protects water quality and addresses water quantity issues.
- A water supply plan that ensures a safe and sufficient water supply now and in the future.

Copies of these three plans are included here. These plans are incorporated as part of the City's comprehensive plans, and their content addresses the state and Metropolitan Council requirements for this topic.

#### City of Minneapolis Sanitary Sewer Plan 2008







Prepared By:
City of Minneapolis
Public Works Department
Division of Surface Water & Sewers
August 2008

Prepared for submission to the Metropolitan Council as part of The Minneapolis Plan for Sustainable Growth

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#### **Background**

The sanitary sewer system within the City of Minneapolis is 852 miles in length. Of those, 777.2 miles of sewers belong to the City while 74.8 miles are owned by Metropolitan Council Environmental Services (MCES). See **Figure 1** for map of overall system. The oldest sewers on record were constructed in 1870, along Washington Avenue through downtown. Sewers were constructed as the City expanded and reached its current geographic extent in the 1930s. Because the City is fully developed, new additions to the sanitary sewer system have been rare in recent decades.

The oldest sewers are brick or non-reinforced cement construction. Brick was used for larger sewers, usually 24 to 96 inches in diameter and were usually egg-shaped with the smaller section at the bottom to convey sanitary flows. The larger section at the top was reserve capacity for the larger flows experienced during rainstorms. The cement sewers were generally smaller than the brick sewers, 12 to 24 inches in diameter, and oval in shape. The oval shape served the same purpose as the egg shape. The brick and cement sewers are still in operation today.

In approximately 1896, the City abandoned the use of cement pipe construction and started using clay pipe for new construction. Clay is still the preferred material for sanitary sewer construction. For larger sewers, brick construction was abandoned in approximately 1930 and replaced with concrete. The following information is a summary of materials that exist in the Minneapolis sanitary sewer system:

<u>Material</u>	Range in Size	Years of Construction	% of System
Clay	8" to 36"	1880 to 1996	80%
Brick	24" to 96"	1870 to 1930	10%
Cement	12" to 24"	1882 to 1884	3%
Concrete	12" to 102"	1927 to 1996	4%
Other	6" to 30"	1931 to 1996	3%

In 1922, in the developing areas of the City, the Sewer Department began construction of a storm drain system that was separate from the sanitary sewers. Except in these newer areas, the older sanitary sewers continued to serve as combined sewers until 1960, when the City began actively constructing storm drains in areas served by combined sewers.

#### Capacity

As explained above, most of the City's sanitary sewers were constructed as combined sewers and therefore were designed with the extra capacity needed to convey both sewage and stormwater. Removal of the stormwater from the sanitary sewers has created extra capacity in the sanitary system that is available for growth. However, there are a small number of sanitary sewers that are in need of reconstruction to increase the flow capacity.

#### **Service Connections**

There are 97,446 sanitary sewer accounts within the City of Minneapolis representing approximately 97,600 connections to the system. As Minneapolis is a fully developed urban area, most new growth will occur as redevelopment of existing properties and therefore a significant change in the total number of connections is not anticipated.

#### **Sewer Availability**

The South East Minneapolis Industrial area, also referred to as University Research Park and as part of the Biosciences Zone, is the only major area of Minneapolis that was never served with sanitary sewers. Construction of a sanitary collection system was discussed as part of the proposed SEMI Master Plan for the area. Funding of this system, and how it will be constructed, is yet to be determined.

#### **Individual Sewage Treatment Systems Management**

There are no known Individual Sewage Treatment Systems (ISTS), including septic systems, privy vaults or cesspools, operating within the City. The Minneapolis Code of Ordinances Chapter 101 prohibits the use of such systems where public sewers are available, and Chapter 511 prohibits the construction of such systems for new buildings. Although there are no known sites, the City transferred authority to Hennepin County to regulate ISTS locations within the City, if any should be found to exist. Hennepin County Environmental Health provides septic inspection and enforcement programs under the authority of Hennepin County Ordinance No. 19. This ordinance adopts Minnesota Rules Chapter 7080 governing ISTS and went into effect January 1, 2000.

#### **Sanitary Pumping Stations**

Only 10 sanitary pumping stations exist within the City. The majority of the wastewater flows by gravity to the MCES interceptors. See **Figure 2** for map of connections to MCES interceptor sewers.

#### II. Combined Sewer Separation and Inflow & Infiltration Reduction Program

#### **Combined Sewer Separation History In Minneapolis**

From the late 1800s through the early 1920s all sewers in Minneapolis were constructed as a combined system, designed to carry both sewage and stormwater. In 1922, construction started for a separate storm drain system around Minneapolis lakes, as well as in newly developing areas of the City. Older areas continued to be served by combined sewers. Sewer separation began in earnest in the 1960s, in conjunction with a Citywide paving program.

In 1986, the City began an accelerated sewer separation program called Minneapolis Combined Sewer Overflow Program - Phase I. Combined Sewer Overflows (CSOs), wherein a combination of raw sewage mixed with stormwater from major rain events discharged directly to the Mississippi River, were greatly reduced by Phase I efforts. Phase I was supported in part by federal and state funds and was responsible for disconnecting storm infrastructure that contributed more than 4,600 acres of surface area to Minneapolis sanitary sewers.

The Minneapolis Combined Sewer Overflow Program – Phase II was developed in 2002, based on a 1999/2000 comprehensive planning process and an April 2002 study entitled <u>Combined Sewer Separation Elimination</u> that identified inflow, rather than infiltration, as the major contributor to CSOs (the terms "inflow" and "infiltration" are described on the following page).

The 2002 study (in its Table ES-4) recommended that Minneapolis:

- ES-4 (1) -- Disconnect remaining public sector inflow sources: isolated catch basins (inlets), alley drains, and storm drains
- ES-4 (3) -- Disconnect remaining private sector inflow sources: rainleader connections, area drains, or other clean water discharges
- ES-4 (6) Provide Permanent in-line storage

The status of these recommended actions is as follows:

- ES-4 (1) See **Figure 8** for table of the remaining capital projects.
- ES-4 (3) See section entitled Rainleader Disconnection Program (below) and Figure 5 for status.
- ES-4 (6) This will be kept as an alternative of last resort. This would be a high maintenance alternative that could damage the pipe due to hydrogen sulfide gas production.

The City's Tier II Comprehensive Sewer Plan, that documented the City's implementation plan for Phase II CSO improvements, was approved by MCES in January 2003.

Progress in elimination of CSOs appears dramatic throughout Phase I and Phase II as upgrades to the sewer system were carried out. Both the frequency and the volume of untreated sewage overflowing into the stormwater system during intense rainstorms and discharging into the Mississippi River have steadily diminished. In 2007, no CSO events occurred in the City of Minneapolis, marking the first year since the City of Minneapolis built its first sewer in 1870 that untreated sewage did not pollute the Mississippi River in Minneapolis. While the City's efforts in CSO reduction are in large part responsible for this improvement, it should be noted that the metropolitan area has experienced several periods of drought conditions during the past several years. Therefore, overflows could still occur and the separations that remain are generally the most difficult and complex to locate and resolve.

#### **Goals and Strategies**

The goal of Phase II of the CSO Program is to eliminate CSOs at the eight outfalls/regulators that still have CSOs. The following table shows information about these regulators:

Regulator Site Location	NPDES Permit Number	Responsible Party
39 <sup>th</sup> Av S & Minnehaha Parkway	M001	MCES
38 <sup>th</sup> St E & 26 <sup>th</sup> Av S	M002	MCES
Southwest Meters	M004	MCES
Northwest Meters	M005	MCES
East Meters	M006	MCES
26 <sup>th</sup> St E & Seabury Av	M007	MCES
Oak St SE & 5 <sup>th</sup> St SE	M012	City
Portland Av & Washington Av S	M020	MCES

The elimination of overflow structures may not be feasible in every case without causing a public health or safety hazard. Some overflow regulators may need to remain operational for emergency bypasses necessitated by extreme storm or flood events, or to minimize damage due to accidents or system failures. The City's minimum goal is to meet or exceed the EPA's current sewer overflow control policy.

#### **Inflow & Infiltration Reduction Program**

New in 2007 is a specific program for Inflow & Infiltration (I & I) capital projects. This program augments the current CSO program. The I & I reduction program is being implemented to meet goals established by MCES. Infiltration is the seepage of groundwater into sanitary sewer pipes through cracks and joints. Inflow is typically a structure or device that collects stormwater and drains to the sanitary sewer. The stormwater source can be catch basins, roof rainleaders, area drains or other devices, all connected directly to the sewer system. MCES has measured the amount of I & I, called Excess Flow, from the City of Minneapolis. The Excess Flow from all metropolitan area communities, including Minneapolis, creates problems in the regional sanitary sewer system and wastewater treatment plants. The addition of surface water into the City of Minneapolis sanitary sewer system creates problems for MCES and problems for the City of Minneapolis.

For MCES, this Excess Flow uses pipe capacity and treatment plant capacity that was desired for growth. In some cases, the Excess Flow exceeds the capacity of the interceptor pipes and is bypassed to public waters. Or, in some cases, the Excess Flow exceeds the capacity of the treatment plants, and the Excess Flow bypasses plant treatment and is discharged to public waters.

For the City, this Excess Flow creates problems because (1) it degrades the City's environment, (2) the City is being charged for treatment of this Excess Flow as though it were wastewater, and (3), the most costly problem, the Excess Flow makes the City subject to the MCES Surcharge, described as follows:

MCES has established I & I goals for all communities discharging into their treatment system. All communities that exceed their I & I goals are required to develop and implement a program to reduce I & I, no later than 2012, to the established goal. In 2007 MCES initiated a surcharge program to compel communities to solve their I & I problems. In the program, MCES penalizes a community that has Excess Flow and plans to hold the penalty in escrow until the community performs work that results in an actual reduction of the Excess Flow. However, if the community develops and implements a successful I & I program, MCES will waive all or part of the surcharge for the subject year, with the amount waived proportionate to the Excess Flow successfully removed.

For the City of Minneapolis, MCES calculated the 2007 surcharge amount to be \$ 7.9 million. The City established its I & I reduction program to proactively plan and implement an I & I reduction program to meet its goal for 2007 within the specified timeframe and did not have to pay an MCES 2007 surcharge. As pertains to the City of Minneapolis, the most significant part of I & I for MCES is the Inflow, and as a result of effective efforts to reduce Inflow sources of Excess Flow in 2007, the City achieved reduction goals set by MCES.

#### **Rainleader Disconnection Program**

A City of Minneapolis ordinance called <u>Chapter 56: Prohibited Discharges to Sanitary Sewer System</u> went into effect in August 2003. Its purpose is stated as follows:

MCO 56.10 Purpose: The City of Minneapolis has been pursuing an aggressive campaign of separating its sanitary sewer system from its stormwater drainage system to reduce the number of combined sewer overflows (CSO). However, some rainleaders and other components, which handle stormwater, are still connected to the sanitary sewer system. During rain events, infiltration and inflow from buildings and parking lots with rainleaders and area drains connected to the sanitary sewer system, cause its capacity to be exceeded resulting in overflows to adjacent storm drains. This overflow ends up discharging sewage and stormwater into the

Mississippi River. Rooftop drains (rainleaders) that are connected to the sanitary sewer system are one of the major causes of combined sewer overflows.

Residential and commercial buildings, usually built before [1930], sometimes have pipes that lead underground directly into the sanitary sewer system, rather than through gutters to lawns or the stormwater drainage system. To protect the environment and prevent these overflows as well as preventing the possibility of sewage backing up into homes and businesses, rainleaders and other connections which deliver stormwater into the sanitary system rather than the stormwater drainage system or to pervious surfaces need to be disconnected. State and federal environmental mandates require us to work to eliminate combined sewer overflows.

The city and metropolitan council have conducted studies that determined the main contributor to these overflows is rainleader connections. The purpose of [City of Minneapolis Code of Ordinances Chapter 56] is to define regulations that will aid the city in limiting inflow of rainwater to the sanitary sewer system. The ordinance will help to minimize the overflow problem resulting from the lack of capacity of the sanitary system to handle large amounts of rainwater. Rainwater runoff will be more appropriately handled through natural filtration and/or the stormwater drainage system. The net result will be a cleaner Mississippi River and a more efficient waste treatment system.

Previous City ordinances and state plumbing codes affected only new construction, not existing connections. Revisions to Chapter 56 were approved in 2006 that were designed to accelerate compliance. These included adding Chapter 2 Administrative Citation enforcement, adding the ability to order connection to the City storm drain as the disconnection method, and utilizing assessments to cover disconnection costs.

The objective of the Rainleader Disconnect Program (RDP) is to identify and disconnect all rainwater pipes, rainleaders, area drains or other connections from any building, structure, ground or premises in Minneapolis. The RDP staff includes the Program Manager, RDP field inspectors and administrative positions. Minneapolis Regulatory Services, Environmental Management & Safety Division, in coordination with Minneapolis Public Works, Surface Water & Sewers Division, is responsible for managing the RDP.

Under the RDP, property inspections for private stormwater connections to sanitary sewers began in February 2003 and were completed in 2007. All privately owned and publicly owned parcels in the city were inspected, with the exception of University of Minnesota properties. The RDP is continuing a joint inspection program with the University of Minnesota Environmental Health and Safety department.

The 2003-2007 inspection results are summarized as follows: Over the five years of inspections, 103,711 parcels were inspected. A total of 5,997 violations were found. Of the 5,997 violations, 3,789 (63%) were Downspouts or Open Standpipes, 1,763 (29%) were Roof Drains, and 439 (7%) were Area Drains. The violation locations and status (open or closed) as of April 11, 2008 are shown on the map on the following page. It should be noted that by April 11, 2008 the number of violations had increased from 5,997 to 6,031. This increase is not because properties had been missed during the 2003-2007 inspections, but because new information had come to light. The number may increase again, if additional violations are found to exist.

Inspections were undertaken in advance of planned street reconstruction and renovation projects. These inspections provided property owners with sufficient notice to plan disconnection work in conjunction with MPW operations. This saved property owners money on street restoration costs and minimized the damage to newly constructed road surfaces.

As noted on **Figure 6**, as of April 11, 2008, 3,251 (approximately 54%) of the <u>sites</u> in violation (not 54% of the connected <u>acreage</u> – see **Figure 5** for acreage) that, at the time the Chapter 56 ordinance went into effect were still connected to the sanitary sewer system, had been corrected (meaning they had been disconnected from the sanitary sewer system). By the end of 2008, it is anticipated that approximately 70% of the sites in violation will have been corrected. Of those that remain, there are generally four categories, as follows:

Category A. Projects for which permits have been issued and are in progress.

<u>Category B.</u> For some parcels, a "time extension" has been applied for and granted, due to various circumstances (other than Category D, below). Once granted, there is an ongoing fee based on the square footage of the parcel area that is tributary to the sanitary sewer system. The time extension can be for one, two or three years, after which time the parcels are reviewed on a case-by-case basis for a change in circumstances that allows the property owner to proceed with disconnection.

<u>Category C</u>. For some violations, the property owners have been non-responsive. For these parcels, a citation program has been established, with associated fines. The first citation bears a fine of \$750. If there has been no response within 30 days, the city is able to issue a second citation imposing a fine of \$1,500. It there still has been no response within 30 days, the city is able to issue a third citation, and monthly thereafter if necessary, each imposing a fine of \$2,000.

<u>Category D</u>. The final category is those parcels that do not have green space for redirecting the stormwater, such as those in commercial areas or downtown, and also lack a public storm drain in close proximity to which a connection can be made. For these properties, municipal storm drain infrastructure needs to be built to accomplish the disconnection. In some instances the only storm drain networks available for these extensions of service are already at or near their design capacity and thus, before the additional stormwater that will result from sanitary sewer disconnections can be added to the storm drain system, rate control facilities need to be installed to prevent localized flooding in downstream areas.

Additionally, several metro area watershed management organizations have placed new restrictions on the addition of both new volume and discharge rates to receiving bodies of water, as has the Minnesota Department of Transportation for receiving MnDOT storm tunnels. These challenges have dramatically increased the cost of construction as compared to earlier CSO projects. A cost-benefit approach is utilized to determine the optimum sequence of these RDP facilitation public storm drain projects and other types of CSO and I/I projects, so that the projects with the greatest cost-benefit ratio are constructed earliest, and so on. Completion of the RDP facilitation public storm drain projects is anticipated by the year 2014. If additional projects are developed, however, to eliminate as yet unknown sources of CSO and I/I, and if these additional projects are found to have a higher cost-benefit ratio, then completion of the RDP facilitation public storm drain projects may extend to the year 2017.

<u>Summary of Categories A-D.</u> In summary, approximately 70% of Rainleader <u>sites</u> (not acreage) that were still connected to the sanitary sewer system at the time the Chapter 56 ordinance went into effect will have been disconnected by the end of 2008. Of those that remain, some disconnections are in progress (Category A), some parcels are being charged a fee for stormwater tributary to the sanitary sewer system until some point in the future when disconnection is made (Category B), some property owners have been non-responsive and are subject to cumulative fines (Category C), and some disconnections are postponed pending City projects to install storm drains that facilitate the disconnections (Category D).

#### Capital Improvement Projects and Maintenance Programs

MPW refers to capital projects to eliminate cross-connections of stormwater to the sanitary system as CSO projects. Since Phase II started, MPW personnel have identified, categorized, and prioritized 127 CSO project areas to date. The CSO Program coordinates with the Minneapolis Capital Improvement Project schedule to ensure that any CSO project areas within construction limits of a pending capital project are addressed in conjunction with that project's schedule. Occasionally, new CSO project areas are discovered by SW&S maintenance or other staff. This information is a result of:

- Private sewer and water connection reviews (for possible combined connections) are done prior to issuing any new/repair permits
- Utility and plumbing inspector's identification of cross-connections as part of their current activities
- Continued education of City staff on the importance of identifying and disconnecting connections

#### **Additional Efforts**

These activities directly or indirectly benefit the elimination of I/I & CSOs:

#### Sanitary System Maintenance

- Inspections of infrastructure to determine needed repairs
- The annual pipe rehabilitation program
- Repairs and bulkheading of sanitary pipes where an overflow previously existed
- Replacement of older sanitary manhole covers (with more than one hole) in ponding areas.
   Approximately 700-800 manholes have been replaced thus far.

#### Sanitary System Smoke Testing

Determining the location of structures or devices that permit stormwater to enter the sanitary sewer requires numerous tools. Smoke testing is one of those tools. In 2007, smoke testing was used in the Bryn Mawr neighborhood after metering did not locate the source of inflow in the area. The Bryn Mawr area and an industrial area along Interstate-94 in north Minneapolis were tested by forcing a smokelike oil vapor into the sanitary sewer and then observing where the smoke surfaced. As a result of this testing, foundation drains, leaking castings and other defects were identified. This technique will be used in the future if metering does not identify the sources of I & I.

#### Sanitary System Flow Metering

In August 2008, flow meters are being placed in sewer mains that earlier I & I studies identified as contributing major amounts of Inflow. The meters are intended to converge on the major sources of Inflow so that those sources can be identified and removed.

#### Regulatory Efforts

Minneapolis Regulatory staff assists the CSO Program in locating, investigating and resolving areas through the review of record drawings, or through the preliminary development review process. MPW staff require complete separation of all sites that are reviewed by the Minneapolis Development Review (MDR) committee. This includes the following combined connections:

- Roof drains
- Surface parking lots
- Uncovered rooftop parking ramps
- Loading docks and area drains
- Internal drains
- Sump pumps
- Permitted non-stormwater clean water connections (cooling, heating, etc.)

The City reviews sewer and water connections for possible combined connections before issuing any new construction or repair permits for those properties.

City utility and plumbing inspectors identify and report combined systems as part of their work duties.

The City educates City staff from MPW, the City's Planning and Zoning sections, and the Regulatory Services Department on the importance of eliminating combined sewer connections.

#### New Combined Sewer Overflow Area Identification and Separation

Storm and sanitary record drawings are reviewed to identify instances of connections between sanitary sewers and storm drains that might have been missed during Phase I of the CSO Program. Questionable areas are investigated and field-verified.

The amount of acreage still connected to the sanitary system continues to decline, as does the number of cross-connections. The 2007 estimate of 130.67 acres of remaining CSO area is minimal and a good indicator that the City is nearing completion for this activity.

#### Temporary Connections or Overflow Inspections

MPW staff has identified all currently known temporary connections or overflows that should have been eliminated with the program. These connections are verified and our sewer database is updated.

#### **Regulator Elimination and Maintenance**

A regulator is a device installed in combined systems to control the amount of flow into the sanitary sewer system during periods of wet weather. Excess Flows are routed to an outfall. The Pig's Eye Sewage Treatment Plant began operating in 1938. Flows from the combined sewers were diverted from the Mississippi River to the treatment plant by a system of interceptor sewer tunnels located on either side of the Mississippi River. As part of this system, 34 overflow regulators were constructed to divert normal dry weather flows to the interceptor sewer. They also allowed relief overflows into the Mississippi during heavy rainstorms.

The result of this modification was a significant improvement in the river's water quality, except for brief periods during heavy rainfall. During these peak flow periods, the regulators prevented overloading of the treatment plant, sanitary backups into homes, and pressure surges that could cause structural damage to the pipe system.

Of the original 34 overflow regulators, there are eight remaining. Of the eight, one is owned by the City and the remainder by MCES. The City's remaining regulator is located at Oak Street SE Outfall M012 (R20). CSO Area 56 drains to Outfall M012 and is responsible for more than 13 acres draining to the sanitary system. Monitoring at Outfall M012 will continue until this CSO area is resolved. The financing and schedule for redevelopment of the University Research Park area (also known as the South East Minneapolis Industrial (SEMI) project) are still being worked out and affect the successful resolution of CSO Area 56.

Once this CSO area is resolved, short-term monitoring should confirm that Outfall M012 could be closed. The elimination of overflow regulator structures may not be feasible in every case without causing a public health or safety hazard. Some overflow regulators may need to remain operational for emergency bypasses necessitated by extreme storm or flood events, or to minimize damage due to accidents or system failures.

#### **III. Sewer Service Areas**

#### **Interceptor Service Areas**

Twenty-five separate interceptor service areas serve Minneapolis. These areas range in size from the smallest, area MN-305 (3.4 acres), serving three residential and four commercial properties, to the largest, area MN-344 (5113 acres), serving over 16,000 single-family and multi-family homes, as well as commercial properties.

The characteristics of the service areas were defined by tracing the sanitary sewers from their uppermost connection to the point of connection with MCES interceptors. Additional information was provided by MCES. Using the Minneapolis Geographic Systems (GIS) database, the updated area map was used to extract area, land use and census information. **Appendix C** contains detailed information for each of the 25 service areas:

Service Area	Population	Area
	(2000)	(sq. mi.)
MN-300	20,600	3.81
MN-301	2,985	0.82
MN-302	5,638	2.22
MN-303	3,769	0.96
MN-305	9	0.01
MN-306	1,165	0.38
MN-310	63,643	6.79
MN-311	1,235	0.37
MN-312	4,363	0.66
MN-313	1,145	0.17
MN-314	896	0.14
MN-315	4,548	0.92
MN-316	8,690	1.17
MN-320	37,194	5.42
MN-330	44,417	4.71
MN-340	14,252	3.44
MN-341	68,102	7.39
MN-342	581	0.07
MN-343	2,184	0.36
MN-344	50,358	7.98
MN-345	7,883	1.16
MN-346	9,643	1.48
7026	2,771	0.81
8255	27,495	3.81
8754	780	0.11

For detailed statistics on year 2007 land use, population and households see Appendix C

#### **Sanitary Flows from Outside of Minneapolis**

In addition to the sanitary flows from properties within the City limits, there are a number of connections from outside the City. These can be categorized into two groups: 1) government properties in the Fort Snelling area; and 2) individual properties connecting to a sanitary sewer in a border street.

#### **Government Properties in the Fort Snelling Area**

Eleven agencies in the Fort Snelling area have agreements with Minneapolis for water and sewer service. The primary contributor of wastewater is the Metropolitan Airports Commission, with 237,672,690 gallons of wastewater in the year 2007. This equates to approximately 64% of sanitary flows from the area. The second largest contributor is the Minneapolis VA Medical Center with 59,259,772 gallons in 2007 (19%). A complete list of agencies and 2007 flow contributions is contained in **Appendix E**. Copies of the interagency water/sewer agreements are available from the Water Treatment & Distribution Division of Minneapolis Public Works.

#### Individual Properties Connecting to a City of Minneapolis Sanitary Sewer in a Border Street

A total of 139 properties outside Minneapolis fall into this category. These properties received permits from the City of Minneapolis for these connections and are sent monthly water/sewer bills from Minneapolis Utility Billing. There are no inter-city agreements that oversee these connections.

City	# of Accounts
Brooklyn Center	16
Edina	69
Golden Valley	20
Robbinsdale	4
St. Anthony	27
St. Louis Park	2

A complete list of properties is contained in **Appendix F**.

### **Projection of Wastewater Flows**

#### Introduction

The analysis presented below has been completed in partial fulfillment of the sewer portion of the comprehensive planning requirements of the Minnesota Metropolitan Land Planning Act. Estimates of 2007 annual volume of sewage generated within the City of Minneapolis are projected out to year 2030 based on the population and employment projections completed for the Minneapolis Comprehensive Plan. Figures are given for each of the 25 Interceptor Service Areas located in the City and also for subdivisions of six of the service areas (MN-310, 320, 330, 340, 341 & 344) with the largest number of localized connections to the interceptor system. Described below is the basic methodology used to complete the analysis and the results. A detailed analysis of the techniques used is contained in **Appendix A**.

#### <u>Methodology</u>

Sewage flow in Minneapolis is not metered at the source, rather billing is based on water consumption; billing data provides the most accurate and accessible source of sewage flow estimates available. In the present data environment of the City it is not possible to provide reliable water and sewer billing data by Interceptor Service Area. To overcome this hurdle the Interceptor Service Area totals were derived through an apportionment process. Apportionment on the basis of simplified land use characteristics assumed a uniform distribution of all sub-types of land use throughout the City (single family residential, apartment, different types of commercial and industrial uses, etc.). This is unavoidable given the nature of available growth projections.

Base year sewage flow estimates (2007) for the City of Minneapolis were derived from customer billings for water service from the Minneapolis Utility Billing Department. The data are grouped into two broad categories, residential and non-residential, with the latter category including all non-residential customers. It is assumed that annual water use equals annual sewage flow for commercial users, and that winter quarter water usage multiplied times 4 equals annual sewage flow for residential users.

Base year sewage flow estimates (2007) for the 25 individual Interceptor Service Areas in the City were then extrapolated from City totals on the basis of the land use characteristics of each Service Area. The acreage of land devoted to residential and non-residential uses (with the latter deemed to include all non-residential, non-park and non-transportation related land uses) in a given Service Area is divided by the total acreage of the City devoted to these uses. The resulting number is then multiplied with the City total to determine the volumes attributed to each Service Area. (I.e., if a given Service Area contains 5% of the total residential land use area of the City, 5% of total residential sewage flow is attributed to this Service Area.)

Projections of change in sewage flow by Interceptor Service Area to year 2030 were calculated on the basis of population and employment projections provided by the City of Minneapolis Department of Community Planning & Economic Development/Planning Division and based on the TAZ¹ unit of analysis. For purposes of the analysis per capita sewage generation is assumed to remain constant; thus, changes in population are assumed to equate to changes in residential sewage flow on a one-to-one basis (i.e., a 1% increase in population for a given Interceptor Service Area is assumed to equal a 1% increase in residential sewage flow for that area). Similarly, changes in employment are assumed to equate to changes in commercial sewage flow on a one-to-one basis (i.e., a 1% increase in employment in a given Interceptor Service Area is assumed to equate to a 1% increase in commercial sewage flows for that area).

<sup>&</sup>lt;sup>1</sup> Traffic Analysis Zone (TAZ) is the base unit of analysis for comprehensive planning population and employment projections. There are 138 TAZs in the City of Minneapolis.

#### Results:

Excluding flows from the Metropolitan Airports Commission and the Minneapolis VA Medical Center, total sanitary sewer usage for Minneapolis (excluding inflow & infiltration) equaled 16.034 billion gallons of flow in 2007. Using the methodology described above, it is projected that this will increase by 10.05% by the year 2030, to an estimated sewage volume of 17.641 billion gallons.

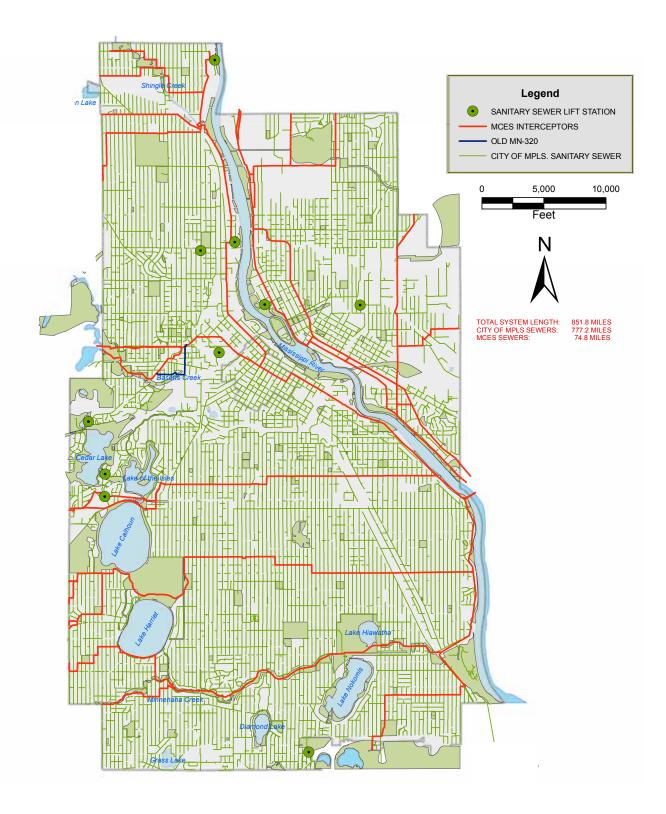
# <u>City of Minneapolis Estimated Total Base Flow For Sanitary Sewers</u> 2000 – 2030

(Billions of Gallons)

2000 TOTAL BASE SEWAGE FLOW	15,606,909,702
2005 TOTAL BASE SEWAGE FLOW	15,912,599,066
2007 TOTAL BASE SEWAGE FLOW	16,034,873,617
2010 TOTAL BASE SEWAGE FLOW	16,218,285,445
2015 TOTAL BASE SEWAGE FLOW	16,627,881,124
2020 TOTAL BASE SEWAGE FLOW	17,037,472,211
2025 TOTAL BASE SEWAGE FLOW	17,339,602,204
2030 TOTAL BASE SEWAGE FLOW	17,641,727,383

See <u>Appendix A</u> for tables that estimate total sewage flow for each sanitary service area for the years 2000, 2005, and 2007 and projected total sewage flow for the years 2010 thru 2030 in five-year increments. These figures are the base wastewater flow and do not include estimates of inflow or infiltration.

## **FIGURES and TABLE**

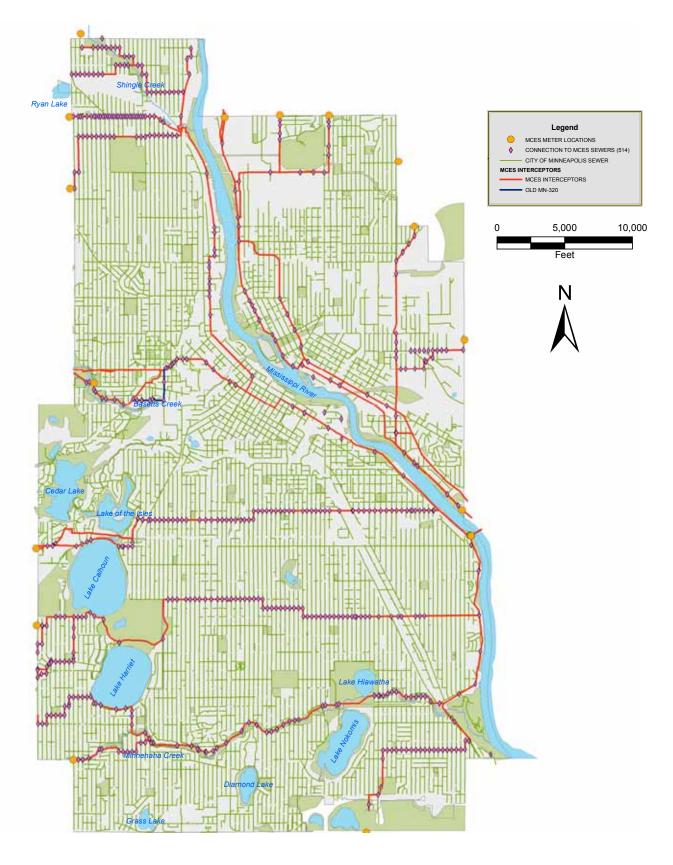




# CITY OF MINNEAPOLIS SANITARY SEWERS & LIFT STATIONS



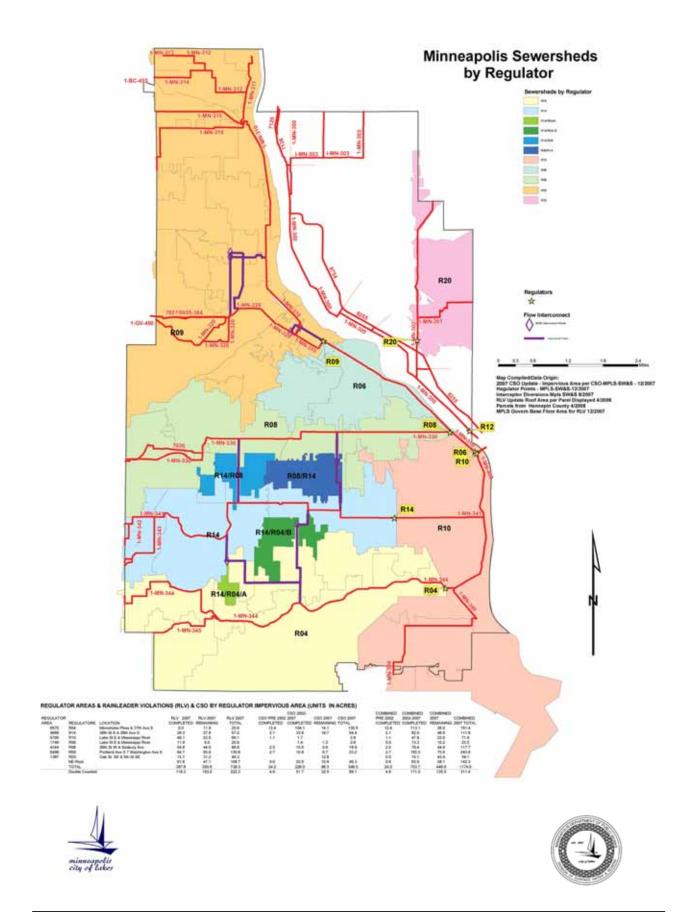
APRIL 2008

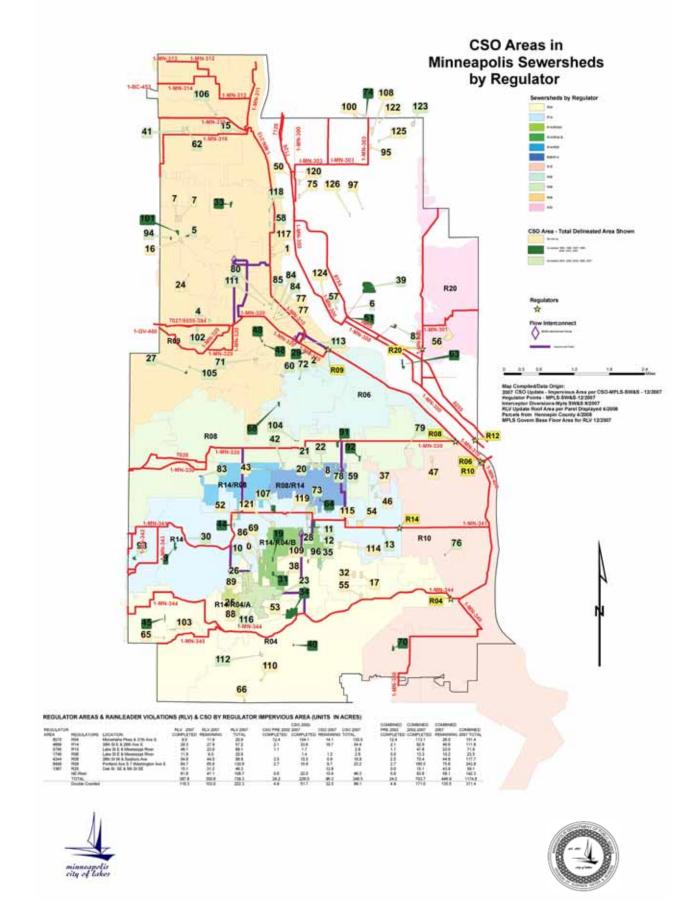




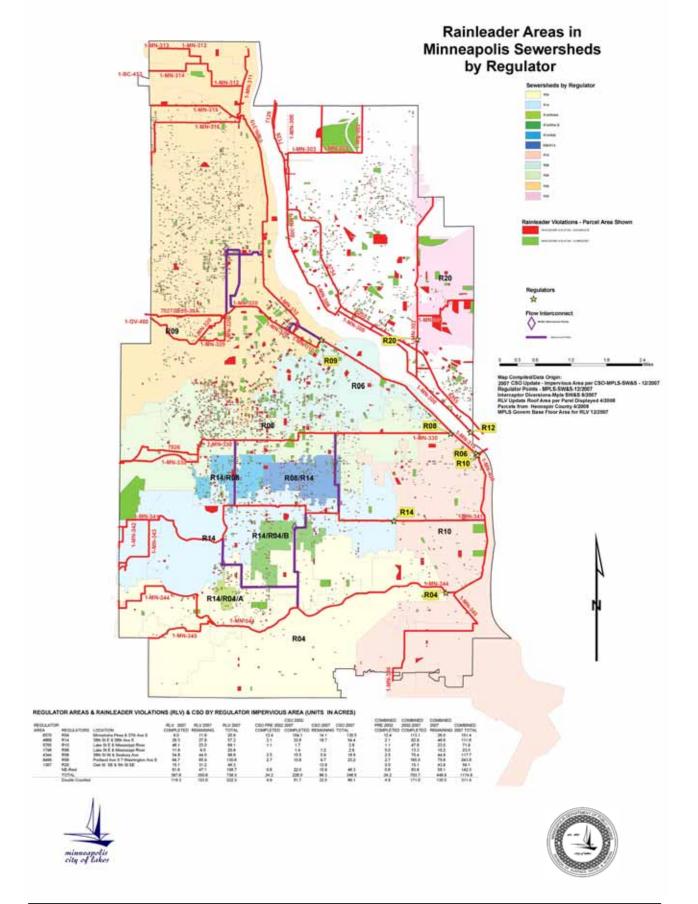
CITY OF MINNEAPOLIS
CONNECTIONS TO MCES SEWERS
&
SANITARY SEWER METER LOCATIONS

APRIL 2008



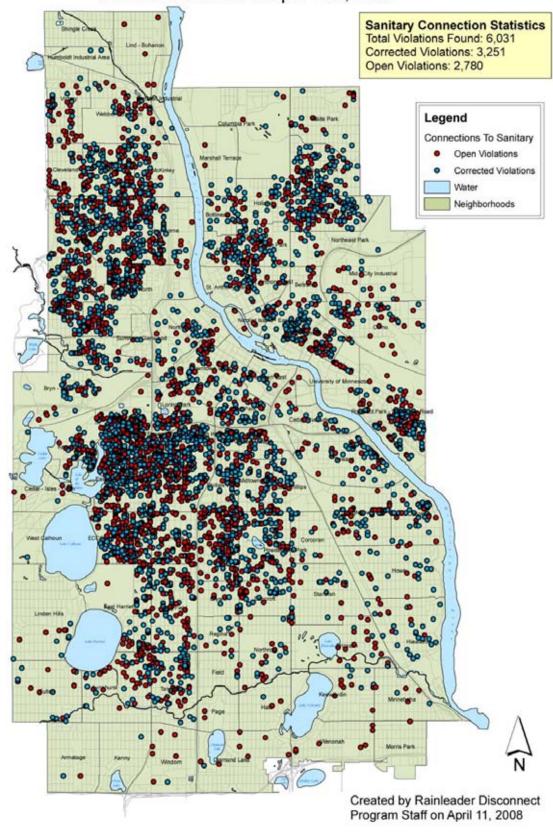






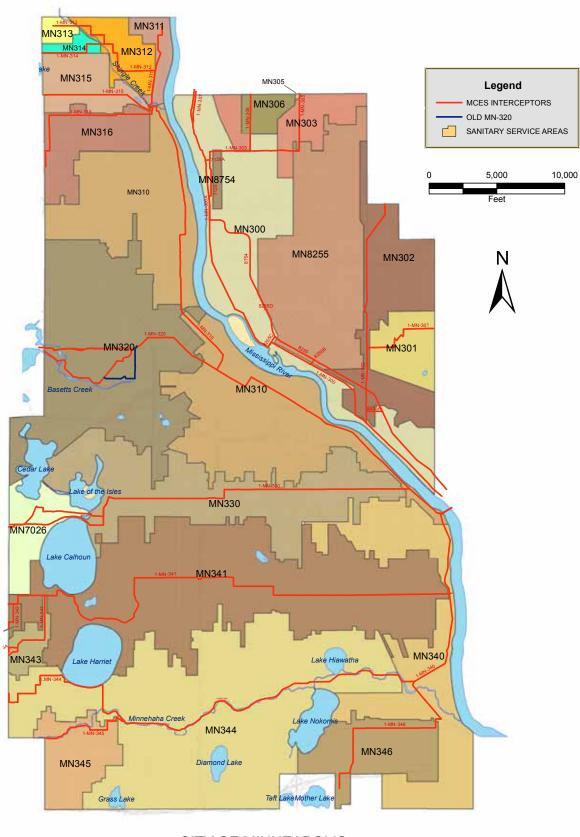
# City of Minneapolis - Rainleader Disconnect Program

Violation Status as of April 11th, 2008











CITY OF MINNEAPOLIS SANITARY SEWER SERVICE AREAS BY M.C.E.S. INTERCEPTOR



APRIL 2008

# CSO Program List by Cost Benefit

Cumulative Cost	\$301,000.00	\$615,000.00	\$1,611,000.00	\$1,611,000.00	\$1,655,000.00	\$1,730,000.00	\$1,930,829.00	\$2,050,829.00	\$2,250,829.00	\$2,583,829.00	\$3,426,829.00	\$3,607,329.00	\$3,710,329.00	\$3,907,329.00	\$4,447,329.00	\$4,505,329.00	\$5,055,329.00	\$5,565,329.00	\$6,970,329.00	\$7,262,313.00	\$7,345,313.00	\$10,245,313.00	\$12,063,313.00	\$12,688,313.00	\$13,463,313.00	\$14,111,313.00	615,704,313.00	\$16,137,313.00	\$17,112,313.00	\$18,412,313.00	\$18,797,313.00	\$19,167,313.00	\$20,545,313.00	\$20,713,313.00	\$20,797,313.00																				
Cost Benefit C	0.47	0.48	0.98	, 0	0.10	0.23	0.33	0.45	0.79	1.00	1.06	1.16	1.21	1.34	1.52	1.71	1.77	1.77	1.85	2.29	2.85	3.32	1.09	1.85	1.85	1.85	1.85	1.89	0.29	1.93	2.12	2.12	2.36	2.36	2.26																				
Benefit	\$645,302	\$653,137	\$1,020,173	\$202,780	\$183,783	\$284,510	\$617,323	\$265,072	\$254,469	\$259,181	\$794,037	\$155,862	\$84,823	\$129,885	\$354,843	\$33,870	\$311,017	\$305,363	\$457,926	\$127,234	\$29,158	\$873,853	\$575,795	\$338,703	\$419,991	\$350,896	\$321,090	\$364.474	\$3,372,154	\$673,871	\$181,427	\$174,358	\$428,356	\$71,039	\$37,110																				
Cost Benefit (Cost / V.I.)	\$137,380	\$141,595	\$287,545	\$0	\$48,077	\$67,288	\$95,815	\$133,333	\$231,481	\$295,900	\$312,685	\$341,081	\$357,639	\$394,558	\$448,207	\$504,348	\$520,833	\$520,833	\$543,478	\$675,889	\$838,384	\$977,418	\$322,251	\$543,478	\$543,478	\$543,898	\$543,937	\$555.960	\$85,157	\$568,182	\$625,000	\$625,000	\$694,444	\$696,517	\$666,667							ë.													
Estimate Source/Notes <sup>2</sup>	Preliminary	Construction Estimate	Preliminary	Project absorbed costs	Preliminary	Preliminary	Construction Estimate	Preliminary	Preliminary	Cost per Acre	Cost per Acre	Preliminary	Preliminary	Preliminary	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Construction Estimate	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	and loop	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Cost per Acre	Preliminary		Project Status	. Project Development	2. Design	. Pre-Construction . Construction	5. Finalization	2 Cost per Acre estimates are based on \$250,000 per acre removed from the sanitary system													
Estimated Cost	\$301,000	\$314,000	\$996,000	\$0	\$30,000	\$65,000	\$200,829	\$120,000	\$200,000	\$83,000	\$843,000	\$180,500	\$103,000	\$174,000	\$540,000	\$58,000	\$550,000	\$540,000	\$845,000	\$291,984	\$83,000	\$2,900,000	\$630,000	\$625,000	\$775,000	\$648,000	\$593,000	\$688,000	\$975,000	\$1,300,000	\$385,000	\$370,000	\$1,010,000	\$168,000	\$84,000	\$20,797,313			8	w 4	S	0,000 per acre ren													
Cumulative % Inflow	3.8%	7.7%	13.7%	14.9%	17.4%	19.1%	22.7%	24.3%	25.8%	27.8%	32.5%	33.5%	34.0%	34.9%	37.0%	37.2%	39.0%	42.6%	45.3%	46.1%	46.2%	53.3%	26.7%	28.7%	61.2%	63.3%	%7.CQ	%2:19	89.7%	93.7%	94.8%	95.8%	99.4%	99.8%	100.0%							re based on \$25													
Cumulative Virtual Inflow	2.19	4.41	7.87	8.50	9.97	10.93	13.03	13.93	14.79	15.95	18.65	19.18	19.47	19.97	21.18	21.29	22.35	24.40	25.96	26.39	26.49	30.55	32.51	33.66	35.09	36.28	38.71	39.95	51.39	53.68	54.30	54.89	56.93	57.17	57.30							re estimates a													
V.I. (Runoff Coeff Vi Acres)	2.1910	2.2176	3.4638	0.5885	0.6240	0.9660	2.0960	0.9000	0.8640	0.2805	2.6960	0.5292	0.2880	0.4410	1.2048	0.1150	1.0560	1.0368	1.5548	0.4320	0.0990	1 0004	1.9550	1.1500	1.4260	1.1914	1.0902	1.2375	11.4495	2.2880	0.6160	0.5920	1.4544	0.2412	0.1260	57.30						Cost per Acr													
Revised Runoff Coeff. <sup>1</sup>	0.70	0.36	0.46	0.85	0.90	0.46	0.80	0.45	0.48	0.85	0.80	0.42	0.48	0.49	0.48	0.50	0.48	0.48	0.46	0.80	0.30	0.46	0.46	0.46	0.46	0.46	0.46	0.45	0.85	0.44	0.40	0.40	0.36	0.36	06.0							7	1												
Acres	3.13	6.16	7.53	0.81	1.30	2.10	2.62	2:00	1.80	0.33	3.37	1.26	0.60	0.90	2.51	0.23	2.20	2.16	3.38	0.54	0.33	2.30	4.25	2.50	3.10	2.59	2.37	2.75	13.47	5.20	7.	1.48	4.04	0.67	0.14	107.73																			
Study Basin	10A	90	210E	10 /0	214A	10X	90	10X	214A	None	0.2	14	44	16	214A	None	190	214A	100	90	90	4 P	10X	16	15	40 X	YOU W	M101 A&B	None	02	None	209E	None	None	None																				
Regulator No.	M007XM002	N.	M002	MOUT	M001	M002	M020	M002	M001	NE	M020	M001	M001	M001	M001	NE.	02XM001	M001	M002	M020	M020	M001	M002	M001	M001	M002	I IN	M005	NE SE	M020	빌	W W	y y	NE	NE																				
Sanitary R Service Area	Н	1-MN-306	1-MN-341		1-MN-344	1-MN-341	1-MN-310	1-MN-341	1-MN-344	1-MN-310	1-MN-310	1-MN-344	1-MN-344	1-MN-344	1-MN-344	1-MN-301	1-MN-341 MC	1-MN-344 IM	1-MN-341	1-MN-310	1-MN-320	1-MN-344	1-MN-341	1-MN-344	1-MN-344	1-MN-341	1-MN-320	1-MN-346	1-MN-301	1-MN-310	1-MN-300	1-MN-330	1-MN-303	1-MN-303	1-MN-300																				
Scheduled Construction Year	2007	2007	2007	2008	2008	2008	2008	2008	2008			2008	2008				2008				2008		2009			2009						2010		2010								œi					9,180,081	36,576,081	66,723,919	·	0				
Status	5. Finalization	3. Pre-Construction	3. Pre-Construction	2. Design 90%	2. Design 30%	2. Design 100%	2. Design 100%	2. Design 100%	4. Construction	Project Development     Project Development	2. Design 90%	2. Design 0%	Project Development     Design Development	4. Construction	1. Project Development	1. Project Development	Project Development     Design Designers	1. Project Development	2. Design	3. Pre-Construction	1. Project Development	1 Project Develonment	1. Project Development	1. Project Development	1. Project Development	1. Project Development	Project Development     Project Development	2. Design 100%	1. Project Development	1. Project Development	<ol> <li>Project Development</li> </ol>	Project Development     Development	Project Development	1. Project Development	1. Project Development						and the state of t	mmercial or industrial are		20,660,000											
Project Manager	Mitchell Sawh	Bill Fellows	Seifedin Burka	Mitchell Sauth	Seifedin Burka	Mitchell Sawh	Kelly MacIntyre	Mitchell Sawh	Seifedin Burka	Spurrier	Kelly MacIntyre	Seifedin Burka	Spurrier	Seifedin Burka	Seifedin Burka	Dan Cazanacli	Seifedin Burka	Seifedin Burka	Kelly MacIntyre	Kelly MacIntyre	Dan Cazanadi	Kelly Macintyre	Seifedin Burka	Dan Cazanacli	Dan Cazanacli	Dan Cazanacli	Dan Cazanacii Sprimer	Kelly MacIntyre	Kelly Moriarity	Dan Cazanacli	Spurrier	Spurrier	Dan Cazanadi	Dan Cazanadi	Spurrier	0\$		\$9.822.313	\$4,704,000	\$4,576,000 \$84,000	chall tooload	Downtown or in a co		103,300,000	\$36,600,000	5.90	27,154.29	0.088868165	\$3,252,575	29.41	45,760,372	\$686,406	\$13,623,716	\$16,876,291	\$294,524
Location Description	E Lake St & Stevens Av S	37th Av NE, Van Buren to Central Av NE	W 36th to 37th St, Bryant to Dupont Av S	W 6znd St & Lyndale AV S	6th to 47th St W. Lyndale to Garfield Av S	p to	22nd Av N & 2nd St N *Need Easemnt	E 34th St, 20th to 21st Av S	W 43rd St, Harnet to Garrield Av S	Main St NE & 3rd Av NE	nd St N & 23rd Av N	44th St E, 2nd to 3rd Av S	9th St W, Pleasant to Rustic Lodge Av		yndale to Garfield Av S, W 45th to 46th St	Fillmore St NE, 36th 1/2 Av NE to RR tracks	W 43rd St, Pillsbury to Pleasant Av S	W 43d St, Fillsbury to Werrithout Avs W 46th St, Garfield to Harriet Av S	Nicollet Av & W 38th St	6th Av N, Washington Av N to 4th St N	Penn Av N & 17th Av N	18th Av S - Cedar F 47th St - M'haha Pkwy	W 42nd St, Grand to Pleasant Av S	E 45th St, Cedar Av to 18th Av S	16th to 17th Av S, E 44th St to E 45th St	E 38th St, 15th & Bloomington Av S	Monno St NE & 23rd Av NE	E 28th to 29th St. 33rd to 34th Av S	24th Av SE & Elm St SE	Sheridan Av N & 29th Av N	Grand St NE & 28th Av NE	Grand St NE, 26th to 27th Av NE	36th Av NE & Polk St NE (emergency overflow)	Filmore St NE, 34th to 35th Av NE	Lowry St NE, Jackson to Central Av NE	2007 Projects =	Total funding approved by the Minneapolis City	2008 Projects =	2009 Projects =	2010 Projects = 2011 Projects =		1 Runoff coefficient was altered if CSO area was located Downtown or in a commercial or industrial area		Total Estimated Excess Flow (Gal)	Total Surcharge for Excess Flow  Total Surcharge per MGD of Excess Flow (D73/D72)	Peak Rainfall Intensity (In/24 hour)	43560*7.4805195/12 Total Estimated CSO Electron (Call Assorb 75:075)	Total Estimated CSO Flow/Total Estimated Excess Flow (D77/D720)	Total Surcharge for CSO Flow (D78*D73)	Annual Precipitation (in)	Estimated CSO Wastewater Per Year (Gal) (D80*M62*D76)  Treatment Cost ner 10 000 Gal	Estimated CSO Wastewater Treatment Rate Per Year ((D81/10000)*D82)	Estimated CSO wastewater Treatment @ 5% (PV(0.05,100,D83)+D83*100)	Total Cost of CSO Flow	Cost per v.i.
Priority CSO Rank Area				4 066 W		7 037 E		046	010		117	14 038 4	053	110	089	19 122 F	100	088	121	077	25 024 P	0.55	080	017	032	115	32 114 E	047	056	200	120	075	40 108 34	125	097		Total fu				ı L	1 Runoff c		ĭ	ΗĤ	. а.	4	Total Estimatec	_	∢ :	Estima	Estimated CSO Was	of 100 Years of Waster	F (	,

## **APPENDICES**

# APPENDIX A: City of Minneapolis Sewage Flow Projections for years 2010, 2015, 2020, 2025 & 2030 by Interceptor Service Area

# City of Minneapolis Sewage Flow Projections for years 2010, 2015, 2020, 2025 & 2030 by Interceptor Service Area

Introduction and Methodology

See Section III, Projection of Wastewater Flows on page 15 of the main document.

#### **Process Overview**

#### Base Data:

- 2007 annual Citywide sewage flow volumes for residential and commercial customers (source: Public Works, Water Treatment & Distribution Division)
- Interceptor Service Area land use breakdown by type and acreage (source: Minneapolis GIS Business Services)
- Polygon layer of Minneapolis parcel data (source: Minneapolis GIS Business Services)
- Population and employment projections by Transporation Analysis Zone (TAZ) for Minneapolis for years 2000, 2010, 2020, & 2030. (source: Metropolitan Council)
- Polygon shape file of TAZ areas for metropolitan area (source: Metropolitan Council)
- Polygon shape file of sewersheds for City of Minneapolis (source: Metropolitan Council)

#### Part One, Major Steps:

- 1. Citywide sewage flow totals for residential and commercial customers (2007) were apportioned to each interceptor service area on the basis of land use.
- 2. Calculated the average number of residents per residential parcel and household, and the average number of employees per non-residential parcel, for the 138 TAZ areas.
- 3. Dissolved polygon layer of the 138 TAZ areas in Minneapolis with population, household and employment projections to create 270 sub-areas apportioned to the 25 Interceptor Service Areas.
- 4. Calculated revised population, household and employment projections for the 270 sub-areas based on the averages derived from Step 2.

#### Part One, Results:

- A shapefile of 270 TAZ sub-areas divided by Interceptor Service Area, containing population, household
  and employment estimates to year 2030. Data attributes include the original TAZ area identifier,
  Interceptor Service Area identifier, and population, household and employment estimates per sub-area for
  each year in the time series (2000, 2005, 2007, 2010, 2015, 2020, 2025 and 2030).
- A shapefile for Minneapolis Interceptor Service Areas containing residential and commercial flow estimates for 2007 (Interceptor shape file, 25 polygons). Data attributes include area of interceptor service area, and annual residential and commercial sewage flows per interceptor area.

#### Part Two, Major Steps:

- Data from the 270 TAZ sub-areas was totaled to arrive at population, household and employment projections for the 25 Interceptor Service Areas for each year in the time series. These totals were then joined to the attributes of the 25 Interceptor Service Areas.
- Changes in population, households and employment by Interceptor Service Area for each future year of the time series were calculated as a percentage of the 2007 value.
- The 2007 base year flows were then multiplied by this percentage value to arrive at projected flow volumes for the future years in the time series.

#### Part Two. Results:

• Polygon layer and attribute tables containing base sewage flow for years 2000, 2005 & 2007 and projected flows for each future year in the time series thru 2030.

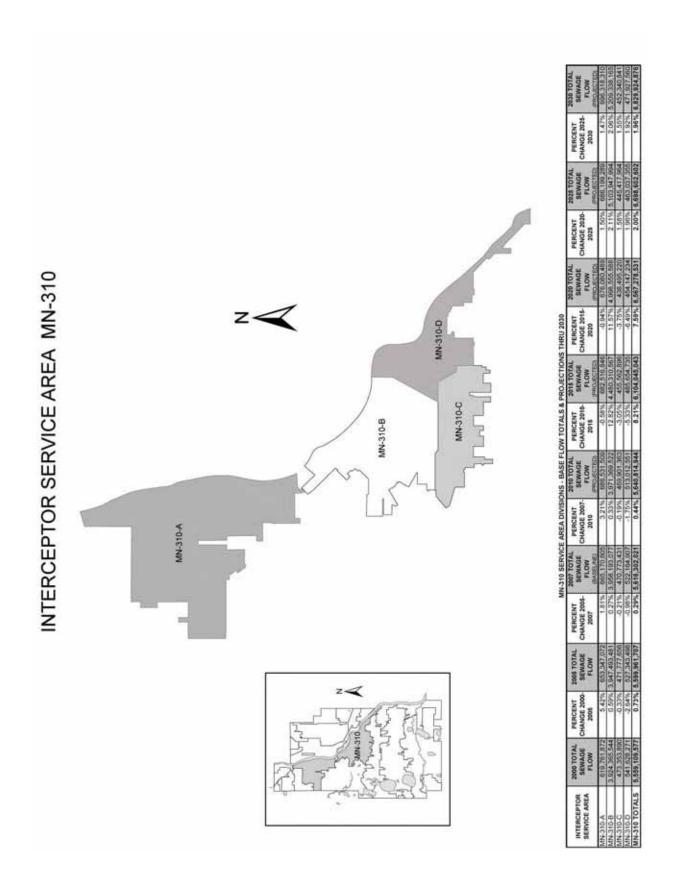
#### CITY OF MINNEAPOLIS TOTAL SEWAGE FLOW 2000 - 2030

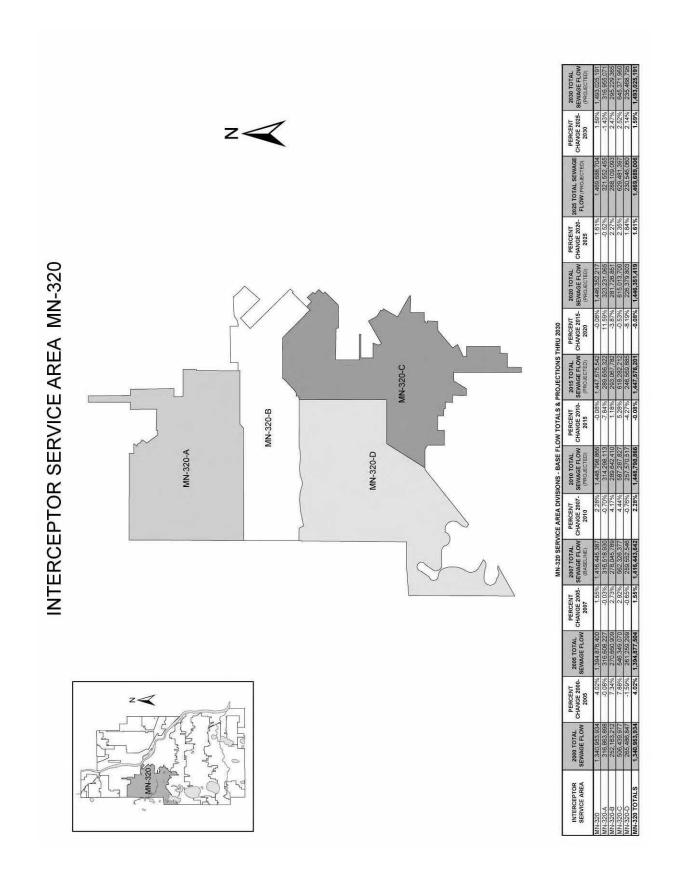
(MILLIONS OF GALLONS PER YEAR AND PERCENTAGE CHANGE)

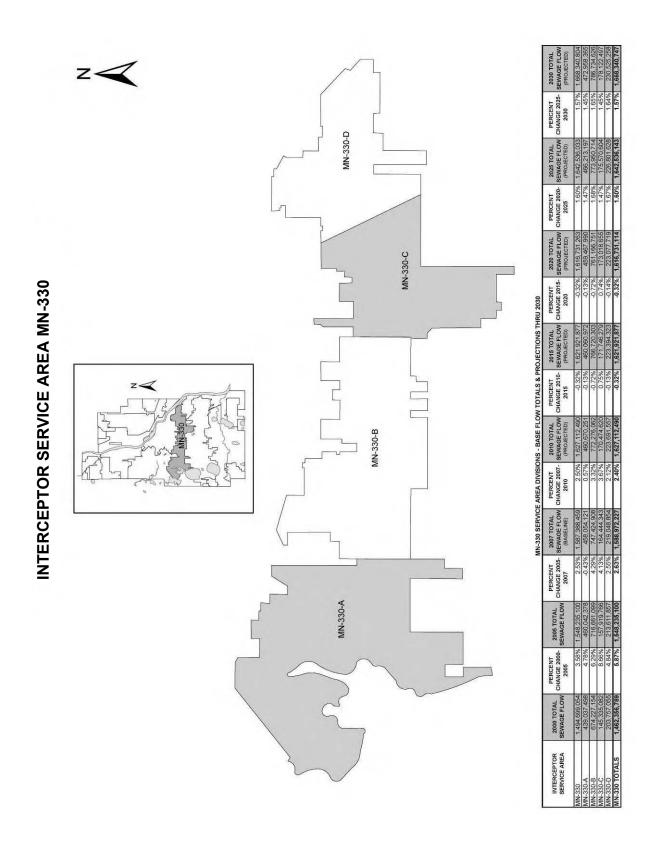
INTERCEPTOR SERVICE AREA	2000 TOTAL SEWAGE FLOW	2005 TOTAL SEWAGE FLOW	PERCENT CHANGE 2000-2005	2007 TOTAL SEWAGE FLOW (BASELINE)	PERCENT CHANGE 2005-2007	2010 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2007-2010
7026	101,698,393	98,597,842	-3.05%	97,357,621	-1.26%	95,497,290	-1.91%
8255	863,086,998	889.889,711	3.11%	900,610,797	1.20%	916,692,424	1.79%
8754	23,857,072	21,201,039	-11.13%	20,138,626	-5.01%	18,545,006	-7.91%
MN-300	902,767,912	889,359,216	-1.49%	883,995,737	-0.60%	875,950,519	-0.91%
MN301	150,435,008	173,910,269	15.60%	183,300,373	5.40%	197,385,530	7.68%
MN302	999,126,412	978,689,425	-2.05%	970,514,629	-0.84%	958,252,437	-1.26%
MN-303	80,146,139	109,016,029	36.02%	120,563,985	10.59%	137,885,919	14.37%
MN305	675.301	702,698	4.06%	712,463	1.39%	727,111	2.06%
MN-306	26,696,308	26,771,403	0.28%	26,801,441	0.11%	26,846,499	0.17%
MN-310*	5,559,111,607	5,599,963,183	0.73%	5,616,303,814	0.29%	5,640,814,759	0.44%
MN-311	34,275,151	44,233,258	29.05%	48,216,501	9.01%	54,191,365	12.39%
MN-312	94,600,376	107.508,543	13.64%	112,671,810	4.80%	120,416,711	6.87%
MN-313	22,168.841	23.641.872	6.64%	24,231.084	2.49%	25,114,902	3.65%
MN-314	19.035.585	20.774,050	9.13%	21,469,435	3.35%	22,512,514	4.86%
MN-315	110,629,327	108,430,488	-1.99%	107,550,952	-0.81%	106,231,649	-1.23%
MN-316	179,379.393	174.218,416	-2.88%	172,154,025	-1.18%	169,057,438	-1.80%
MN-320*	1.340.953,934	1,394.876,400	4.02%	1,416,445,387	1.55%	1,448,798,866	2.28%
MN-330*	1,494,699,054	1,560,905,772	4.43%	1,587,388,459	1.70%	1,627,112,490	2.50%
MN-340* **	361,090,927	373,558,129	3.45%	378,545,010	1.33%	386,025,331	1.98%
MN-341*	1.601,670,789	1,634.889,934	2.07%	1,648,177,593	0.81%	1,668,109,080	1.21%
MN-342	11,248.993	11.682,410	3.85%	11,855,777	1.48%	12,115,828	2.19%
MN-343	58,055,195	57,792,956	-0.45%	57,688,061	-0.18%	57,530,717	-0.27%
MN-344*	1,206,856,402	1,236,187,244	2.43%	1,247,919,581	0.95%	1,265,518,086	1.41%
MN-345	165,020.522	170,465,264	3.30%	172,643,160	1.28%	175,910,005	1.89%
MN-346	199,624,063	205,333,515	2.86%	207,617,295	1.11%	211,042,966	1.65%
TOTALS	15,606,909,702	15,912,599,066	1.96%	16,034,873,617	0.77%	16,218,285,445	1.14%

INTERCEPTOR SERVICE AREA	2015 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2010-2015	2020 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2015-2020	2025 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2020-2025	2030 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2025-2030
7026	89,418,098	-6.37%	83,338,907	-6.80%	84,561,085	1.47%	85,783,264	1.45%
8255	898,066,199	-2.03%	879,439,973	-2.07%	892,528,248	1.49%	905,616,524	1.47%
8754	17,886,295	-3.55%	17,227,585	-3.68%	17,439,486	1.23%	17,651,387	1.22%
MN-300	850,090,837	-2.95%	824,231,155	-3.04%	837,115,953	1.56%	850,000,751	1.54%
MN301	222,850,560	12.90%	248,315,589	11.43%	253,030,273	1.90%	257,744,957	1.86%
MN302	954,040,203	-0.44%	949,827,970	-0.44%	979,785,946	3.15%	1,009,743,923	3.06%
MN-303	123,847,158	-10.18%	109,808,397	-11.34%	111,380,443	1.43%	112,952,488	1.41%
MN305	702,582	-3.37%	673,461	-4.14%	689,029	2.31%	699,783	1.56%
MN-306	26,383,503	-1.72%	25,920,507	-1.75%	26,274,024	1.36%	26,627,540	1.35%
MN-310*	6,104,046,222	8.21%	6,567,277,684	7.59%	6,698,601,135	2.00%	6,829,924,586	1.96%
MN-311	47,890,662	-11.63%	41,589,958	-13.16%	42,222,730	1.52%	42,855,502	1.50%
MN-312	119,587,145	-0.69%	118,757,578	-0.69%	120,338,022	1.33%	121,918,466	1.31%
MN-313	25,649,654	2.13%	26,184,406	2.08%	26,506,023	1.23%	26,827,641	1.21%
MN-314	22,923,200	1.82%	23,333,885	1.79%	23,642,115	1.32%	23,950,345	1.30%
MN-315	108,015,418	1.68%	109,799,187	1.65%	111,362,078	1.42%	112,924,969	1.40%
MN-316	171,914,638	1.69%	174,771,838	1.66%	177,026,408	1.29%	179,280,979	1.27%
MN-320*	1,447,575,542	-0.08%	1,446,352,217	-0.08%	1,469,688,704	1.61%	1,493,025,191	1.59%
MN-330*	1,621,921,877	-0.32%	1,616,731,263	-0.32%	1,642,536,033	1.60%	1,668,340,804	1.57%
MN-340* **	385,432,132	-0.15%	384,838,932	-0.15%	390,158,102	1.38%	395,477,272	1.36%
MN-341*	1,661,819,598	-0.38%	1,655,530,117	-0.38%	1,678,350,679	1.38%	1,701,171,241	1.36%
MN-342	12,369,027	2.09%	12,622,227	2.05%	12,773,526	1.20%	12,924,825	1.18%
MN-343	57,605,700	0.13%	57,680,684	0.13%	58,465,046	1.36%	59,249,409	1.34%
MN-344*	1,266,029,364	0.04%	1,266,540,643	0.04%	1,283,467,981	1.34%	1,300,395,319	
MN-345	176,713,061	0.46%	177,516,116	0.45%	179,746,488	1.26%	181,976,859	1.24%
MN-346	215,102,449	1.92%	219,161,931	1.89%	221,912,645	1.26%	224,663,359	1.24%
TOTALS	16,627,881,124	2.53%	17,037,472,211	2.46%	17,339,602,204	1.77%	17,641,727,383	1.74%

<sup>\*\*</sup> FIGURES FOR MN-340 EXCLUDE FLOWS FOR THE METROPOLITAN AIRPORT COMMISSION, FORT SNEELING AREA ACCOUNTS AND THE VETERAN'S ADMINISTRATION HOSPITAL AS GROWTH PROJECTIONS ARE UNAVAILABLE FOR THESE AREAS. SEE APPENDIX E FOR FLOW DATA FOR 2007.



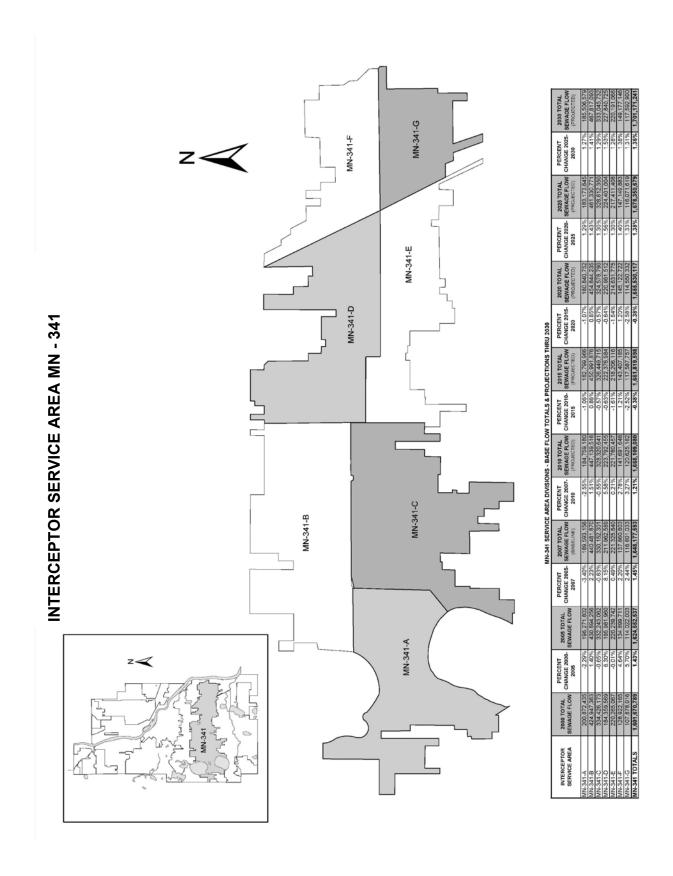


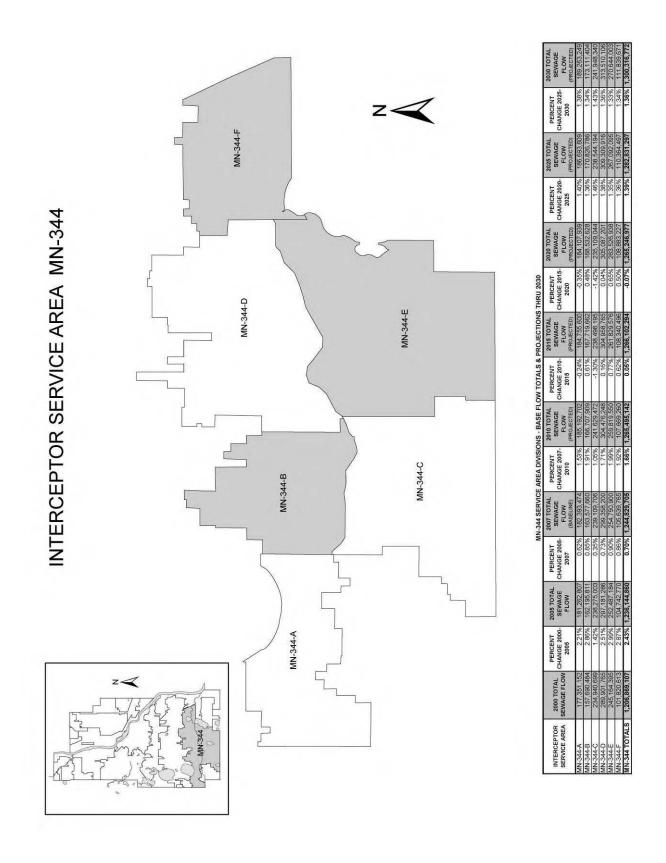


# INTERCEPTOR SERVICE AREA MN-340



	MN-340 SERVICE AREA DIVISIONS - BASE FLOW TOTALS & PROJECTIONS THRU 2030														
INTERCEPTOR SERVICE AREA	2000 TOTAL SEWAGE FLOW		2005 TOTAL SEWAGE FLOW	PERCENT CHANGE 2005- 2007	2007 TOTAL BEWAGE FLOW (BASELINE)	PERCENT CHANGE 2007- 2010	2010 TOTAL SEWAGE FLOW (PROJECTED)		2015 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2015- 2020	2020 TOTAL SEWAGE FLOW (PROJECTED)	PERCENT CHANGE 2020- 2025	2025 TOTAL SEMAGE FLOW (PROJECTED)		2000 TOTAL SEWAGE FLOW (PROJECTED)
MN-340-A	196,622,376	4.57%	205,613,239	2.64%	211,046,396	2.93%	217,228,119	1.40%	220,438,513	1.40%	223,648,906	1.42%	226,830,980	1.40%	230,013,053
MN-340-B	164,468,551	1.80%	167,430,251	0.04%	167,498,614	0.78%	168,797,212	-2.25%	164,993,619	-231%	161,190,026	1.33%	163,327,122	1.31%	165,464,219
MIN-340 TOTALS	361,090,927	3.31%	373,043,490	1.47%	378,545,010	1.98%	386,025,331	-0.15%	385,432,132	-0.15%	384,838,932	1.38%	390,158,102	1.36%	395,477,272





#### **APPENDIX B:**

#### Sanitary Service Areas - Demographic Changes Thru 2030

The following tables provide figures for population, number of households, and employment for each of the 25 service areas of the MCES interceptors within the City of Minneapolis.

These figures were derived from projections of change in population and employment provided by the Metropolitan Council and the Planning Section of the City of Minneapolis Community Planning and Economic Development Department, and are based on the TAZ¹ unit of analysis. For the purposes of this report a polygon layer of the 138 TAZ areas in Minneapolis was dissolved using GIS software to create 270 sub-areas apportioned to the 25 Interceptor Service Areas. Figures are also provided for subdivisions of the services areas for I-MN-310, 320, 330, 340, 341 and 344.

<sup>&</sup>lt;sup>1</sup> Traffic Analysis Zone (TAZ) is the base unit of analysis for comprehensive planning population and employment projections. There are 138 TAZs in the City of Minneapolis.

#### CITY OF MINNEAPOLIS SANITARY SEWER AREAS BY M.C.E.S. SEWER DEMOGRAPHIC CHANGES 2000 THRU 2030

	POULATION SERVICE AREA   2000   2005   2007   2010   2015   2020   2020														
SERVICE AREA	2000	2005	2007	2010	2015	2020	2025	2030							
7026	2,681	2,827	2,885	2,973	3,015	3,056	3,159	3,261							
8255	27,405	29,176	29,884	30,947	31,594	32,241	32,709	33,176							
8754	690	704	710	718	710	702	776	849							
MN-300	20,510	21,962	22,542	23,413	23,900	24,386	24,754	25,121							
MN-301	2,895	2,921	2,931	2,947	2,987	3,027	3,130	3,233							
MN-302	5,548	5,620	5,649	5,692	5,792	5,892	6,639	7,386							
MN-303	3,679	3,888	3,971	4,096	4,162	4,227	4,345	4,462							
MN-305	9	9	9	9	9	9	9	9							
MN-306	1,075	1,052	1,042	1,028	1,027	1,026	1,104	1,181							
MN-310*	63,553	64,975	65,544	66,397	69,183	71,968	73,140	74,312							
MN-311	1,145	1,281	1,335	1,417	1,425	1,432	1,515	1,597							
MN-312	4,273	4,696	4,865	5,119	5,207	5,294	5,425	5,555							
MN-313	1,055	1,144	1,179	1,232	1,236	1,239	1,319	1,399							
MN-314	806	877	905	948	945	942	1,019	1,095							
MN-315	4,458	4,382	4,352	4,306	4,376	4,445	4,566	4,686							
MN-316	8,600	8,377	8,288	8,154	8,307	8,460	8,631	8,802							
MN-320*	37,104	37,652	37,871	38,200	38,996	39,791	40,331	40,870							
MN-330*	44,327	45,768	46,344	47,209	48,246	49,283	49,965	50,646							
MN-340*	14,162	14,789	15,039	15,415	15,983	16,550	16,823	17,096							
MN-341*	68,012	68,239	68,329	68,465	70,131	71,796	72,763	73,730							
MN-342	491	523	536	555	544	532	603	674							
MN-343	2,094	2,204	2,248	2,314	2,341	2,367	2,461	2,555							
MN-344*	50,256	52,549	53,466	54,841	56,014	57,186	57,965	58,743							
MN-345	7,793	8,176	8,329	8,559	8,721	8,882	9,058	9,234							
MN-346	9,553	9,964	10,128	10,375	10,720	11,064	11,268	11,471							
TOTALS	382,174	393,752	398,383	405,329	415,563	425,797	433,470	441,143							

<sup>\*</sup> SEE FIGURES BELOW FOR SUBDIVISIONS OF SERVICE AREAS MN-310, 320, 330,340,341 & 344

			POPU	LATION				
SERVICE AREA	2,000	2,005	2007P	2010	2015	2020	2025	2030
MN-310-A	24,338	23,758	23,517	23,147	23,620	24,095	24,414	24,732
MN-310-B	14,539	16,962	17,947	19,442	21,241	23,038	23,561	24,08
MN-310-C	14,068	13,541	13,323	12,991	13,255	13,520	13,698	13,877
MN-310-D	10,607	10,714	10,756	10,818	11,066	11,315	11,467	11,618
MN-310 TOTAL	63,553	64,975	65,544	66,397	69,183	71,968	73,140	74,312
MN-320-A	14,319	13,686	13,430	12,935	13,269	13,480	13,734	13,859
MN-320-B	4.582	5.464	5.819	6,381	6.500	6,649	6,728	6.840
MN-320-C	10,953	11,335	11,488	11,770	11,980	12,247	12,368	12,549
MN-320-D	7.249	7,167	7,134	7,114	7,247	7,415	7,500	7,62
MN-320 TOTAL	37,104	37,652	37,871	38,200	38,996	39,791	40,331	40,870
MN-330-A	44.000	45 700	40.440	40.700	47 444	47.500	47.740	47.00
MN-330-A	14,606 18,430	15,708 18,506	16,140 18,544	16,789 18,599	17,144 18,993	17,500 19,387	17,742 19,655	17,984 19,922
МN-330-Б	5,981	6,130	6,190	6,280	6,413	6,546	6,637	6.72
MN-330-D	5,309	5,130	5,471	5,541	5,696	5,850	5,931	6.013
MN-330 TOTAL	44,327	45,768	46,344	47,209	48,246	49,283	49,965	50,64
IIII OOO TOTAL	44,027	40,700	40,044	41,200	40,240	40,200	40,000	00,040
MN-340-A	7,699	8,040	8,176	8,381	8,708	9,035	9,148	9,262
MN-340-B	6,553	6,832	6,943	7,110	7,376	7,641	7,738	7,834
MN-340 TOTAL	14,252	14,872	15,119	15,491	16,084	16,676	16,886	17,096
MN-341-A	8.093	8,307	8,393	8,522	8,702	8,882	9,002	9,122
MN-341-B	18,056	17,819	17,724	17,579	17,954	18,329	18,575	18,82
MN-341-C	14,609	14.663	14,685	14,718	15.032	15,345	15,551	15,757
MN-341-D	7.763	7.420	7,282	7.073	7,225	7.376	7,476	7.576
MN-341-E	10,116	10,063	10,042	10,010	10,223	10,437	10,578	10.718
MN-341-F	5,185	5,468	5,582	5,753	5,964	6,175	6,259	6,342
MN-341-G	4,190	4,499	4,623	4,810	5,031	5,252	5,322	5,39
MN-341 TOTAL	68,012	68,239	68,329	68,465	70,131	71,796	72,763	73,73
MNI O44 A	7.455	7 404	7.044	7 007	7.074	0.444	0.050	0.000
MN-344-A	7,155	7,481	7,611	7,807	7,974	8,141	8,252	8,363
MN-344-B	6,975	7,293	7,420	7,611	7,774	7,936	8,044	8,152
MN-344-C	8,361	8,743	8,895	9,124	9,319	9,514	9,644	9,773
MN-344-D	12,219	12,777	13,000	13,334	13,619	13,904	14,094	14,283
MN-344-E MN-344-F	11,035 4,511	11,538 4.717	11,740 4.800	12,042 4.923	12,299 5.028	12,556 5,133	12,727 5,203	12,898 5,273
IVIIN-344-F	4,511	4,717	4,000	4,923	5,028	5,133	5,203	5,27

#### CITY OF MINNEAPOLIS SANITARY SEWER AREAS BY M.C.E.S. SEWER DEMOGRAPHIC CHANGES 2000 THRU 2030

	HOUSEHOLDS SERVICE AREA   2000   2005   2007   2010   2015   2020   2025   2030														
SERVICE AREA	2000	2005	2007	2010	2015	2020	2025	2030							
7026	1,547	1,530	1,523	1,513	1,543	1,574	1,605	1,637							
8255	12,419	12,791	12,939	13,162	13,427	13,691	13,962	14,233							
8754	340	341	342	343	349	356	363	370							
MN-300	7,865	8,211	8,349	8,557	8,731	8,905	9,081	9,258							
MN-301	1,219	1,186	1,173	1,154	1,176	1,199	1,223	1,247							
MN-302	1,721	1,881	1,945	2,040	2,082	2,123	2,300	2,477							
MN-303	1,638	1,653	1,658	1,667	1,701	1,735	1,769	1,802							
MN-305	4	4	4	4	4	4	4	4							
MN-306	474	459	452	443	452	460	470	479							
MN-310*	25,038	28,025	29,220	31,013	32,488	33,963	34,679	35,395							
MN-311	453	511	535	570	585	601	613	625							
MN-312	1,574	1,770	1,848	1,966	2,015	2,064	2,105	2,146							
MN-313	393	436	453	479	489	499	509	519							
MN-314	308	341	355	375	383	391	398	405							
MN-315	1,881	1,904	1,913	1,927	1,965	2,004	2,044	2,084							
MN-316	3,120	3,167	3,186	3,214	3,277	3,341	3,408	3,475							
MN-320*	15,496	16,041	16,259	16,586	16,921	17,256	17,593	17,930							
MN-330*	20,444	21,114	21,381	21,783	22,240	22,697	23,145	23,593							
MN-340*	6,490	6,524	6,538	6,558	6,800	7,041	7,181	7,320							
MN-341*	28,947	28,735	28,650	28,522	29,186	29,850	30,730	30,908							
MN-342	282	282	282	282	288	293	299	305							
MN-343	1,061	1,055	1,053	1,049	1,070	1,090	1,112	1,134							
MN-344*	21,546	21,633	21,667	21,719	22,160	22,602	23,047	23,493							
MN-345	3,566	3,538	3,527	3,510	3,579	3,649	3,720	3,792							
MN-346	4,312	4,306	4,304	4,300	4,444	4,588	4,678	4,769							
TOTALS	162,139	167,437	169,556	172,735	177,355	181,975	186,038	189,398							

<sup>\*</sup> SEE FIGURES BELOW FOR SUBDIVISIONS OF SERVICE AREAS MN-310, 320, 330,340,341 & 344

			HOUS	EHOLDS				
SERVICE AREA	2,000	2,005	2007P	2010	2015	2020	2025	2030
MN-310-A	7,218	8,004	8,301	8,789	8,969	9,149	9,336	9,522
MN-310-B	7,521	9,714	10,876	11,900	12,976	14,052	14,374	14,69
MN-310-C	6,107	6,030	5,822	5,957	6,080	6,202	6,325	6,448
MN-310-D	4,192	4,278	4,221	4,366	4,463	4,559	4,644	4,72
MN-310 TOTAL	25,038	28,025	29,220	31,013	32,488	33,963	34,679	35,39
MN-320-A	5,980	5,831	5,766	5,616	5,758	5,846	5,991	6,08
MN-320-B	1,914	2,328	2,498	2,771	2,820	2,883	2,935	3,00
MN-320-C	4,575	4,829	4,932	5,110	5,198	5,311	5,395	5,50
MN-320-D	3,028	3,053	3,063	3,089	3,145	3,215	3,272	3,34
MN-320 TOTAL	15,496	16,041	16,259	16,586	16,921	17,256	17,593	17,93
MN-330-A	6,737	7,247	7,446	7,747	7,903	8,060	8,219	8,378
MN-330-B	8,500	8.537	8,555	8.582	8.755	8,929	9.105	9.28
MN-330-C	2,759	2,828	2,856	2,898	2,956	3,015	3,074	3,13
MN-330-D	2,449	2,502	2,524	2,557	2,626	2.694	2.748	2.80
MN-330 TOTAL	20,444	21,114	21,381	21,783	22,240	22,697	23,145	23,59
	0.500	0 =0=1		0 = 10		0.04=1		
MN-340-A	3,506	3,527	3,535	3,548	3,681	3,815	3,890	3,96
MN-340-B	2,984	2,997	3,002	3,010	3,118	3,226	3,290	3,35
MN-340 TOTAL	6,490	6,524	6,538	6,558	6,800	7,041	7,181	7,32
MN-341-A	3,444	3,498	3,519	3,550	3,618	3.693	3,802	3,82
MN-341-B	7,685	7,503	7,431	7,323	7,472	7,620	7,845	7,890
MN-341-C	6,218	6,175	6,157	6,131	6,256	6,380	6,568	6,60
MN-341-D	3,304	3,124	3,053	2,947	3,007	3,067	3,157	3,170
MN-341-E	4,305	4,237	4,210	4,170	4,255	4,339	4,467	4,49
MN-341-F	2,207	2,303	2,340	2,397	2,482	2,567	2,643	2,659
MN-341-G	1,783	1,894	1,938	2,004	2,094	2,183	2,248	2,26
MN-341 TOTAL	28,947	28,735	28,650	28,522	29,182	29,850	30,730	30,90
MN-344-A	3,068	3,080	3,084	3,092	3,155	3,218	3,281	3,34
MN-344-B	2,990	3,002	3,007	3,014	3,075	3,137	3,199	3,260
MN-344-C	3,585	3,599	3,605	3,613	3,687	3,760	3,834	3,90
MN-344-D	5,239	5,260	5,268	5,281	5,388	5,495	5,604	5,71
MN-344-E	4,731	4,750	4,758	4,769	4,866	4,963	5,061	5,15
MN-344-F	1,934	1,942	1,945	1,950	1,989	2,029	2,069	2,10
MN-344 TOTAL	21,546	21,633	21,667	21,719	22,160	22,602	23,047	23,49

#### CITY OF MINNEAPOLIS SANITARY SEWER AREAS BY M.C.E.S. SEWER DEMOGRAPHIC CHANGES 2000 THRU 2030

			EMPL	OYMENT				
SERVICE AREA	2000	2005	2007	2010	2015	2020	2025	2030
7026	1,807	1,601	1,518	1,394	1,118	841	859	877
8255	12,441	12,278	12,212	12,114	10,935	9,757	9,962	10,167
8754	329	227	186	125	88	51	51	52
MN-300	18,956	17,496	16,911	16,035	14,697	13,359	13,628	13,897
MN-301	3,485	4,371	4,726	5,258	6,173	7,088	7,237	7,387
MN-302	33,477	32,729	32,430	31,981	31,734	31,486	32,122	32,759
MN-303	270	1,225	1,607	2,180	1,587	993	1,013	1,034
MN-305	19	20	20	21	20	19	19	20
MN-306	156	184	196	213	179	144	147	150
MN-310*	162,781	163,739	164,122	164,696	180,165	195,633	199,796	203,958
MN-311	390	677	791	963	702	442	452	462
MN-312	381	580	660	780	669	558	569	581
MN-313	0	0	0	0	0	0	0	0
MN-314	63	86	94	108	107	107	109	111
MN-315	849	841	838	834	834	835	852	870
MN-316	419	417	417	416	398	380	388	396
MN-320*	23,353	25,146	25,863	26,938	26,311	25,684	26,225	26,766
MN-330*	23,876	25,508	26,160	27,139	26,191	25,243	25,775	26,307
MN-340*	3,203	3,273	3,301	3,343	2,897	2,451	2,502	2,552
MN-341*	10,650	11,967	12,494	13,284	11,843	10,402	10,622	10,842
MN-342	0	0	0	0	0	0	0	0
MN-343	593	516	485	439	406	372	379	387
MN-344*	8,721	8,343	8,192	7,964	7,136	6,307	6,435	6,563
MN-345	466	424	407	381	280	178	182	185
MN-346	486	439	420	391	281	170	174	177
TOTALS	307,172	312,086	314,052	317,000	324,750	332,500	339,500	346,500

<sup>\*</sup> SEE FIGURES BELOW FOR SUBDIVISIONS OF SERVICE AREAS MN-310, 320, 330,340,341 & 344

	EMPLOYMENT							
SERVICE AREA	2,000	2,005	2007P	2010	2015	2020	2025	2030
MN-310-A	5,563	7,337	7,992	9,116	8,624	8,040	8,210	8,379
MN-310-B	137,032	136,398	136,190	135,760	153,662	171,919	175,535	179,150
MN-310-C	7,546	7,927	8,069	8,309	7,578	6,743	6,885	7,028
MN-310-D	12,640	12,077	11,871	11,512	10,301	8,933	9,167	9,401
MN-310 TOTAL	162,781	163,739	164,122	164,696	180,165	195,633	199,796	203,958
	1							
MN-320-A	1,465	1,966	2,167	2,469	1,296	2,408	2,179	1,932
MN-320-B	6,140	6,220	6,251	6,297	6,340	5,803	5,995	6,191
MN-320-C	11,054	12,334	12,847	13,617	14,633	14,314	14,788	15,273
MN-320-D	4,694	4,626	4,598	4,555	4,043	3,158	3,263	3,370
MN-320 TOTAL	23,353	25,146	25,863	26,938	26,311	25,684	26,225	26,766
MN-330-A	6.270	6,015	5.525	5.199	4.919	4,638	4.736	4,834
MN-330-A	12,397	13,795	14.667	15.645	15.149	14.653	14.963	15.272
MN-330-C	1,282	1,518	1,697	1.876	1.827	1,778	1.816	1.854
MN-330-D	3,927	4,180	4,272	4,420	4,296	4,173	4,260	4,348
MN-330 TOTAL	23,876	25,508	26,160	27,139	26,191	25,243	25,775	26,307
	•	-	-	-	-	-	•	
MN-340-A	1,789	1,919	2,024	2,125	2,012	1,899	1,939	1,978
MN-340-B	1,414	1,354	1,277	1,218	885	551	563	575
MN-340 TOTAL	3,203	3,273	3,301	3,343	2,897	2,451	2,502	2,552
MN-341-A	1,654	1,399	1,050	790	586	382	391	399
MN-341-B	2,816	3,385	3,730	4,121	3,996	3,871	3,952	4,034
MN-341-C	1,925	1,915	1,778	1,713	1,416	1,119	1,142	1,165
MN-341-D	1,273	2,055	2,701	3,314	3,151	2,989	3,052	3,116
MN-341-E	908	1,012	1,048	1,108	819	530	541	553
MN-341-F	1,067	1,143	1,142	1,174	1,086	998	1,019	1,040
MN-341-G	1,007	1,059	1,045	1,063	788	514	524	535
MN-341 TOTAL	10,650	11,967	12,494	13,284	11,843	10,402	10,622	10,842
MN-344-A	1,448	1,387	1,361	1.324	1.186	1,048	1,070	1,091
MN-344-A MN-344-B	838	805	790	769	689	609	621	633
MN-344-B MN-344-C	2,736	2,617	2,569	2.498	2.238	1,978	2,019	2.059
MN-344-C MN-344-D	1.985	1.901	2,569 1.866	2,498 1.815	1,626	1,978	1,466	2,059 1,496
MN-344-D MN-344-E	1,965	1,118	1,000	1,015	956	845	863	880
MN-344-E	543	514	507	492	441	389	397	405
MN-344 TOTAL	8,721	8,343	8,192	7,964	7,136	6,307	6,435	6,563

#### Appendix C

#### **Sanitary Service Area Characteristics for 2007**

The following pages provide figures for population, number of households, land use and areas for each of the service areas of the Metropolitan Council Environment Services (MCES) interceptors within the City of Minneapolis.

There are 25 separate service areas ranging in size from MN-305 at 3.38 acres serving four residential properties and one commercial property, to the largest MN-344 at 5,244 acres, serving over sixteen thousand single-family homes in addition to a large number of multi-family residential and commercial properties.

# **POPULATION**

2000 CENSUS 2759 HOUSEHOLDS 1635

# **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 22,631,314.72
 587
 519.54

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	1,043,989.15	4.97%	14	2.13%
BUSINESS RETAIL	1,394,967.72	6.63%	13	1.98%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	1,265,246.03	6.02%	41	6.25%
DUPLEX	275,495.23	1.31%	34	5.18%
TOWN HOME - CO	185,569.71	0.88%	68	10.37%
SINGLE FAMILY HOME	3,710,332.35	17.66%	426	64.94%
PARKS - RECREATIONAL	9,065,671.63	43.15%	17	2.59%
VACANT OR MISC	4,068,960.19	19.37%	43	6.55%
TOTALS	21,010,232.02	99.99%	656	100.00%

# **POPULATION**

2000 CENSUS 27374 HOUSEHOLDS 13125

# **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 105,714,549.01
 7,155
 2,426.87

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	17,136,906.49	23.01%	292	3.93%
BUSINESS RETAIL	4,421,710.68	7.87%	119	1.60%
INSTITUTUTIONAL	2,032,461.29	2.73%	40	0.54%
GROUP RESIDENCE	815,651.12	1.10%	82	1.10%
CONDO - APARTMENT	3,948,170.51	5.30%	308	4.14%
DUPLEX	8,904,197.38	11.95%	1558	20.96%
TOWN HOME - CO	462,575.96	0.62%	70	0.94%
SINGLE FAMILY HOME	26,304,828.88	35.32%	4633	62.33%
PARKS - RECREATIONAL	5,025,975.23	6.75%	28	0.38%
VACANT OR MISC	3,986,000.01	5.35%	264	3.55%
TOTALS	74,481,676.22	100.00%	7433	100.00%

# **POPULATION**

<u>2000 CENSUS</u> <u>HOUSEHOLDS</u> 359

## **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 2,899,864.69
 293
 66.57

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	47,919.10	3.14%	5	1.89%
BUSINESS RETAIL	23,158.60	1.52%	4	1.51%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	10,182.77	0.67%	1	0.38%
DUPLEX	366,434.66	23.98%	66	24.91%
TOWN HOME - CO	8,068.64	0.53%	2	0.75%
SINGLE FAMILY HOME	1,033,878.04	67.65%	180	67.92%
PARKS - RECREATIONAL	0.00	0.00%	0	0.00%
VACANT OR MISC	38,530.72	2.52%	7	2.64%
TOTALS	1,528,172.53	100.00%	265	100.00%

# MN-300

# **POPULATION**

2000 CENSUS 20509 HOUSEHOLDS 8312

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 103,951,971.47
 4,142
 2,386.41

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	37,057,770.54	38.73%	296	6.19%
BUSINESS RETAIL	5,097,673.64	5.33%	174	3.64%
INSTITUTUTIONAL	6,256,110.11	6.54%	40	0.84%
GROUP RESIDENCE	1,304,204.93	1.36%	15	0.31%
CONDO - APARTMENT	2,621,516.09	2.74%	175	3.66%
DUPLEX	7,793,956.12	8.15%	1252	26.17%
TOWN HOME - CO	582,361.19	0.61%	58	1.21%
SINGLE FAMILY HOME	15,701,718.11	16.41%	2446	51.13%
PARKS - RECREATIONAL	13,543,563.80	14.16%	62	1.29%
VACANT OR MISC	5,718,557.99	5.98%	266	5.56%
TOTALS	95,677,432.51	100.00%	4784	100.00%

#### **POPULATION**

2000 CENSUS 2972 HOUSEHOLDS 1288

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 23,086,784.69
 719
 530.00

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	12,470,000.23	73.05%	67	9.42%
BUSINESS RETAIL	60,591.03	0.35%	6	0.84%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	739,786.17	4.33%	2	0.28%
CONDO - APARTMENT	129,355.72	0.76%	5	0.70%
DUPLEX	732,920.14	4.29%	132	18.57%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	2,601,807.62	15.24%	470	66.10%
PARKS - RECREATIONAL	0.00	0.00%	0	0.00%
VACANT OR MISC	336,724.01	1.97%	29	4.08%
TOTALS	17,071,184.92	100.00%	711	100.00%

### MN-302

#### **POPULATION**

2000 CENSUS 5613 HOUSEHOLDS 1819

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

<u>SQUARE FT.</u> <u>SANITARY CONNECTIONS</u> <u>Acres</u> 61,971,526.81 1,239 1,422.67

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	22,471,879.89	53.35%	186	13.63%
BUSINESS RETAIL	3,354,183.96	7.96%	71	5.20%
INSTITUTUTIONAL	718,227.88	1.71%	16	1.17%
GROUP RESIDENCE	174,221.82	0.41%	22	1.61%
CONDO - APARTMENT	1,030,697.56	2.45%	38	2.78%
DUPLEX	674,888.09	1.60%	109	7.99%
TOWN HOME - CO	99,791.32	0.24%	5	0.37%
SINGLE FAMILY HOME	5,015,645.61	11.91%	802	58.75%
PARKS - RECREATIONAL	5,563,076.73	13.21%	6	0.44%
VACANT OR MISC	3,022,898.44	7.18%	110	8.06%
TOTALS	42,125,511.31	100.00%	1365	100.00%

#### **POPULATION**

2000 CENSUS 3752 HOUSEHOLDS 1731

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 26,792,513.62
 1,498
 615.07

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	1,820,552.52	12.81%	12	0.76%
BUSINESS RETAIL	130,757.46	0.92%	13	0.64%
INSTITUTUTIONAL	325,952.30	2.29%	3	0.19%
GROUP RESIDENCE	18,288.90	0.13%	1	0.06%
CONDO - APARTMENT	86,451.42	0.61%	5	0.32%
DUPLEX	267,669.50	1.88%	39	2.48%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	9,524,664.72	67.04%	1480	94.27%
PARKS - RECREATIONAL	1,688,218.63	11.88%	5	0.32%
VACANT OR MISC	345,134.76	2.43%	15	0.96%
TOTALS	14,207,690.20	100.00%	1570	100.00%

### MN-305

#### **POPULATION**

2000 CENSUS HOUSEHOLDS

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

SQUARE FT. SANITARY CONNECTIONS Acres 147,340.60 4 3.38

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	0.00	0.00%	0	0.00%
BUSINESS RETAIL	18,684.77	10.00%	1	10.00%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	0.00	0.00%	0	0.00%
DUPLEX	0.00	0.00%	0	0.00%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	17,423.09	20.25%	4	40.00%
PARKS - RECREATIONAL	0.00	0.00%	0	0.00%
VACANT OR MISC	53,838.85	62.50%	5	50.00%
TOTALS	86,031.39	100.00%	10	100.00%

#### **POPULATION**

<u>2000 CENSUS</u> 1160 <u>HOUSEHOLDS</u> 501

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 9,406,789.29
 377
 215.95

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	1,693,611.87	33.59%	12	3.03%
BUSINESS RETAIL	28,247.96	0.56%	2	0.51%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	0.00	0.00%	0	0.00%
DUPLEX	323,059.98	6.41%	37	9.34%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	2,611,832.37	51.80%	334	84.34%
PARKS - RECREATIONAL	17,634.83	0.35%	1	0.25%
VACANT OR MISC	367,694.80	7.29%	10	2.53%
TOTALS	5,042,081.81	100.00%	396	100.00%

#### **POPULATION**

2000 CENSUS 63363 HOUSEHOLDS 26461

#### <u>AREA</u>

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 189,427,458.44
 8,834
 4,348.66

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	20,823,690.68	16.60%	481	4.63%
BUSINESS RETAIL	13,535,238.21	10.79%	514	4.95%
INSTITUTUTIONAL	8,542,813.44	6.81%	149	1.43%
GROUP RESIDENCE	1,356,573.87	1.08%	58	0.56%
CONDO - APARTMENT	8,228,584.73	6.56%	473	4.56%
DUPLEX	7,084,673.21	5.65%	1214	11.69%
TOWN HOME - CO	1,267,457.40	1.01%	243	2.34%
SINGLE FAMILY HOME	34,905,973.73	27.83%	6217	59.87%
PARKS - RECREATIONAL	15,846,140.01	12.63%	181	1.74%
VACANT OR MISC	11,664,985.95	9.30%	795	7.66%
TOTALS	125,427,502.59	98.27%	10384	100.00%

### MN-311

#### **POPULATION**

2000 CENSUS 1230 HOUSEHOLDS 478

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 10,632,947.96
 456
 244.10

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	1,163,346.14	17.31%	17	3.60%
BUSINESS RETAIL	146,466.75	2.18%	9	1.91%
INSTITUTUTIONAL	5,540.70	8.25%	1	0.21%
GROUP RESIDENCE	13,639.59	0.20%	1	0.21%
CONDO - APARTMENT	0.00	0.00%	0	0.00%
DUPLEX	114,525.60	1.70%	16	3.39%
TOWN HOME - CO	12,427.05	0.19%	4	0.85%
SINGLE FAMILY HOME	2,411,008.88	35.88%	381	80.72%
PARKS - RECREATIONAL	2,589,586.21	38.54%	31	6.57%
VACANT OR MISC	262,473.88	3.91%	12	2.54%
TOTALS	6,719,014.79	108.16%	472	100.00%

#### **POPULATION**

2000 CENSUS 4344 HOUSEHOLDS 1664

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 18,608,460.57
 1,637
 427.19

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	3,286,829.94	19.18%	16	0.87%
BUSINESS RETAIL	108,052.15	0.63%	6	0.33%
INSTITUTUTIONAL	772,271.48	4.51%	5	0.27%
GROUP RESIDENCE	278,763.06	1.63%	5	0.27%
CONDO - APARTMENT	191,828.30	1.12%	9	0.49%
DUPLEX	387,085.38	2.26%	57	3.09%
TOWN HOME - CO	413,663.19	2.41%	113	6.12%
SINGLE FAMILY HOME	8,304,741.37	48.45%	1459	79.08%
PARKS - RECREATIONAL	2,673,611.94	15.60%	31	1.68%
VACANT OR MISC	724,217.79	4.23%	144	7.80%
TOTALS	17,141,064.61	100.00%	1845	100.00%

#### **POPULATION**

2000 CENSUS 1140 HOUSEHOLDS 415

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

<u>SQUARE FT.</u> <u>SANITARY CONNECTIONS</u> <u>Acres</u> 4,797,599.93 423 110.14

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	0.00	0.00%	0	0.00%
BUSINESS RETAIL	0.00	0.00%	0	0.00%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	0.00	0.00%	0	0.00%
DUPLEX	91,955.80	2.33%	12	2.72%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	2,488,339.49	63.15%	413	93.65%
PARKS - RECREATIONAL	598,332.02	15.19%	5	1.13%
VACANT OR MISC	761,651.08	19.33%	11	2.49%
TOTALS	3,940,278.38	100.00%	441	100.00%

#### **POPULATION**

<u>2000 CENSUS</u> 892 <u>HOUSEHOLDS</u> 325

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 4,066,875.90
 334
 93.36

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	0.00	0.00%	0	0.00%
BUSINESS RETAIL	9,851.22	0.39%	1	0.30%
INSTITUTUTIONAL	167,395.84	6.65%	1	0.30%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	0.00	0.00%	0	0.00%
DUPLEX	64,202.86	2.55%	7	2.06%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	2,198,936.01	87.34%	325	95.87%
PARKS - RECREATIONAL	0.00	0.00%	0	0.00%
VACANT OR MISC	77,348.55	3.07%	5	1.47%
TOTALS	2,517,734.48	100.00%	339	100.00%

#### **POPULATION**

2000 CENSUS 4528 HOUSEHOLDS 1988

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 25,548,551.42
 1,528
 586.51

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	4,888,295.96	32.31%	36	2.33%
BUSINESS RETAIL	188,630.62	1.25%	19	1.23%
INSTITUTUTIONAL	487,200.88	3.22%	6	0.39%
GROUP RESIDENCE	6,493.71	0.04%	1	0.06%
CONDO - APARTMENT	264,600.74	1.75%	16	1.04%
DUPLEX	296,616.82	1.96%	48	3.11%
TOWN HOME - CO	0.00	0.00%	0	0.00%
SINGLE FAMILY HOME	8,100,299.94	53.54%	1393	90.22%
PARKS - RECREATIONAL	17,253.18	0.11%	2	0.13%
VACANT OR MISC	881,137.94	5.82%	23	1.49%
TOTALS	15,130,529.80	100.00%	1544	100.00%

#### **POPULATION**

2000 CENSUS 8652 HOUSEHOLDS 3298

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 32,822,422.65
 3,098
 753.50

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	91,443.65	0.36%	10	0.31%
BUSINESS RETAIL	488,463.49	1.91%	42	1.31%
INSTITUTUTIONAL	635,887.47	2.49%	11	0.34%
GROUP RESIDENCE	14,796.89	0.06%	1	0.03%
CONDO - APARTMENT	203,150.54	0.79%	25	0.78%
DUPLEX	1,089,289.74	4.26%	164	5.12%
TOWN HOME - CO	21,349.46	0.08%	6	0.19%
SINGLE FAMILY HOME	16,131,707.19	63.04%	2919	91.16%
PARKS - RECREATIONAL	6,607,014.45	25.82%	4	0.12%
VACANT OR MISC	304,751.16	1.19%	20	0.62%
TOTALS	25,587,854.01	100.00%	3202	100.00%

#### **POPULATION**

2000 CENSUS 37030 HOUSEHOLDS 16377

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 151,144,544.93
 7,213
 3,469.80

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	13,730,694.44	13.61%	256	3.26%
BUSINESS RETAIL	7,285,011.25	7.22%	241	3.07%
INSTITUTUTIONAL	6,619,313.37	6.56%	77	0.98%
GROUP RESIDENCE	775,363.43	0.77%	28	0.36%
CONDO - APARTMENT	4,857,985.26	4.82%	253	3.22%
DUPLEX	6,728,914.88	6.67%	1049	13.35%
TOWN HOME - CO	445,750.69	0.44%	227	2.89%
SINGLE FAMILY HOME	33,287,037.77	33.00%	5138	65.41%
PARKS - RECREATIONAL	17,591,093.61	17.44%	79	1.01%
VACANT OR MISC	3,817,273.88	3.78%	193	2.46%
TOTALS	100,884,774.24	100.00%	7855	100.00%

#### **POPULATION**

2000 CENSUS 44222 HOUSEHOLDS 21606

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

<u>SQUARE FT.</u> <u>SANITARY CONNECTIONS</u> <u>Acres</u> 108,855,630.26 6,839 2,498.98

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	9,712,118.72	12.77%	300	3.97%
BUSINESS RETAIL	7,719,205.24	10.15%	422	5.58%
INSTITUTUTIONAL	3,140,186.42	4.13%	59	0.78%
GROUP RESIDENCE	669,669.27	0.88%	50	0.66%
CONDO - APARTMENT	7,104,241.92	9.34%	710	9.39%
DUPLEX	10,038,413.23	13.19%	1745	23.07%
TOWN HOME - CO	530,173.99	0.70%	89	1.18%
SINGLE FAMILY HOME	23,517,210.87	30.91%	3759	49.70%
PARKS - RECREATIONAL	6,699,370.85	8.81%	35	0.46%
VACANT OR MISC	6,949,404.53	9.13%	394	5.21%
TOTALS	76,079,995.03	100.00%	7563	100.00%

#### **POPULATION**

2000 CENSUS 14189 HOUSEHOLDS 6859

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 95,987,963.36
 5,316
 2,203.58

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	1,383,400.46	2.66%	62	1.20%
BUSINESS RETAIL	1,432,877.57	2.75%	116	2.24%
INSTITUTUTIONAL	2,603,035.20	5.00%	21	0.41%
GROUP RESIDENCE	1,914,748.92	3.68%	5	0.10%
CONDO - APARTMENT	654,362.49	1.26%	67	1.30%
DUPLEX	2,569,345.70	4.94%	407	7.87%
TOWN HOME - CO	7,740.15	0.01%	2	0.04%
SINGLE FAMILY HOME	26,308,319.14	50.54%	4379	84.70%
PARKS - RECREATIONAL	12,257,259.16	23.55%	32	0.62%
VACANT OR MISC	2,922,525.17	5.61%	79	1.53%
TOTALS	52,053,613.96	100.00%	5170	100.00%

#### **POPULATION**

2000 CENSUS 67802 HOUSEHOLDS 21606

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

<u>SQUARE FT.</u> <u>SANITARY CONNECTIONS</u> <u>Acres</u> 207,098,116.54 18,537 4,754.32

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	6,144,693.52	4.24%	267	1.38%
BUSINESS RETAIL	4,478,885.13	3.09%	412	2.13%
INSTITUTUTIONAL	4,396,016.00	3.04%	91	0.47%
GROUP RESIDENCE	772,359.94	0.53%	40	0.21%
CONDO - APARTMENT	6,789,161.96	4.69%	789	4.07%
DUPLEX	14,376,323.32	9.93%	2542	13.12%
TOWN HOME - CO	254,758.06	0.18%	76	0.39%
SINGLE FAMILY HOME	82,806,748.55	57.19%	14763	76.19%
PARKS - RECREATIONAL	21,008,130.75	14.51%	55	0.28%
VACANT OR MISC	3,772,304.71	2.61%	341	1.76%
TOTALS	144,799,381.94	100.00%	19376	100.00%

#### **POPULATION**

<u>2000 CENSUS</u> 578 HOUSEHOLDS 298

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 2,033,220.46
 227
 46.68

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	0.00	0.00%	0	0.00%
BUSINESS RETAIL	0.00	0.00%	0	0.00%
INSTITUTUTIONAL	0.00	0.00%	0	0.00%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	0.00	0.00%	0	0.00%
DUPLEX	90,934.94	7.51%	15	7.35%
TOWN HOME - CO	7,145.75	0.59%	7	3.43%
SINGLE FAMILY HOME	1,079,968.82	89.21%	177	86.76%
PARKS - RECREATIONAL	0.00	0.00%	0	0.00%
VACANT OR MISC	32,523.27	2.69%	5	2.45%
TOTALS	1,210,572.78	100.00%	204	100.00%

#### **POPULATION**

2000 CENSUS 2174 HOUSEHOLDS 1121

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 10,004,997.84
 926
 229.68

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	49,893.68	0.75%	7	0.80%
BUSINESS RETAIL	291,442.00	4.38%	17	1.95%
INSTITUTUTIONAL	395,330.88	5.94%	4	0.46%
GROUP RESIDENCE	0.00	0.00%	0	0.00%
CONDO - APARTMENT	265,335.16	3.99%	15	1.72%
DUPLEX	496,209.20	7.46%	76	8.72%
TOWN HOME - CO	10,880.17	0.16%	8	0.92%
SINGLE FAMILY HOME	4,539,619.60	68.21%	729	83.60%
PARKS - RECREATIONAL	434,167.67	6.52%	2	0.23%
VACANT OR MISC	172,749.65	2.60%	14	1.61%
TOTALS	6,655,628.00	100.00%	872	100.00%

#### **POPULATION**

2000 CENSUS 50136 HOUSEHOLDS 22771

#### <u>AREA</u>

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 228,432,864.35
 19,130
 5,244.10

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	4,567,187.12	3.09%	105	0.56%
BUSINESS RETAIL	2,647,753.21	1.79%	191	1.03%
INSTITUTUTIONAL	4,206,660.43	2.85%	60	0.32%
GROUP RESIDENCE	716,668.62	0.49%	16	0.09%
CONDO - APARTMENT	1,911,907.00	1.30%	118	0.63%
DUPLEX	6,655,051.86	4.51%	1034	5.56%
TOWN HOME - CO	254,150.80	0.17%	153	0.82%
SINGLE FAMILY HOME	104,171,814.10	70.58%	16729	89.96%
PARKS - RECREATIONAL	19,680,334.41	13.33%	48	0.26%
VACANT OR MISC	2,789,082.41	1.89%	142	0.76%
TOTALS	147,600,609.96	100.00%	18596	100.00%

#### **POPULATION**

2000 CENSUS 7848 HOUSEHOLDS 3768

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 32,419,367.13
 3,213
 744.25

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	57,927.70	0.24%	4	0.12%
BUSINESS RETAIL	101,329.83	0.42%	12	0.36%
INSTITUTUTIONAL	356,626.55	1.49%	3	0.09%
GROUP RESIDENCE	8,178.93	0.03%	1	0.03%
CONDO - APARTMENT	92,666.88	0.39%	5	0.15%
DUPLEX	1,026,758.13	4.29%	147	4.41%
TOWN HOME - CO	113,556.53	0.47%	25	0.75%
SINGLE FAMILY HOME	20,274,667.41	84.67%	3107	93.25%
PARKS - RECREATIONAL	1,278,199.92	5.34%	10	0.30%
VACANT OR MISC	635,359.67	2.65%	18	0.54%
TOTALS	23,945,271.54	100.00%	3332	100.00%

#### **POPULATION**

2000 CENSUS 9601 HOUSEHOLDS 4558

#### **AREA**

(INCLUDES PUBLIC R.O.W.)

 SQUARE FT.
 SANITARY CONNECTIONS
 Acres

 41,504,116.65
 3,909
 952.80

TYPE	AREA- SQUARE FT.	PERCENT OF AREAS	NUMBER OF PARCELS	PERCENT OF PARCELS
COMM INDUSTRIAL	2,791,687.11	8.93%	9	0.22%
BUSINESS RETAIL	267,976.73	0.86%	13	0.32%
INSTITUTUTIONAL	875,864.77	2.80%	7	0.17%
GROUP RESIDENCE	27,354.60	0.09%	4	0.10%
CONDO - APARTMENT	816,169.59	2.61%	44	1.08%
DUPLEX	627,631.33	2.01%	102	2.51%
TOWN HOME - CO	7,655.72	0.02%	2	0.05%
SINGLE FAMILY HOME	21,931,934.49	70.16%	3841	94.63%
PARKS - RECREATIONAL	3,792,270.86	12.13%	8	0.20%
VACANT OR MISC	119,390.26	0.38%	29	0.71%
TOTALS	31,257,935.43	100.00%	4059	100.00%

#### **APPENDIX D:**

#### MINNEAPOLIS CODE OF ORDINANCES

#### **CHAPTER 56**

#### PROHIBITED DISCHARGES TO SANITARY OR COMBINED SEWER

#### CHAPTER 56. PROHIBITED DISCHARGES TO SANITARY OR COMBINED SEWER

56.10. Purpose. The City of Minneapolis has been pursuing an aggressive campaign of separating its sanitary sewer system from its stormwater drainage system to reduce the number of combined sewer overflows (CSO). However, some rainleaders and other components, which handle stormwater, are still connected to the sanitary sewer system. During rain events, infiltration and inflow from buildings and parking lots with rainleaders and area drains connected to the sanitary sewer system, cause its Capacity to be exceeded resulting in overflows to adjacent storm drains. This overflow ends up discharging sewage and stormwater into the Mississippi River. Rooftop drains (rainleaders) that are connected to the sanitary sewer system are one (1) of the major causes of combined sewer overflows. Residential and commercial buildings, usually built before 1961, sometimes have pipes that lead underground directly into the sanitary sewer system, rather than through gutters to lawns or the stormwater drainage system. To protect the environment and prevent these overflows as well as preventing the possibility of sewage backing up into homes and businesses, rainleaders and other connections which deliver stormwater into the sanitary system rather than the stormwater drainage system or to pervious surfaces need to be disconnected. State and federal environmental mandates require us to work to eliminate combined sewer overflows. The City and metropolitan council have conducted studies that determined the main contributor to these overflows is rainleader connections. The purpose of this chapter is to define regulations that will aid the City in limiting inflow of rainwater to the sanitary sewer system. The ordinance will help to minimize the overflow problem resulting from the lack of Capacity of the sanitary system to handle large amounts of rainwater. Rainwater runoff will be more appropriately handled through natural filtration and/or the stormwater drainage system. The net result will be a cleaner Mississippi River and a more efficient waste treatment system. (2003-Or-053, § 1, 5-2-03)

**56.20. Definitions.** For the purpose of this Code, the following terms shall have the meaning indicated in this part. No attempt is made to define ordinary words that are used in accordance with their established dictionary meaning except where it is necessary to define their meaning as used in this Code to avoid misunderstanding. Certain provisions of this Code contain other definitions. In case of any conflict between such other definitions the definitions in section 56.20 shall apply to Chapter 56.

**Area drain** is a receptacle designed to collect and convey surface or stormwater to the drainage system.

**Clearwater** is any surface flow, runoff, and drainage that does not contain any hazardous substance or sewage. This includes but is not limited to NPDES permitted discharges, stormwater and water from foundation and footing drains and basement sump pumps.

**Combined sewer** is a sewer that must handle flow of both sanitary wastewater and stormwater in a single pipeline.

**Combined sewer overflow (CSO)** occurs when excessive amounts of rainfall enter a sanitary sewer system. The result is a volume of rainwater and sanitary wastewater, which exceeds the system's Capacity. Combined rainwater and sewage is forced to overflow into area streams and rivers through outfalls.

**Hazardous substances** are material which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial

present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

**Liquid waste** means the discharge from any fixture, appliance, or appurtenance that does not receive fecal matter.

**Owner**, for the purposes of this chapter, shall mean the person who is listed as the contact person on the current rental licensing application on file with the City, if any, or if none, the person listed as owner by the City assessor on the homestead record, or if none, the taxpayer as shown by the records of the City assessor.

**Rainleader**, for the purposes of this chapter, shall be defined as any conduit that conveys stormwater from a rooftop to a point of discharge.

**Runoff** is precipitation and other surface drainage that is not infiltrated into or otherwise retained by the soil, concrete, asphalt, or other surface upon which it falls.

**Sanitary sewer system** means pipelines, pumping stations, force mains, and all other constructions, devices, and appliances appurtenant thereto, used for conveying sewage or industrial waste or other wastes to a point of ultimate disposal.

**Separator** is a device designed and installed so as to separate and retain deleterious, hazardous, or undesirable matter including but not limited to oil, grease and flammable wastes from normal wastes while permitting normal sewage or liquid wastes to discharge into the drainage system by gravity.

**Sewage** means the water carried waste from residences, buildings, institutions or any mobile source, including the excrementitious or other discharge from bodies of humans beings or animals, together with such ground water infiltration and surface water as may be present.

**Stormwater** is any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation. (2003-Or-053, § 1, 5-2-03)

- **56.30. Compliance with other codes and laws.** Compliance with the provisions of this chapter does not release a person from any responsibility to comply with any other law or regulation, whether federal, state, or local. (2003-Or-053, § 1, 5-2-03)
- **56.40. Conflict.** (a) Conflict. In the event that the provisions of this chapter shall conflict with any Minnesota Statute or any federal statute, the Minnesota Statute or federal statute shall govern to the extent of any direct conflict.
- (b) Conflict in orders. In the event of a conflict between an order of the City and a valid order of a federal or state agency, the order of the federal or state agency shall govern to the extent of the conflict.
- (c) Conflict in permitted activity. In the event that any conduct prohibited by this chapter is affirmatively and specifically authorized by a valid permit issued by a duly authorized official of the State of Minnesota or a duly authorized official of the United States of America, then the affirmative and specific authority granted in such permit shall govern to the extent of any direct conflict with this chapter. (2003-Or-053, § 1, 5-2-03)

- **56.50. Violations.** (a) Violations of this Code. Any person who violates any provision of this chapter shall be guilty of an ordinance violation and subject to the punishment and penalties of section 1.30(a), 1.40 and Chapter 2 of this Code.
- (b) License revocation. Any owner of land, buildings, or structures who possesses a City license to conduct business, in addition to the fine, may have his or her license revoked for failure to comply with this chapter. (2003-Or-053, § 1, 5-2-03; 2006-Or-134, § 1, 11-17-06)
- **56.60. Authority to administer.** The authority to administer and enforce the provisions of this chapter of the Minneapolis Code of Ordinances on behalf of the City is vested in the Minneapolis Watershed Management Authority located in the Environmental Management section of the Department of Operations and Regulatory Services. The Minneapolis Watershed Management Authority, hereafter referred to as the "authority," shall have full authority to administer this chapter in addition to all authority given to it pursuant to section 48.70 and other sections of this Code. (2003-Or-053, § 1, 5-2-03)
- **56.70. Prohibited connections.** (a) Connections not permitted. Rainwater pipes, rainleaders, area drains or other connections used for conveying stormwater and clearwater from any building, structure, ground or premises shall be not connected or reconnected with any sanitary sewer system.
- (b) Exceptions for new parking ramps. Drains from an uncovered top deck of a new parking ramp shall not be connected to the sanitary sewer system. Ramp drains on all other floors shall be discharged to the sanitary sewer system via a separator. (2003-Or-053, § 1, 5-2-03)
- **56.80. Previously allowed connections.** (a) Existing connections not permitted. Rainwater pipes, rainleaders, area drains and other connections used for conveying stormwater and clearwater from any building, structure, ground or premises which were legally connected to the sanitary sewer system prior to 1961 or those which were connected later by City permission shall be disconnected from the sanitary sewer system pursuant to 56.140 of this Code or by January 1, 2005, whichever occurs first.
- (b) Exceptions for existing parking ramps. Drains from an uncovered top deck of an existing parking ramp shall not be connected to the sanitary sewer system. Ramp drains on all other floors shall be permitted to discharge as existing in so far as the discharge is not in conflict with state and federal requirements and other Minneapolis Codes. (2003-Or-053, § 1, 5-2-03)
- **56.90 Downspout placement.** Except as provided herein, all rainleader downspouts shall be placed so that drainage is to the back and/or to the front of the property. Downspouts shall be allowed in the existing side yards where adjacent structures are separated by more than ten (10) feet and where the downspout discharge point is no closer than ten (10) feet from an adjoining structure. The owner is responsible for the arranging drainage in a manner that complies with the law. Rainwater from downspouts shall be drained so as not to cause flooding of or dampness in walls, ceilings or floors in any portion of the building or in any adjacent building, structure or property. Downspout placement shall not be prohibited so long as no conflicts exist with this section and section 56.40 of this Code or any other applicable City Codes. For example, a building downspout shall not be prohibited from discharging to the building's property lot or common alleyway unless an applicable law, regulation or City Code prohibits it. (2003-Or-053, § 1, 5-2-03)
- **56.100. Disconnection permit requirement.** (a) Permit required. No person shall perform a disconnection of any rainwater pipe, rainleader, area drain or other connections used for

conveying stormwater and clearwater from any building, grounds or premises from the sanitary sewer system without first having obtained a disconnection permit from the authority.

- (b) Permit expiration. Permits issued under Chapter 56 shall be valid for the period during which the proposed activity takes place or is scheduled to take place, which ever is shorter, but in no event shall a permit be valid for more than one (1) year. (2003-Or-053, § 1, 5-2-03)
- **56.110. Permit fee.** The fee for obtaining a disconnection permit shall be established in the director's fee schedule pursuant to section 91.70. (2003-Or-053, § 1, 5-2-03; 2006-Or-134, § 2, 11-17-06)
- **56.120.** Requests for inspection. The contractor or permit holder shall make a request for inspection with the authority before any work of the contractor or permit holder is covered up or concealed and shall file this request within forty-eight (48) hours after the completion of any work done by said contractor or permit holder. (2003-Or-053, § 1, 5-2-03; 2006-Or-134, § 3, 11-17-06)
- **56.130. Manner of disconnection.** The disconnection shall be accomplished by a complete and permanent method and performed in a competent manner. Any disconnection, plugging, capping, rerouting, altering, or modifying must be done in accordance with all applicable state rules and Minneapolis ordinances. (2003-Or-053, § 1, 5-2-03)
- **56.140.** Disconnection required. (a) Notification. For all properties identified by the authority as having rainwater pipes, rainleaders, area drains or other connections used for conveying stormwater and clearwater from any building, structure, ground or premises to any sanitary sewer system the authority shall provide written notification to the owner informing the owner that they are required to disconnect from the sanitary sewer system as specified in the notice. As required by the official notification the property owner must obtain a rainleader disconnection permit and complete the disconnection prior to expiration of the permit, or request a time extension to the requirement of disconnection by the noted due date. In case the owner fails to make the disconnection as ordered, the City may elect to make the disconnection, or any part thereof, as it shall deem appropriate, and assess the cost against the property in the same manner as provided by Section 5, Chapter 9 of the City Charter. The owner shall continue to have the responsibility to do any additional work required to complete the disconnection from the City's sanitary sewer and direct the water for surface drainage in a manner that complies with all local, state and federal laws. The City shall take any steps that are legally required in order to gain entry to the property.
- (b) Order to connect to storm sewer. If the authority determines based on the nature of the property that there is no reasonable way to disconnect rainwater pipes, rainleaders, area drains or other connections used for conveying stormwater and clearwater from any building, structure. ground or premises other than by connecting them to the City's storm sewer system, then the authority may, if the City engineer concurs, order the owner in a reasonable period of time of not less than thirty (30) days to disconnect from the sanitary sewer system by connecting to the City's storm sewer system as specified by the City engineer in a permit issued by the City engineer. The owner shall be responsible for the design and construction of the connecting line or lines within the terms of the permit and shall be responsible for all costs associated with the connection to the City's storm sewer system. The owner shall be responsible for all costs of maintenance, repair and replacement of the connection. In case the owner shall fail to make the connection as ordered, the City may elect to install the connection, or any part thereof, as it shall deem appropriate, and assess the cost thereof against the property in the same manner as provided by Section 5. Chapter 9 of the City Charter. The owner shall continue to have the responsibility to do any additional work required to complete the connection to the City's storm sewer and complete the disconnection from the City's sanitary sewer. The City shall take any steps that are legally required in order to gain entry to the property.

- (c) Request to City engineer to connect to storm sewer. The owner of any property that needs to disconnect from the sanitary sewer and desires to connect to the storm sewer may, voluntarily and without an order pursuant to paragraph (b), request and authorize the City, on forms prescribed by the City engineer, to make the connection or hire a private contractor to make the connection. Such connection shall be made at the discretion of the City engineer and upon such terms as the City engineer shall determine. Such authorization by the owner to the City shall constitute, and such authorization form shall provide for, the right to enter upon the premises as may be necessary to make such connection; a waiver and release by the owner of any and all claims and damages against the City arising out of the making of such connection; and the consent of the owner to any unpaid charges for such work to be collected as a special assessment against the property as provided herein. The City engineer, upon receiving such authorization from the owner, may cause the connection of the property's stormwater line to be done by City forces or by a contractor as it shall direct. The costs of this connection shall be initially provided for by an advance of funds from the sewer rental fund or other fund as shall be determined by a council resolution or such other council action as they shall determine as appropriate, to be reimbursed from the collection of such charges. The City engineer, upon completion of any such repairs or replacement work, shall notify such owner of the amount of the charges for such work which the owner may pay to the City on or before July first, without penalty added thereto. If the charges or any part thereof for any such work is unpaid by July first, the City engineer shall prepare a proposed assessment roll listing the amount of charges unpaid and the benefited property which shall be filed with the City clerk. The City council shall assess and levy and cause to be collected the amount of such costs as a special assessment upon and against the property benefited in the manner provided by Minnesota Statutes, Sections 429.061, 429.071 and 429.081. Such costs so assessed shall be payable in a single installment except that the City council may provide that the costs so assessed may be paid in not to exceed ten (10) equal annual installments. Such assessments may include a penalty not to exceed ten (10) per cent of the amount thereof, as the council may determine, and shall bear interest at eight (8) per cent per annum or at such lesser rate as the council shall direct consistent with the City Charter. The owner shall continue to have the responsibility to do any additional work required to complete the connection to the City's storm sewer and complete the disconnection from the City's sanitary sewer.
- (d) Failure to respond. Failure to obtain a permit and disconnect or obtain a time extension pursuant to the terms of any official notification or order shall subject the property owner to penalties as provided by sections 56.50, 1.30(a), 1.40, and Chapter 2 of this Code. (2003-Or-053, § 1, 5-2-03; 2006-Or-134, § 4, 11-17-06)
- **56.150. Time extension.** (a) Time extension for compliance. An owner may request a time extension to comply with a notification to disconnect. A time extension for one (1), two (2) or three (3) years may be requested and renewed prior to expiration as provided for in subsection (d). A request for a time extension must be submitted on a form provided by the authority with payment of a twenty-five dollar (\$25.00) filing fee to cover review, administration and handling costs.
- (b) Time extension approval. A request for a time extension will be approved only in those cases in which the facts presented to the authority and City engineer demonstrate to the reasonable satisfaction and professional judgement of the authority and City engineer that timely disconnection would not be safe, prudent, or feasible and that a delay in disconnection is consistent with plans for the area's public infrastructure. For example, a disconnection that when performed would pose an increased risk to public health, or a disconnection that when performed would contribute to localized flooding would not be safe, prudent, or feasible. A time extension shall not be for a period longer than the period necessary to reasonably plan for and achieve compliance consistent with plans for the area's public infrastructure and keeping in mind the City's overriding interest in limiting inflow of stormwater into the City's sanitary sewer system consistent with the purposes set forth in section 56.10.

(c) Conditions of a time extension granted. Issuance of a time extension means that the authority does not require disconnection at this time. The authority and the City engineer reserve the right to require minimization of the continued inflow, prohibit expansion of the inflow and impose other reasonable conditions based upon the facts in each case. The time extension may be reopened to require additional work if previously undisclosed or unknown information or changing regulatory requirements makes additional work necessary.

The fee for obtaining a time extension shall be waived for time extensions acquired prior to January 1, 2007. On or after January 1, 2007, the owner must at that time pay a fee for buildings or premises as calculated by the authority based on the following formula: The current sewer utility rate multiplied by the square footage of the area contributing rainwater to the sanitary sewer system multiplied by the average annual rainfall in the Minneapolis/St. Paul area from 1990 to 2000 as determined by the National Weather Service (twenty-six (26) inches, two and seventeen hundredths (2.17) feet).

Sample calculation: Current Sewer Rate in 2002--\$3.16 per 100 ft3; Average Rainfall--2.17 ft

TABLE INSET:

(\$3.16) (2000 ft2)(2.17 ft)-\$137.14

100 ft3

- (d) Time extension renewal. Prior to the expiration of an existing time extension, the owner may request an extension on a form provided by the authority pursuant to subsection (a).
- (e) Time extension disapproved. If a time extension to disconnection is not approved, or is approved upon conditions that the applicant finds objectionable, the applicant may appeal pursuant to the procedures provided in sections 56.300 to 56.330 of this Code or their successor provisions. If the time extension is denied, or approved on conditions the applicant finds unacceptable, the obligation to disconnect or comply with the conditions of the time extension shall be stayed pending the specified appeal period and during the pendency of any appeal of the decision pursuant to sections 56.300 to 56.330 of this Code or their successor provisions. If there is no appeal or following the conclusion of the appeal procedures, the property owner shall disconnect or alternatively comply with any time extension granted on the conditions specified. Any failure to meet these obligations shall subject the property owner to penalties as provided by sections 56.50, 1.30(a), 1.40, and Chapter 2 of this Code. (2003-Or-053, § 1, 5-2-03; 2006-Or-134, § 5, 11-17-06)
- **56.160. Disclaimer.** The City in no way guarantees or implies that areas will be free from flooding or flood damages. The City does not assume a specific duty as to individual property owners to enforce this ordinance, but is enacting this chapter as a general regulation. This chapter is not intended for reliance by individual property owners. This chapter shall not create liability on the part of the City or its officers or employees for any flood damage that may result from the failure to comply with any portion of this chapter or any administrative decisions made pursuant thereto, whatever the cause. (2003-Or-053, § 1, 5-2-03)
- **56.170.** Effective date. This chapter shall become effective on August 1, 2003. (2003-Or-053, § 1, 5-2-03)
- **56.180.** Rainleader disconnection appeals panel. A rainleader disconnection appeals panel is hereby established to hear appeals related only to rainleader disconnection time extension decisions. The panel shall consist of the following three (3) members:

- (1) Director of operations, licenses and environmental services or designee;
- (2) City engineer or designee;
- (3) Director of inspections or designee.

The director of operations, licenses and environmental services or their designee shall provide a secretary to the panel who will serve in a nonvoting Capacity. The panel shall adopt its own rules for procedures which are not in conflict with applicable ordinances. (2006-Or-134, § 6, 11-17-06)

- **56.190. Duties and responsibilities of the panel.** The panel shall hear appeals from rainleader disconnection time extension decisions as specifically provided in section 56.150 of this Code. The panel may modify, sustain, or quash all or any portion of any order, interpretation, requirement, decision, or other determination made in matters relative only to rainleader disconnection time extension requests as specifically provided in section 56.150 of this Code. (2006-Or-134, § 7, 11-17-06)
- **56.200.** Right to appeal; procedure. (a) If a time extension to disconnection is not approved, or is approved upon conditions that the applicant finds objectionable, the applicant may, either personally or through his/her authorized agent, make an appeal to the panel. Such appeal shall be filed on a form provided by the rainleader disconnect program within fourteen (14) days from the date of the adverse determination. The appellant shall file any and all documents and/or affidavits that support the appeal. The payment of a fee in the amount of one hundred dollars (\$100.00) must accompany the submission of the appeal to cover administrative and handling costs.
- (b) The appeals panel shall render its decision based upon the evidence submitted, unless the panel believes that a hearing is necessary in order to reach its decision. If a hearing is determined to be necessary, the director of operations, licenses and environmental services or designee shall schedule a hearing. Written notice of the time and place of the hearing shall be given at least ten (10) days prior to the date of the hearing to the appellant by mail, addressed to the appellant at his/her address shown on the appeal. (2006-Or-134, § 8, 11-17-06)
- **56.210.** Hearings and decisions of the panel. (a) All hearings before the panel shall be public. A record of the entire proceedings shall be made by tape recording. A transcript of the proceedings shall be made available to all parties upon request and upon payment of the fee prescribed therefore. Such fees may be established by the panel, but shall in no event, be greater than the cost involved. The panel may grant continuances for good cause shown.
- (b) The panel shall make specific findings of fact and/or conclusions in connection with any decision upon any appeal. For those appeals without a hearing, a decision shall be made within sixty (60) days of the date of appeal. For those appeals with a hearing, a decision on any appeal shall be made at the hearing in which the appeal is heard, unless the appeal is continued to a subsequent meeting. Any decision by the panel shall be made by a majority of the quorum. All decisions by the panel shall be a final decision and shall become final when signed by the director of operations, licenses and environmental services or their designee chair, and shall become effective and enforceable at such time or at such alternative time as is specified therein. (2006-Or-134, § 9, 11-17-06)

#### APPENDIX E FORT SNELLING AREA SANITARY SEWER ACCOUNTS

#### FORT SNELLING AREA SANITARY SEWER ACCOUNTS

AGENCY	ADDRESS	2007 FLOW / Gal.
Metropolitan Airport Comm	6019 28th Avenue South	237,672,690
MN Air National Guard	5891 46th Avenue South	3,840,488
US Naval Reserve	5905 34th Avenue South	340,363
US Naval Reserve	6400 Bloomington Rd	211,698
Veterans Medical Center	5005 54th St E	13,126,781
Veterans Medical Center	5633 46th Avenue South	46,085,116
Veterans Medical Center	400 Bloomington Rd	47,875
Veterans Admin B-89	6001 Minnehaha Avenue	1,138,532
Fort Snelling Park	530 Fort Snelling Dr	318,669
Henry Whipple Bldg/GSA	5821 46th Avenue South	6,183,381
MN Dept of Natural Resources	600 Fort Snelling Dr	80,789
MN Dept of Natural Resources	900 Fort Snelling Dr	403,947
MN Dot	6000 Minnehaha Avenue	366,545
934th MSG/CERU	4122 59th St E	13,063,197
2007 Total Gallons		322,880,071

#### **APPENDIX F**

#### **Outside Minneapolis Sanitary Sewer Accounts for Individual Properties**

The tables on the following pages enumerate sanitary sewer accounts for properties bordering on the City of Minneapolis that are served by the Minneapolis sanitary sewer system.

#### Outside Minneapolis Sanitary Sewer Accounts- May 2008

PROPERTY ID No.	ACCOUNT No.	STREET ADDRESS	CITY
1011821110002	6160193400	5145 XERXES	Brooklyn Center
1011821110003	6010191400	5139 XERXES	Brooklyn Center
1011821110004	6010190401	5133 XERXES	Brooklyn Center
1011821110005	2030727400	5123 XERXES	Brooklyn Center
1011821110006	2030726401	5117 XERXES	Brooklyn Center
1011821110007	2030725402	5109 XERXES	Brooklyn Center
1011821110012	6010193400	5243 XERXES	Brooklyn Center
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2002824240108	2011406400	5604 XERXES	Edina
2002824240109	2011407401	5608 XERXES	Edina
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2002824340061	2011442400	6104 XERXES	Edina
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2002824210099	6160211401	5411 ABBOTT	Edina
2002824210102	6160212401	5419 ABBOTT	Edina
2002824220017	6160274400	3517 54TH ST	Edina
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2002824240014	2011420401	5736 XERXES	Edina
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702923230001	4260221400	2551 STINSON	St Anthony
702923230002	1031638400	2401 LOWRY A	St Anthony
3102924110069	6100017402	2240 DREW AV	St Louis Park
3102924140024	730591404	2505 5TH AVE	St Louis Park

#### **APPENDIX G:**

#### **ACKNOWLEDGEMENTS**

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Rhonda Rae, PE

Date 6/30/2008

Registration No.25390



MINNEAPOLIS, MINNESOTA



OCTOBER 2006

# City of Minneapolis, Minnesota

# Local Surface Water Management Plan

October 1, 2006

# Acknowledgements

In order to arrive at a LSWMP that adequately addresses surface water related issues, the emphasis has been to work with stakeholders to identify important issues through review and meetings. City staff has participated in collecting data, providing feedback, and contributing knowledge of local systems to aid in developing a strategy that encompasses water quality and quantity issues. The Department of Public Works is the organizer and author of this document, with assistance from:

- Department of Regulatory Services
- Community Planning and Economic Development
- Minneapolis Park and Recreation Board
- Camp Dresser & McKee, Inc.

Information was contributed from the following organizations:

- Bassett Creek Watershed Management Commission
- Metropolitan Council
- Minneapolis Park and Recreation Board
- Minnehaha Creek Watershed District
- Mississippi Watershed Management Organization
- Shingle Creek Watershed Management Commission
- Bonestroo, Rosene Anderlik and Associates, Inc.

# Final Report

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# **Executive Summary**

Since its founding in 1846, Minneapolis has been defined by its surface waters. The City became the gateway to the upper Great Plains through the navigation provided by the Mississippi River and power supplied by St. Anthony Falls. Its many lakes formed a grand vision of integrated parks, boulevards and residential space. This vision continues to support the City's ongoing vitality, life style, and economic growth.

In the past, Minneapolis has managed its sanitary sewers, storm drains and surface waters as separate systems. Through watershed management and compliance with stormwater mandates, Minneapolis has merged the management of the storm drainage and surface water systems. Many of the decisions and actions by the policy makers, administrators, and field staff are based in the knowledge of how stormwater runoff affects the surface water quality of a lake or creek. Yet decisions and actions related to management of the sanitary sewer system are made independent of potential impact on the storm drainage system. Minneapolis is operating under two mandates to continue its efforts to remove clear water sources from the sanitary sewers, one from the USEPA/MPCA and one from the Metropolitan Council. Often the only solution is to redirect clear water connections (such as a sump drain) from the sanitary sewer to a nearby storm drain. With this Local Surface Water Management Plan, Minneapolis proposes to fully integrate all decisions and activities that affect water resources by including consideration of the impact that sanitary sewer activities have on the storm drainage and surface water systems of the City.

Today, Minneapolis seeks to renew its commitment to an urban lifestyle framed by its surface waters. This Local Surface Water Management Plan (LSWMP) establishes integrated approaches seeking to maintain the quality of life of the City's residents, support the City's continued economic prosperity, and address emerging and existing regulatory challenges. Its integrated water resources management approach



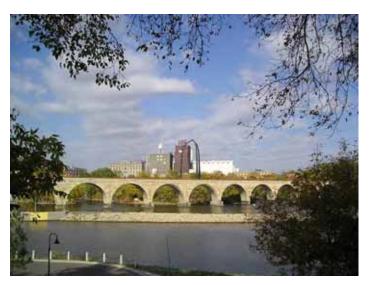


Minneapolis is defined by its water resources. The LSWMP helps the City manage water resources and maintain them for the future.

recognizes that the health and vitality of the City's lakes and urban streams are linked to how each resident manages their property as well as how the City manages its system of storm drains and sanitary sewers. It defines a future free from the dangers of flooding and water quality degradation that is achieved through integrated efforts on a watershed scale, both within the City and among its neighboring communities.

# **Purpose**

The Minneapolis Local Surface Water Management Plan (LSWMP) has been prepared to guide the City in conserving, protecting, and managing its surface water resources. The purpose of the LSWMP is to bring together all water resources issues and activities, and to identify improvements, gaps or overlaps which will help to better manage the city's water resources and attain overall goals. The content of the LSWMP is in large part determined by Minnesota Statute 103B and Rules 8410. Specifically, statute 103B.235 states:



The LSWMP will arm the City with the knowledge needed to prioritize projects that improve the quality of Minneapolis' surface water while meeting other City goals.

After the watershed plan is approved and adopted, or amended, pursuant to section 103B.231, the local government units having land use planning and regulatory responsibility for territory within the watershed shall prepare or cause to be prepared a local water management plan, capital improvement program, and official controls as necessary to bring local water management into conformance with the watershed plan

The intent of this plan is twofold: to meet the requirements of Minnesota Statute 103B and to provide a resource for city staff. As a reference document, this plan has been structured to provide the reader with basic information and to provide sources where additional information can be found. To include all possible Minneapolis water resources information would be prohibitive; replicating information maintained by other organizations does not allow the user to have the most current information available. Web links have been provided for the electronic user to access the wealth of local water resources information available on the Internet.

# **Contributors**

To comprehensively address Minneapolis surface water related issues, development of this LSWMP involved input from stakeholders who could identify important issues. City staff have participated in collecting data, providing feedback, and contributing knowledge of local systems to aid in developing a strategy for water

Stakeholders provided critical information to the LSWMP, through data gathering and identification of critical project issues.

quality and quantity issues. The Department of Public Works is the organizer and author of this document, with assistance from numerous organizations, including the Department of Regulatory Services, Community Planning and Economic Development, the Minneapolis Park and Recreation Board, and Camp Dresser & McKee Inc.

The following organizations also contributed information: Bassett Creek Watershed Management Commission, Metropolitan Council Environmental Services, Minnehaha

Creek Watershed District, Mississippi Watershed Management Organization, Shingle Creek Watershed Management Commission, and Bonestroo Rosene Anderlik and Associates, Inc.

#### **Contents**

This report is organized into five sections, which include 18 figures, and 16 appendices. The figures and appendices are organized in a way to allow easy changes in the future as programs are implemented and as improvements progress.

#### **Introduction - Section 1**

The introduction has four distinct sections: history, system overview, regulatory influences and cooperative agreements. The history of Minneapolis has a focus of how the City grew and how water resources management evolved. The overview describes

the purpose of this Local Surface Water Management Plan and its administration. The regulatory section focuses on the strong water resources regulatory structure that exists in Minnesota. It also contains a list of active agreements between Minneapolis and partners that lay out responsibilities for water resources management.

#### Goals and Policies - Section 2

The goals set forth in <u>The Minneapolis Plan</u> are tied to the City's water resources objectives and sustainability indicators. Section 2 develops a set of guiding principles that provides direction to accomplish these goals.

# City of Minneapolis' Water Resources Guiding Principles

- Protect people, property, and the environment
- Maintain and enhance infrastructure
- Provide cost-effective services in a sustainable manner
- Meet or surpass regulatory requirements
- Educate and engage the public and stakeholders
- ✓ Enhance livability and safety

Section 2 also details how Minneapolis intends to accomplish City goals while carefully considering limitations, changes to regulations, and the needs of aging infrastructure.

## Land and Water Resources Assessment - Section 3

The physical environment of Minneapolis is described in Section 3, with a focus on the wealth of water resources that defines the City. Climate is relatively similar throughout the City, but soils are highly altered and unique to each parcel of land. Each lake, stream, or river has defining characteristics. The condition of the water bodies in Minneapolis is described, an overview of the organizations that oversee their well-being is provided, and current ongoing monitoring efforts are discussed.



Routine inspection and maintenance of sewer systems helps ensure the systems' adequacy in handling stormwater and sewer flows.

# System Inventory and Related Activities – Section 4

The management of the stormwater drainage and sanitary sewers has evolved with the City. The City began as a one-sewer city and now is supported by more than 830 miles of sanitary sewers and 550 miles of storm drains. The City routinely inspects and maintains the sanitary sewer and storm drainage systems to maintain service and has implemented Best Management Practices that serve to improve the quality of runoff. But other City features – such as roadways and vegetation – also impact surface

water quality by the amount and quality of water they permit to divert to the storm drain system. Section 4 describes the City's infrastructure, and discusses associated capital improvement activities. It also includes descriptions of other activities that are integral to water resources management, including infrastructure maintenance, regulatory activities, and public education/engagement.

# Planning and Implementation – Section 5

Minneapolis has successfully implemented stormwater Best Management Practices and has seen improvement in the quality of surface waters. For example, the quality of the Mississippi River has improved as a direct result of the CSO program. And Chain of Lakes Clean Water Partnership activities saw Lake Calhoun improve from euthrophic conditions in the early 1990s to nearly pre-settlement quality today. While Minneapolis has made progress in improving the quality of stormwater and reducing the occurrence of CSOs, additional activities are identified that will continue this trend of water quality improvement. This section discusses these activities and presents a framework for assessing, planning and implementing new activities relevant to water resources management.

# Section 1 Introduction

The Minneapolis Local Surface Water Management Plan (LSWMP) is a living document that provides the background and guidance needed for the City of Minneapolis to proactively manage its water resources. The purpose of the LSWMP is to bring together all water resources issues and activities, and to identify improvements, gaps or overlaps that will help the City to better manage its water resources. In the past the City managed its sanitary sewers, storm drains and surface

The LSWMP is a comprehensive planning document that will be used to guide the City in conserving, protecting, and managing its surface water resources.

waters as separate systems. With this LSWMP the City proposes to fully integrate all decisions and activities that affect water resources.

# **History**

Minneapolis has been defined by its water resources since its founding in 1846. The Mississippi River, as we know it now, has existed since the last ice age about 12,000 years ago.

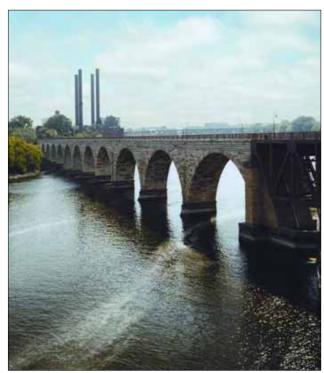
Before the middle of the nineteenth century, the Dakota tribe occupied the area now known as Minneapolis. The other dominant Native American tribe in the area was the Ojibwe. In 1829, a Dakota

Mdewakanton village existed on the west shore of Mde Maka Ska (White Earth Lake), now known as Lake Calhoun. Dakota names for the water bodies within the present boundaries of the City of Minneapolis are documented in Where the Waters Gather and the Rivers Meet: an Atlas of the Eastern Sioux by Paul Durand (Prior Lake, 1994). The names of some well-known lakes, creeks and falls are documented in Table 1-1.

The town of Minneapolis was incorporated in 1856 and the first town council organized in 1858. In 1867, the town was upgraded to a city and residents elected Dorilus Morrison as the first mayor. St. Anthony and Minneapolis merged in 1872 under the name Minneapolis.

In 1857, Edward Murphy donated land for the City's first park, which was appropriately named Murphy Square. On Feb. 27, 1883, the Legislature authorized an independent Board of Park Commissioners for the City of Minneapolis.

Using a model that was largely based on connecting surface water features in the City, and drawing on Frederick Olmsted's planning principles; the Board of Park



Stone Arch Bridge on the Mississippi River in Minneapolis. (Source: John Kuhne)

Commissioners pursued a grand vision for an integrated park, boulevard and residential space.

Table 1-1. Local Lakes, Creeks, and Falls

Dakota Name	Translation	English Name			
Haha Wakpa	Falls River	Mississippi River			
Haha Wakpadan	Little Falls River	Bassett Creek			
Mde Maka Ska	White Earth Lake	Lake Calhoun			
Mde Uma	Other Lake	Lake Harriet			
Mdote Minisota	Mouth of the Minnesota (Clouded Water) River	Mendota			
Mini Haha	"Curling Water" or "the Waterfall"	Minnehaha Falls			
Omnina Wakan Wakpadan	Spirit Refuge Creek	Shingle Creek			
Owamniyomni	The Whirlpool	St. Anthony Falls			
Wakpa Cistinna	Little River	Minnehaha Creek			
Wanagi Wita	Spirit or Ghost Island	Spirit Island (no longer exists)			
Wita Tomna	Four Islands (Lake)	Lake of the Isles			

(Source: Minneapolis Public Library)

The City's infrastructure grew by leaps and bounds in the last 20 years of the 19th century, as shown in Figure 1-1. In 1889 and 1890, the City constructed 145 miles of sidewalk, and by 1908 there were about 125 miles of paved streets. Work began on the City's sewer system as early as 1871, and by the early 1900s there were 225 miles of City sewers.

In 1884, the City occupied 24 square miles; in 1889, the boundaries expanded to cover 53.5 square miles, and with the last major annexation of land in 1927, the total land



Figure 1-1

area of the City totaled 58.7 square miles. The population of Minneapolis exceeded 300,000 by 1910.

Nearly all of the Minneapolis lakes were physically altered in the late 1800s to early 1900s. The lakes were dredged, shorelines filled, islands lost and rebuilt, springs buried, creeks rerouted, ponds built, and swamps drained. This was done mainly for functional and aesthetic purposes.

Lake Harriet had fairly extensive dredging and filling on the northwest portion to eliminate marshland and create a more beautiful landscape. The northern edge of the lake was drained and turned into a meadow for picnics. The entire shoreline of Lake

Calhoun received some degree of dredge fill to support parkway construction, and extensive dredging took place on Lake of the Isles. Two islands were eliminated on Lake of the Isles; the north arm was dredged to a uniform depth, and 4.5 acres of shoreline was constructed along the swampy east shore. Because of these alterations, these lakes cannot be managed in the same manner as lakes that have not been altered.



Powderhorn Park, 1905. (Source: MPRB)

To support the growing community, Minneapolis and St. Paul created a joint sewer board, which built a sewer system to collect and convey sanitary sewage to a treatment facility during dry weather.

Through the 1920s, virtually the entire City of Minneapolis was served by a combined sewer system that collected sanitary sewage, and street and property drainage, and conveyed it to the Mississippi River. Combined sewers were a major public health advancement at the time, but it is now recognized that combined sewers simply relocated health and environmental problems to the Mississippi River.

In the early 1930s, the cities of Minneapolis and St. Paul created the Minneapolis St. Paul Sewer Board, which constructed a system of interceptor sewers to collect sanitary sewage during dry weather conditions and convey it to a treatment facility in St. Paul. Areas of the city constructed in the 1930s and later were served with separate sanitary and storm drainage systems. During this period there was little effort to separate the stormwater from the sanitary sewers in the older portions of the City.

The movement to separate sanitary and stormwater systems gained momentum during the 1960s, when the City began a 40-year program of residential street reconstruction. The City aimed to completely separate the street runoff from the sanitary sewers by 2005. In the late 1970s, the U.S. Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA) worked with Minneapolis to accelerate the separation project. At that time the City determined that the sewer separation project could be completed by the mid-1990s. It was also determined that adequate capacity existed in the sanitary sewers to allow private sources of inflow, such as roof rainleaders and foundation drains, to remain connected to the sanitary system.

To date, sewer separation has been largely achieved in most City areas, although several pockets of combined and partially separate sewers remain. Wet weather overflows still occur. A 2002 study conducted jointly by the Metropolitan Council Environmental Services and the City of Minneapolis identified areas with high levels

of storm inflow to sanitary sewers, identified areas with high levels of groundwater infiltration, identified remaining locations where public drainage systems connect to sanitary sewers, evaluated in-system storage and conveyance options, and recommended City ordinances require rain leaders to be disconnected from sanitary sewers. The result of this study is the City's Combined Sewer Overflow (CSO) Phase I program and Rain Leader ordinance. (See Section 2)

the river, the creeks, the lakes, and the land forms

Minneapolis got its name from the abundance of creeks, rivers, lakes, ponds, and wetlands found within its boundaries. Since the city's first settlement, and the work of the original parks designers, the lakes in particular proved to be an important identifying feature for the city. Early in the city's history, Minneapolis became well known as the "City of Lakes" and the lakes of South Minneapolis have always been a favorite destination. The lakes provide a beautiful amenity for all city residents and recent partnership projects undertaken by the Minneapolis Clean Water Partnership since 1994 maintain the environmental quality of the Chain of Lakes by developing concerted efforts to improve watershed quality. The Chain of Lakes has assumed an important place in the city's identity.

The Mississippi River, which connects the entire city from Camden community in the north to the Nokomis and Longfellow neighborhoods at Minnehaha Falls, has played a lesser role in shaping the city's identity as the main modes of transportation and economic growth have shifted from river travel to freeway travel. Access to the river and its [sic] recreational uses varies considerably, based primarily on historic patterns of urban development. Since the city's early settlement, the Upper River was the site of first timber milling and later railroad and open storage yards. This section of the Mississippi River corridor has traditionally been seen as the domain of industry, crisscrossed by rail networks and host to the power generating plants and raw materials production essential to manufacturing and heavy industry.

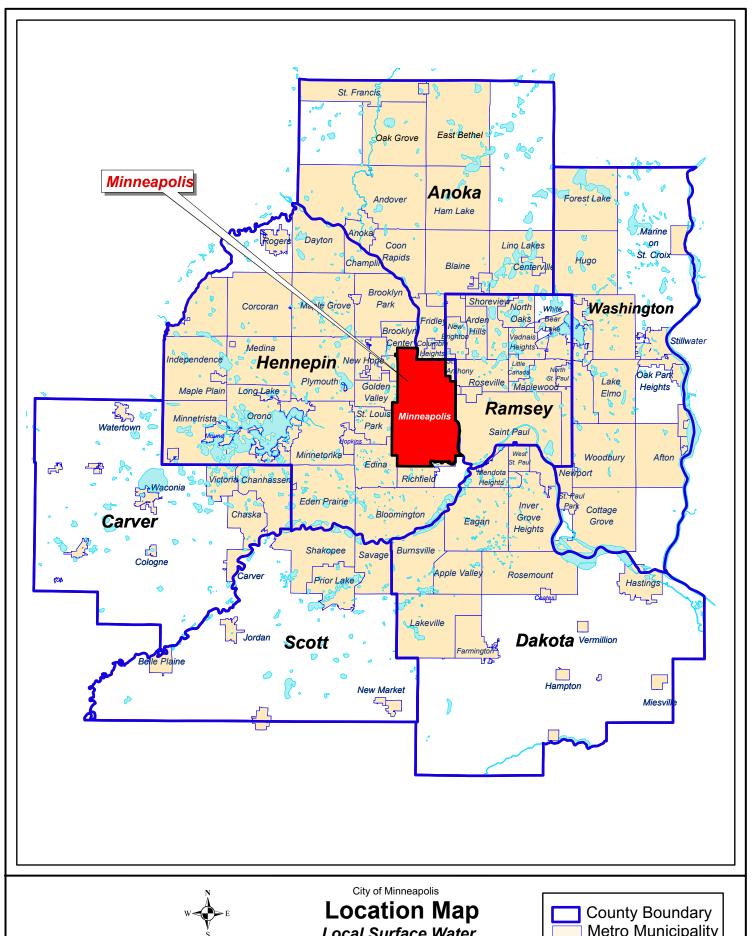
> - From Minneapolis Plan Minneapolis Plan, Chapter 9 City Form

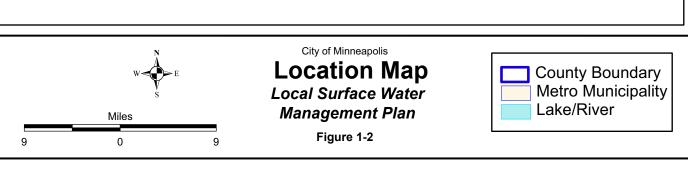
As of 2005, the City is served by 830 miles of sanitary sewer with more than 29,000 manholes, nearly 560 miles of storm drains with more than 18,000 manholes, and an estimated 50,000 catch basins connected to the storm drains by 151 miles of catch basin runs. Located at the heart of the Twin Cities Metropolitan Area, Minneapolis is fully developed with a relatively stable population of 383,000. (See Figure 1-2)

# Trends in Water Resources Management

In the past, Minneapolis has managed its sanitary sewers, storm drains and surface waters as separate resources. Through watershed management and compliance with stormwater mandates, Minneapolis has begun to manage the storm drainage and surface water systems in a more integrated fashion. With this Local Surface Water Management Plan, Minneapolis proposes to fully integrate all activities that affect water resources, including sanitary sewer issues of Inflow/Infiltration (I/I), and CSOs.

In the future, the City anticipates a need to balance two important concerns: aging infrastructure and regulatory mandates to improve water resources quality.





Maintaining the condition and capacity of the infrastructure will require additional resources as the system continues to age. Concurrently, regulatory mandates are anticipated as Total Maximum Daily Load (TMDL) studies (see Section 3) create recommendations to construct improvements to public infrastructure. In anticipation of these demands on limited resources, the City has begun a policy of comprehensively addressing all water resources issues with each infrastructure improvement project. For example, private inflow sources are identified for disconnection from the sanitary sewers as part of street reconstruction projects. The City expects that this strategy will allow water quality improvements concurrently with investments that will maintain the condition and capacity of the systems.

The City is also committed to managing its water resources using emerging techniques and technologies. Preservation of natural resources, disconnection of impervious surfaces and reduction in impervious area are all practices that will encourage stormwater infiltration and serve to reduce the volume of stormwater runoff. This will benefit both the City's infrastructure and ultimately the water resources in the following ways:

- Improved capacity of stormwater drainage system
- Reduced frequency, severity, and duration of localized street/intersection flooding
- Increased recharge of groundwater
- Reduced pollutant loading to surface waters
- Reduced velocity of flow in local streams, which leads to stabilized streambanks and improved wildlife habitat

According to Chapter 4 of the Minnesota Stormwater Manual, Better Site Design Techniques, every ten acres of impervious surface removed will result in an annual reduction of runoff of 8 million gallons. These benefits are part of the reason why Minneapolis adopted its Sustainability Initiatives, including the targets for permeable surfaces and surface water quality. In the future, the City will continue to track progress towards these targets and will continue to seek opportunities to further reduce the area of impervious surfaces.

# Categorization of Minneapolis Water Resources Systems Sanitary Sewer System

For purposes of this LSWMP, components of the sanitary system are limited to those structures that either allow inflow (rain leaders, catch basins), infiltration (pipes), or overflow to enter either a storm drain (diversion structure) or the Mississippi River (regulator).

# **Storm Drainage System**

The storm drainage system includes all components of stormwater management, including both structural components, and non-structural Best Management Practices (BMPs). Structural components include: street gutters, catch basins, manholes, pipes, tunnels, pumps, grit chambers, detention ponds, public ditches and outfalls. Non-structural BMPs include road maintenance, emergency preparedness, education, erosion protection on construction sites, and stormwater management requirements for new developments.



Shingle Creek regional stormwater pond. (Source: City of Minneapolis Public Works)

# **Public Ditches**

Minnesota Statutes 103E allows for a water management authority to construct and maintain public ditch systems. These public ditches are integral to the Minneapolis storm drainage system, but are owned and operated by other public agencies. Two agencies have responsibility for certain ditches in Minneapolis: Hennepin County and Minnehaha Creek Watershed District. Additional information can be found in Section 4 of this plan.

#### **Surface Waters**

Surface waters include all waters of the state that are within the Minneapolis city or park boundaries, and those outside the City that receive runoff from areas of Minneapolis. <a href="Public Waters">Public Waters</a> are as defined by the Minnesota Department of Natural Resources. Although a segment of Shingle Creek through Minneapolis is a Judicial Ditch, and regulated by Minnesota Ditch Law, it is managed as surface water for purposes of this document.

# **Private Systems**

Generally the proper operation and maintenance of private systems is the responsibility of the private property owner. In Minneapolis this includes the entire length of a lateral connection, including the segment of the private connection that is within the public right-of-way. Activities detailed in this report include those in which Minneapolis has implemented public oversight of the private systems, as necessary, to ensure compliance with City ordinances and other legal requirements.

# Regulations, Regulatory Organizations and Regulatory Programs

This Minneapolis LSWMP was created to meet the requirements of Minnesota Statute 103B.235 and Minnesota Rules 8410.0160 (Local Water Management Plans) and the local requirements of each watershed district/organization with jurisdiction in Minneapolis. The scope of this LSWMP has been expanded to incorporate all goals and requirements that influence Minneapolis water resources management policies and activities. Many of the activities described in Sections 3 (Land and Water

#### Regulatory Agencies Influencing Minneapolis Surface Water Systems

- U.S. Environmental Protection Agency
- ♦ U.S. Army Corps of Engineers
- Federal Emergency Management Agency
- Minnesota Pollution Control Agency
- Minnesota Department of Natural Resources
- Minnesota Board of Water and Soil Resources
- Watershed Districts and Management Organizations

Resources Assessment) and 4 (System Inventory and Related Activities) comply with multiple regulatory requirements. Water resources management, including stormwater regulation, involves numerous agencies at every level of government. Listed on the following pages are entities that Minneapolis interacts with as it manages its surface water system. Appendix A provides more detailed information on each of the watershed districts and management organizations that have jurisdiction in Minneapolis.

## **Federal**

Clean Water Act (Environmental Protection Agency - Clean Water Act)

The federal Clean Water Act governs the discharge of pollutants into waters of the United States. This act gave the USEPA the authority to create federal

regulations and permit programs related to CSO, Sanitary Sewer Overflow (SSO), Municipal Separate Storm Sewer Systems (MS4), and activities affecting wetlands. In Minnesota, the authority to issue National Pollution Discharge Elimination System (NPDES) permits has been delegated to the MPCA. Wetland permits are issued by the US Army Corps of Engineers (USACE). Total Maximum Daily Load (TMDL) limits, a new initiative mandated by the EPA, also stem from the EPA's role as steward of the Clean Water Act.

#### NPDES CSO Program (EPA Combined Sewer Overflows)

Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment



Minneapolis proactively began a sewer separation program to provide adequate system capacity and minimize overflows. Source: City of Minneapolis Public Works

plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to occasionally overflow and discharge excess wastewater directly to nearby streams, rivers, or other water bodies. These overflows contain not only stormwater but also untreated human and industrial waste, toxic materials, and debris. They are a major water pollution concern for cities that have combined sewer systems.

Eight CSO outfalls throughout Minneapolis are regulated in NPDES/SDS Permit No. MN0046744 (Appendix K). This permit was reissued in 1997 and expired in 2001. The City of Minneapolis and the Metropolitan Council Environmental Services (MCES)

are co-permittees. Outfalls are points of discharge for CSOs to the Mississippi River during rainfall and snowmelt events. Conditions of the expired permit govern until a new permit is issued.

#### NPDES Stormwater Program (EPA Stormwater Program)

Stormwater discharges are generated by runoff from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow melt events. They often contain pollutants in quantities that can adversely affect water quality. Most stormwater discharges are considered point sources and require

Best management practices are utilized to control stormwater discharges in Minneapolis.

coverage by an NPDES permit. The primary method to control stormwater discharges is through the use of best management practices.

In Minnesota the NPDES stormwater program is delegated to the Minnesota Pollution Control Agency. Municipal stormwater discharges are permitted by the City and the Minneapolis Park and Recreation Board's NPDES/SDS Permit No. MN0061018 (Appendix L), issued on December 1, 2000 and expired on December 1, 2003. This permit protects water quality in accordance with Minnesota and US

statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, and the Clean Water Act. The permit lists 400 public discharge points throughout the City. The receiving waters within Minneapolis that have the most discharge points are Minnehaha Creek (115 points) and the Mississippi River (72 points). Conditions of the expired permit govern until a new permit is issued.

#### EPA Sanitary Sewer Overflow Program (EPA Sanitary Sewer Overflows)

SSOs, occasional unintentional discharges of raw sewage from municipal sanitary sewers, occur in almost every system and have a variety of causes. These causes may include severe weather, improper system operation and maintenance, and vandalism. EPA estimates that there are at least 40,000 national SSOs each year. The untreated sewage from these overflows can contaminate our waters, causing serious water quality problems. It can also back up into basements, causing property damage and threatening public health.

#### Section 404 Wetland Permits (Section 404 fact sheet) (USACE Section 404 Permits)

Section 404 of the Clean Water Act establishes a program that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Activities regulated under this program include fill for development, water resources projects, infrastructure development, and mining projects. Section 404 requires a permit before dredge or fill material may be discharged into waters of the United States. Certain farming and forestry activities are exempt from Section 404 regulation.

#### National Flood Insurance Program (FEMA NFIP Program)

Flood insurance is available only to property owners who own property within a municipality that participates in the NFIP. To enroll in the program, municipalities must implement ordinances and other local controls that manage land use within

designated flood zones. The City enrolled in this program in 1981. In Minnesota, the MNDNR oversees the implementation of this program. Copies of Minneapolis Flood Insurance maps are maintained by the Minneapolis Department of Community Planning and Economic Development (CPED).

# Navigation (USACE Navigation Responsibilities)

The USACE is responsible for maintaining the navigation channel of the Mississippi River. Although there are no permitting requirements, any activity that the City undertakes along the Mississippi River must be coordinated with the USACE. For example, construction of a new or enlarged storm drain outfall along the navigation channel may be subject to design considerations set by the USACE.

#### **State**

Local Surface Water Management (Minnesota Board of Water and Soil Resources / Water Management) (Minnesota Statutes 2005 Chapter 103B) (Minnesota Rules Chapter 8410)

The Minnesota Board of Soil and Water Resources oversees local surface water management. The powers and duties of this Minnesota state agency include:

- Coordination of water and soil resources planning among counties, watersheds, and local units of government.
- Facilitation of communication among state agencies in cooperation with the Environmental Quality Board.
- Approval of watershed management plans.

Protected Waters and Wetlands - MNDNR (Minnesota Water Statutes and Rules - Division of Waters: Minnesota DNR) (Floodplain Management Program - Division of Waters: Minnesota DNR) (Shoreland Management Program - Division of Waters: Minnesota DNR) (Water permits: Minnesota DNR)

Any activity within a public water requires a permit from the DNR, including appropriation of groundwater, construction of stream crossings, construction of storm drain outfalls, wetland alterations, dredging, etc. Their jurisdiction is generally the area below the Ordinary High Water level. The MNDNR area hydrologist will coordinate review among other public agencies which also have a role in permitting.

Other programs managed by the MNDNR which affect Minneapolis include the Flood Damage Reduction Grant Program, National Flood Insurance Programs, Floodplain Management Program, Shoreland Management Program, Mississippi River Critical Area Program, and the Mississippi River Management Navigation Program.

Wetlands (Minnesota Board of Water and Soil Resources / Wetland Conservation Act) (MN Wetland Conservation Act Rules) (Wetlands Conservation Program - Division of Waters: Minnesota DNR) (Clean Water Act Section 401 Water Quality Certifications - MPCA)



Minneapolis is designated as the Local Government Unit for wetlands within its corporate boundaries, including the SENA wetland. (Source: MPRB)

Under the Minnesota Wetland Conservation Act (WCA), Local Government Units (LGU) may oversee wetland management according to specific guidelines established by state agencies. Minneapolis is designated as the LGU for wetlands within its corporate boundaries.

WCA protected wetlands are not protected under MNDNR's public waters permit program and provide no net loss of Minnesota's remaining wetlands. Local government units – cities, counties, watershed management organizations, soil and water conservation districts, and townships – implement the act locally. The Minnesota Board of Water and Soil Resources administers the act statewide, and the Department of Natural Resources enforces it.

NPDES Permits (Overview - MPCA Stormwater Program) (Stormwater Program for Construction Activity - MPCA) (Stormwater Program for Industrial Activity - MPCA) (Stormwater Program for Municipal Separate Storm Sewer Systems - MPCA) (Wastewater Permits - MPCA)

The USEPA has delegated responsibility for issuing NPDES permits to the MPCA.

Impaired Waters and Water Quality Standards (Minnesota's Impaired Waters and Total Maximum Daily Loads - MPCA) (Water Quality Standards - MPCA) (Minnesota Rules Chapter 7050) (2006 Final List of Impaired Waters - MPCA)

The Clean Water Act requires states to adopt water quality standards for public waters. These standards are used to determine if a water body has degraded to the point of meeting the definition of impaired waters as defined in <a href="Minnesota Rule">Minnesota Rule</a> Chapter 7050. Each water body on the impaired waters list will eventually be assessed in a TMDL study. The MPCA is considering incorporating the recommendations of the TMDL studies into future NPDES stormwater permits, effectively using the Clean Water Act to mandate that stormwater permittees implement the recommendations of each TMDL study. In Minneapolis, this will affect the stormwater runoff discharging to the list of waters currently on the Final 2006 Impaired Waters List shown in Table 1-2. More detailed information on the Final 2006 Impaired Waters List is included in Section 3.

Additional water bodies may be added to future impaired waters lists if monitoring shows impairment according to standards set in Minnesota Rule Chapter 7050.

Table 1-2. Waters on the Final 2006 Impaired Waters List

- Mississippi River
- Bassett Creek
- Minnehaha Creek
- Shingle Creek
- Brownie Lake
- Cedar Lake
- Crystal Lake (Robbinsdale receives stormwater discharge from Minneapolis)
- Diamond Lake

- Lake Calhoun
- Lake Harriet
- Lake Hiawatha
- Lake of the Isles
- Lake Nokomis
- Wirth Lake (Golden Valley located in MPRB Wirth Park)
- Powderhorn Lake
- Ryan Lake

# Regional

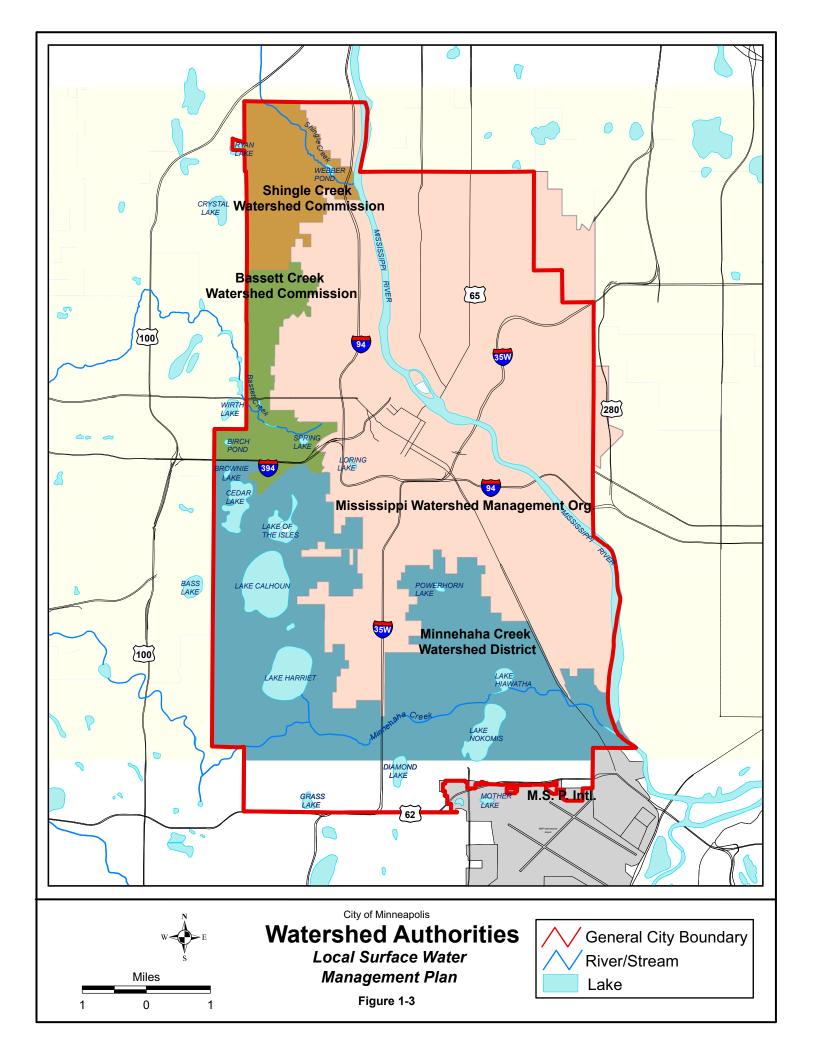
Watershed District and Watershed Management Organizations (<u>BCWMC</u>: <u>Bassett Creek Watershed Management Commission</u>) (<u>MCWD</u>: <u>Minnehaha Creek Watershed District</u>) (<u>MWMO</u>: <u>Mississippi Watershed Management Organization</u>) (<u>SCWMC</u>: <u>Shingle Creek Watershed Management Commission</u>)

Four watershed district/organizations are represented within the Minneapolis boundaries. Jurisdictional boundaries of each of the four watershed management organizations within the City of Minneapolis are shown in Figure 1-3. The powers and duties of these Minnesota statutory authorities include:

- Approval authority over local water management plans.
- Ability to determine a budget and raise revenue for the purpose of covering administrative and capital improvement costs.
- Regulation of land use and development when one or more of the following apply:
  - 1. The City does not have an approved local water management plan in place
  - 2. The City is in violation of its approved local plan

## **Hennepin County**

Hennepin County's Groundwater Plan received state approval in March 1994. Although the county has not formally adopted the plan, the county is proceeding with implementation of many aspects of the plan. Plan goals for cities include management according to geographic location and hazard potential, delineation of wellhead protection areas around public supply wells, applying existing zoning authority to protect groundwater, ranking and management of hazardous land use activities according to risk, using a GIS system to manage groundwater information, location of abandoned wells, and adoption of contingency plans for groundwater.



Wastewater Conveyance and Treatment - Metropolitan Council Environmental Services (MCES - Metropolitan Council Environmental Services, St Paul - Minneapolis, Minnesota) (MCES - Water Resource Management Plan) (MCES - I/I Surcharge Program)

MCES is required to review this Local Surface Water Management Plan to ensure that municipalities manage runoff in a manner that does not affect the regional disposal system. In addition, the recent adoption of the Inflow/Infiltration Surcharge Program will ultimately affect water resources decisions made by the City of Minneapolis. As owner and operator of the regional sanitary sewer interceptor system, MCES has been a co-permittee with the City of Minneapolis in the CSO NPDES permit (Appendix K).

# **Regulatory Controls**

Responsibility for water resources management in Minneapolis is split between the City of Minneapolis and the Minneapolis Park and Recreation Board. The City of Minneapolis is responsible for the public infrastructure and land use on non-MPRB properties. Authority for lake, beach and shoreland management is delegated to the MPRB in Minneapolis City Charter Chapter 16, Section 11:

'Whenever the title shall have been acquired for the purpose of this chapter, to the land constituting the shore or shores of any stream of water, lake or pond, said Board may regulate and control the use of such shore or shores and the water contiguous thereto, and in case such ownership should embrace the entire shore or any such lake or pond, said Board is hereby empowered to take any and have exclusive charge and control of the waters of said lake, and may in all things regulate and govern the use of such waters and may prescribe penalties for the violation of such rules and ordinances as it may adopt for that purpose; provided, that said Board shall not prohibit the use of sail or rowboats on such waters.'

Both organizations have adopted ordinances that influence water resources management, including:

■ Title 3, Chapter 48	Minneapolis Watershed Management Authority
■ Title 3, Chapter 50	Minneapolis Waste Control and Discharge Rules
■ Title 3, Chapter 52	Erosion and Sediment Control for Land Disturbance Activities
■ Title 3, Chapter 54	Stormwater Management for New Developments
■ Title 3, Chapter 56	Prohibited Discharges to Sanitary or Combined Sewers
■ Title 3, Chapter 57	Mercury Ordinance
■ Title 19, Chapter 510	Stormwater Management System
■ Title 19, Chapter 511	Sewers and Sewage Disposal

■ Title 20, Chapter 551 Protection of Natural Features

■ Title 20, Chapter 551 Shoreland Overlay District

■ Title 20, Chapter 551 Floodplain Overlay District

■ Title 20, Chapter 551 Mississippi River Critical Overlay District

The Minneapolis Park and Recreation Board regulates projects in its designated parklands through its own ordinances and state law. For areas within City limits that also include a watershed district or watershed organization, regulatory authority is shared between the watershed and the City. Ordinances adopted by the MPRB include:

- Chapter 3 Bathing and Beaches
- Chapter 4 Boating
- Chapter 12 Environmental Protection, Shoreland and Floodplain Preservation

A full list of all Minneapolis ordinances that affect water resources management is contained in Appendix B. Full versions of all City of Minneapolis and Minneapolis Park and Recreation Board Ordinances are available at <a href="Minneapolis Code of Ordinances">Minneapolis Code of Ordinances</a>.

# Administrative Responsibility

Staffs from many City departments and the MPRB work cooperatively to ensure that water resources programs are properly managed and that ordinances and laws are regulated. Departments with the greatest involvement include: Community Planning and Economic Development (CPED), Public Works – Engineering Services (PW/ES), Public Works – Field Services (PW/FS), Regulatory Services – Environmental Management (RS/EM). Specific functions of each department include:

#### **CPED**

- Comprehensive planning/land use planning
- Zoning Code
- Site plan review for compliance with requirements of Zoning Code including floodplain, shoreland, and Mississippi River Critical Area ordinances

#### **MPRB**

- Lake management
- Natural resources management for MPRB owned properties
- Shoreline and beach management for MPRB owned properties

- Vegetation management for stormwater basins on MPRB properties
- Stormwater monitoring (under agreement with City)
- TMDL study coordination
- Wetland Health Evaluation Project (under agreement with Hennepin County)
- Water quality education (mostly under agreement with City)
- Planning, design and implementation of stormwater management practices that manage runoff from MPRB property
- Maintenance of most water control structures on MPRB properties

## PW/ES

- Planning, design and funding for sanitary sewer and stormwater drainage infrastructure projects
- Coordination with watershed district/organizations
- Overall coordination of NPDES permit activities
- TMDL study coordination
- Site plan review for compliance with stormwater management and erosion/sediment control requirements
- Administration of Wetland Conservation Act
- Technical support for floodplain management
- Public Education and Public Engagement
- Administer and enforce Stormwater Utility Ordinance
- Coordination of Local Surface Water Management Plan

## PW/FS

- Construction, repair and rehabilitation of infrastructure improvement projects
- Street maintenance
- Condition assessments of pipe and pump stations
- Operation and maintenance of sanitary sewer system
- Operation and maintenance of storm drainage system:
  - Overall operation and maintenance of all stormwater basins

- Vegetation management of stormwater basins not located on MPRB properties
- Inspection and cleaning of underground chambers
- Emergency response
- Gopher State One-Call
- Rat, Rodent & Insect Control
- Inspection for illicit connections to storm drains

# RS/ES

- Permitting:
  - Erosion and sediment control permits
  - Construction, sealing and maintenance of wells
  - Installation, removal and abandonment of oil/ water separators and sediment traps
  - On-site treatment systems
  - Storage of contaminated soil
  - Discharges to the sanitary and storm drain system
  - Facilities storing regulated materials
  - Pollution control devices
  - Rain leader, roof drains and area drain disconnections from the sanitary sewer
- Inspection on private and public property for compliance with City ordinances and codes:
  - Inspection of above permitted activity
  - Erosion and sediment control permits for residential construction and demolition sites and for permanent operations
  - Building inspection for rainleader and foundation drain connections to sanitary sewers
  - MPCA NPDES, SDS and General Permits
  - Suspected or reported illegal connections, discharges and dumping
  - Chemical and other regulated material storage
- Monitoring for illicit connections to storm drains in MWMO watershed
- Emergency response cleanup coordination on land and water

- Coordination with watershed district/organizations
- Sustainability program

Minneapolis shares responsibility for water resources management with other public agencies, as outlined in Table 1-3.

Table 1-3. Regulatory Responsibilities for Water Resources Management and Related Issues in the City of Minneapolis

Regulation	City	MPRB	ВСММС	MCWD	РОМММ	SCWMC	Met Council	State	Federal
Land use (zoning, subdivision approval, etc.) <sup>a</sup>	х	х	Х				Х		
Grading	х	х		Х				Х	
Wetlands <sup>c</sup>	х	х						х	Х
Stormwater rate control	х		х	Х		х		Х	
Stormwater quality treatment Source: NPDES	х		х	Х		Х		Х	
Stormwater infiltration						х			
Fertilizer	х							х	
Erosion and sediment control	х		х	х		х		х	
Illegal discharges to storm drainage system	х		х	х				х	
Shoreland management Source: DNR	х	х		Х				Х	
Floodplain	х	х	х	х		х		х	х
Dredging	х			х				х	Х
Stream crossings	х		х	х		х		х	
Combined Sewer Overflows	х						х	х	х
Sanitary Sewer Overflows	х						х	х	Х
Impaired Waters/TMDL								х	
Mercury Reduction	х							х	

Notes:

<sup>&</sup>lt;sup>a</sup> SCWMC requires that land use changes that significantly impact the land use assumptions of the watershed hydrologic model are to be reviewed and commented on by the SCWMC

<sup>&</sup>lt;sup>b</sup> Jurisdiction on MPRB lands only

<sup>&</sup>lt;sup>c</sup> Minneapolis is the LGU for WCA projects

<sup>&</sup>lt;sup>d</sup> MWMO has authority to regulate, however chooses not to issue permits

# Water Resources Related Agreements

The City of Minneapolis is party to a number of water resources related cooperative agreements. Copies of current agreements are on file and available from Minneapolis Public Works – Engineering Services. Following is a list of the agreements in effect in 2006:

- Interagency agreements between Minneapolis and the MCES detailing each entity's responsibilities in the CSO program
- Joint powers agreements for the establishment of the following watershed organizations: Bassett Creek Watershed Management Commission, Mississippi Watershed Management Organization, and Shingle Creek Watershed Management Commission
- Interagency agreement between the City of Minneapolis and the MPRB outlining responsibility for BMPs required in the City's NPDES Stormwater Permit
- Cooperative agreements for the maintenance of County State Aid Highways (Hennepin County) and State Trunk Highways (Minnesota Department of Transportation). Includes provisions for City routine maintenance of storm drains associated with these roadways
- Watershed Boundary Change interagency agreement between the Bassett Creek Watershed Management Commission, the Mississippi Watershed Management Organization (then called Middle Mississippi River Watershed Management Organization) and the City of Minneapolis
- Interagency agreement for construction, maintenance, and operation of Bassett Creek Flood Control Tunnel between Minneapolis and the US Army Corps of Engineers.
- Cooperative agreements between the Minneapolis Park and Recreation Board and the Minnehaha Creek Watershed District for maintenance of stormwater management ponds which are located on MPRB owned property
- General maintenance agreements between City of Minneapolis and private property owners requiring maintenance of stormwater controls for purpose of qualifying for credit against the City's stormwater utility fee
- Interagency agreement between MCES and MPRB for WOMP stations
- Interagency agreement between Hennepin County Environmental Services and MPRB for WHEP program
- Interagency agreement between MWMO and Minneapolis for water monitoring and laboratory services

# Minneapolis Local Surface Water Management Plan Purpose

Minneapolis has prepared this LSWMP as a comprehensive planning document that will be used to guide the City in conserving, protecting, and managing its surface

water resources. The LSWMP meets requirements as established in Minnesota Rules 8410.

Participation of state, regional and watershed organizations in LSWMP development will help the City to integrate local and regional expectations into City actions.

In a three-part process, the LSWMP does the following:

- 1. Collects and compiles efforts of agencies and organizations, including various departments of the City of Minneapolis, and the Minneapolis Park and Recreation Board. This includes past reports and studies, management plans, monitoring studies, and proposed improvement projects.
- 2. Reviews the current state of the City's surface water resources in the context of goals and policies, ordinances, operations and maintenance, flood mitigation, and achievement of targeted water quality levels in surface water bodies.
- 3. Establishes reasonable, achievable and affordable goals, and supports a strong regulatory and management culture. Develops an implementation plan that assesses, plans and implements projects and processes that derive from a thorough assessment of current City problem areas and current City stormwater regulations and controls.

The content of the LSWMP is in large part determined by Minnesota Statute 103B and Rules 8410. Specifically, statute 103B.235 states:

'After the watershed plan is approved and adopted, or amended, pursuant to section 103B.231, the local government units having land use planning and regulatory responsibility for territory within the watershed shall prepare or cause to be prepared a local water management plan, capital improvement program, and official controls as necessary to bring local water management into conformance with the watershed plan...'

## Information Contained in LSWMP

Water resources management in Minneapolis is growing. Monitoring information is updated annually, improvements are constructed in the infrastructure, and watershed based programs are implemented. Because of this ever-changing character of water resources management in Minneapolis, this plan has been developed with the philosophy of referencing, and not duplicating, information developed by others. As a result, specific information, especially information that is subject to frequent change, is either contained in an appendix to this plan, or referenced to another organization. Where information is contained on a web page, electronic links are provided. Readers

are encouraged to go to the original source for the most current and accurate information available.

# LSWMP Management and Adoption

Minneapolis is committed to managing its water resources in the most efficient and up-to-date manner feasible. The goal of this plan is to be in compliance with requirements of Minnesota Rule 8410.0160, which states "(e)ach local plan shall be adopted within two years of the board's approval of the last organization plan that affects local units of government." Once the LSWMP is final, the focus will be to implement the recommended programs and to continue the updating of practices and policies as mandates develop or as new technologies emerge. This approach will allow Minneapolis the flexibility necessary to respond to the layers of regulations that affect the City. It would be a burden to update the LSWMP each and every time a NPDES permit is reissued, each time one of the four watersheds revises its watershed management plan, or each time a TMDL implementation plan is approved. Minneapolis prefers to dedicate limited resources to actual practices such as inspection for erosion control and targeted education efforts. This LSWMP will be used as the guide to ensure that new practices meet the stated goals and guiding principles. A renewal cycle that triggers a LSWMP update after all Third Generation Plans are complete, or some other major change to water resources management affecting Minneapolis occurs, which ever is first, is in compliance with Minnesota Rules and allows a balance between managing water resources and reassessment of the overall direction that the LSWMP provides. Approval, adoption and revisions to this plan will follow the format detailed below.

#### **Council Consideration**

The City Council will accept the draft document for review concurrent with submittal to the Metropolitan Council and Watershed District/Organizations. Prior to City Council acceptance and adoption, the MPRB staff will have an opportunity to review the draft document for consistency with MPRB activities.

## Metropolitan Council, Watershed District and WMO Review

After acceptance of the draft document, City staff will submit the LSWMP for agency review, in accordance with procedures set in Minnesota Statute 103B.235 and Minnesota Rule Chapter 8410.0170. Comments from reviewing agencies will be considered for inclusion in the revised LSWMP.

#### **Public Review**

Public input will be sought through a series of formal and informal communications with the public. City staff will make the draft document available for review and will solicit comments. Public comments will be considered for inclusion in the revised LSWMP. The final revised LSWMP will be presented to the Transportation and Public Works Committee of the Minneapolis City Council prior to adoption by the full City Council.

# **City Adoption**

Final adoption will be considered by the Minneapolis City Council and Mayor following approval by the Watershed District/Organizations, public review and public hearing.

#### **Amendment**

On occasion, amendments to the LSWMP will be necessary. The process for amending the LSWMP will follow the steps set for adoption of the report. City staff will determine if an amendment is necessary, either based on a formal written request or based on changes to water resources management goals and objectives. The request shall outline the need for the amendment as well as additional materials that the City will need to consider before making its decision.

# **Annual Report**

To satisfy the annual report requirement of the watersheds, the City will forward informational copies of its Combined Sewer Overflow Annual Report, NPDES Stormwater Annual Report, Lake Monitoring Annual Report and Sustainability Indicator Annual Report to the watersheds by June 1 of each year.

# Section 2 Goals and Policies

# **City Goals**

In 2006, the City Council and Mayor worked together to establish new goals for the City of Minneapolis. Their work resulted in the six following City Goals:

A Safe Place to Call Home

One Minneapolis

Lifelong Learning Second to None

**Connected Communities** 

**Enriched Environment** 

A Premier Destination

Each of these goals influences surface water management. Elimination of sewage overflows and flood prevention will improve the health and **safety** of the City. Runoff from even the most remote neighborhoods is connected to our surface waters; all

citizens must **unite** to protect these waters. All citizens impact the surface waters; through **lifelong learning** and education we can change our behaviors in a way that will benefit our water resources. We are **connected** from Shingle Creek to Minnehaha Falls by the Minneapolis parks and parkways that surround our surface waters. Proper management of our stormwater runoff drainage system will protect, enrich and sustain Minneapolis waters. With the achievement of these goals, Minneapolis will continue to be a premier destination.



Minnehaha Creek downstream of Lake Nokomis. (Source: MPRB)

Each of the City Goals has a role in water resources management, but the most applicable City Goal is: We have an **Enriched Environment.** 

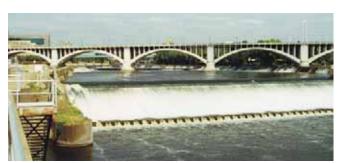
# **Water Resources Management Policies**

Other City initiatives have also produced city-wide goals that tie to water resources management. These targets and goals are an extension of the City's vision for the future and tie to Minneapolis' long-term objective to be a livable city with an exceptional quality of life.

Water resources management goals are also defined in the City's comprehensive plan, The Minneapolis Plan, adopted by the City Council and Mayor on March 24, 2000. This plan serves the needs of the City and meets the conditions of the Metropolitan Land Planning Act. Chapter 7: Natural Ecology lists actions the City will take to protect the natural environment, including water resources. Seven of the 12 policies relate to water resources management, including:

# 7.2 Manage the use of the City's environmental resources to meet present needs while considering future concerns.

Lakes, creeks, and the Mississippi River are among the most valuable environmental



The Mississippi River is one of the many valuable environmental resources within Minneapolis' boundaries. Mississippi River in Minneapolis. (Source: John Kuhne)

resources that exist within the boundaries of Minneapolis. These must be managed to restore, preserve and protect the water quality and ecosystems for both present use and future value.

# 7.4 Encourage the planting and preservation of trees and other vegetation. Increased area of total tree canopy in the City will increase transpiration and decrease the rate and volume of stormwater runoff.

#### 7.5 Protect and sustain water resources.

All surface water management activities are based on this goal.

#### 7.6 Take measures to reduce water consumption and encourage water conservation.

Reduction of water consumption for the purpose of limiting demand on water treatment facilities will also reduce the amount of sewage that is conveyed by the sanitary sewers. This will help reduce the frequency and duration of wet weather CSOs. It has a secondary benefit of reduced fees paid to Metropolitan Council Environmental Services for wastewater treatment and increasing the service life of the Metro Wastewater Treatment Plant.

# 7.8 Support pollution prevention programs as an important first step in maintaining a healthy physical environment.

The most effective means of preventing degradation of water bodies is to manage the pollutants at the source. Non-structural BMPs, such as street sweeping, construction erosion control, and emergency spill response procedures contain pollutants at the source and prevent the need to mitigate the pollutants from the surface waters down



Erosion control on construction sites will help keep pollution from entering surface waters. (Source: Jennifer Hildebrand)

stream of Minneapolis. Each ounce of pollutant that is prevented from contacting stormwater runoff is an ounce of pollutant that does not need to be removed from the Gulf of Mexico.

7.10 Enhance the safety and appearance of our built environment through education, inspection and enforcement.

Stormwater picks up pollutants on both private properties and from public areas. Therefore, BMPs practiced by the City will prevent a portion of the pollutants from coming into contact with the stormwater runoff. Private property owners must also

practice source control of pollutants. For example, rooftop connections to the sanitary sewer are a major contributor of CSOs. Education, inspection and enforcement of City ordinances are a necessary component of total stormwater management and water resources protection.

#### 7.12 Play a leadership role in setting up examples and pilot projects.

Water resources improvements can be included in neighborhood projects that incorporate economic development, transportation enhancement, quality of life, and environmental stewardship.

# Sustainability Initiatives

The philosophy of sustainability was further defined in April 2005 when the City Council created <u>Sustainability Initiatives</u>, directing staff to develop targets for each indicator. Five of the 24 indicators relate to the City's water resources management.

These indicators, along with their respective targets, are presented on the following pages:

The Local Surface
Water Management
Plan carefully
considers the City
goals and
regulatory
requirements that
influence water
resources
management.

# **Urban Tree Canopy**

Increasing the total area of tree canopy will increase transpiration and decrease the rate and volume of stormwater runoff.

- 1. No net loss of tree canopy cover (26.4 percent) thru 2015.
- 2. Plant at least 2,500 trees on public land every year through 2015.

#### Permeable Surface

Increasing the total area of permeable surfaces through reduction of impervious surfaces, construction of green rooftops, and installation of stormwater infiltration systems will decrease the rate and volume of stormwater runoff.

- 1. If and when it becomes feasible to measure the City's actual stormwater outflow, either across the City or within a pilot area, baseline data will be collected and targets will be set for reduced outflow.
- 2. By 2015, increase the number of Large Area Stormwater Amenities to 30. These are ponds, wetlands and rain gardens that treat large areas/many sources ("regional" facilities, generally public).
- 3. By 2015, increase the number of Small Area Stormwater Amenities to 500. These are ponds, wetlands and rain gardens that treat small areas/single sources (generally private).
- 4. By 2015, increase the number of Large Area Underground Stormwater Treatment Chambers to 150. Also known as grit chambers, these devices treat large areas/many sources, generally public.
- 5. By 2015, increase the number of Small Area Underground Stormwater Treatment Chambers to 100. Also known as grit chambers, these devices treat small areas/single sources, generally private.
- 6. By 2015, increase the number of Green Roofs in the City to 100.

#### **Combined Sewer Overflow**

Elimination of CSOs will improve the quality of the Mississippi River. Reduction in the volume of groundwater that infiltrates into sanitary sewer pipes and stormwater runoff that inflows into the sanitary sewers will reduce the frequency of CSOs, and will reduce the total volume of sewage being treated at the Metro Wastewater Treatment Plant.

1. By 2014, eliminate CSOs

## Water Quality of Lakes, Streams, and the Mississippi River

Numerous studies have connected the continued degradation of surface water quality to the increased pollutants being transported by stormwater runoff. Improving the quality and reducing the quantity of stormwater runoff will sustain the quality of Minneapolis' unique surface waters.

1. Consistently maintain low Trophic State Index (TSI) levels by 2014:

Brownie 55 TSI Calhoun 47 TSI



Reducing stormwater runoff will help improve the quality of Minneapolis' surface waters, including Lake Calhoun. (Source: MPRB, Maurice Schultz)

Cedar 47 TSI
Harriet 47 TSI
Lake of the Isles 57 TSI

Other water bodies pending further studies.

## Air Quality

The air always smells fresh and clean immediately after a rainstorm. This is partially due to the washing of the air by the rain. Particulates that are suspended in the air are washed into the runoff and transported to the City's surface waters. Improving air quality is a pollution prevention technique that will also improve the quality of the City's stormwater runoff.

- 1. Fewer than 35 moderately unhealthy days per year in the Minneapolis area by 2015 with further reductions thereafter.
- 2. Reduce levels of all monitored air toxics to levels lower than applicable health benchmarks by 2015.

## **Water Resources Management Guiding Principles**

Minneapolis intends to accomplish its City goals and policies while carefully considering budget limitations, changes to regulations, and the needs of aging infrastructure. Therefore, the City developed six water resources guiding principles

that provide the direction needed to accomplish these multiple goals. The guiding principles are:

The CSO program has dramatically reduced the discharge of sewage into the Mississippi River.

## 1. Protect People, Property and the Environment

Two significant programs that Minneapolis has implemented have a common goal of protecting the health and safety of the people of Minneapolis. The CSO program has dramatically reduced the discharge of sewage into the Mississippi River. The Flood Mitigation Program aims to protect property from the damages incurred by severe and/or regular flooding. Protecting people, property and the environment means that:

- Overflows from sanitary sewers are eliminated (except during extreme events as defined in NPDES CSO permit)
- Structures are protected from flooding from both sewers and surface waters during the 100-year storm
- Roadway flooding that impacts public safety and/or commerce is prevented
- Structures and infrastructure are protected from the detrimental effects of soil erosion and sedimentation

- Public health threats related to water resources are prevented
- Aquatic and riparian habitat is enhanced to manage water quality
- Damage due to water main breaks is minimized
- Water resources, including groundwater, are managed to accomplish pertinent public safety objectives

#### 2. Maintain and Enhance Infrastructure

The most effective stormwater BMPs are based on pollution prevention activities, including maintenance of public infrastructure. Critical maintenance practices undertaken by the City of Minneapolis include street and public parking lot sweeping, sediment/debris removal from stormwater treatment chambers, construction site erosion control and vegetation management. Maintaining and enhancing infrastructure requires the City to:

The most effective stormwater Best Management Practices (BMPs) are based on pollution prevention activities, including maintenance of public infrastructure.

- Routinely assess the condition of the sanitary sewer and storm drains
- Identify sanitary sewer and storm drain capacities throughout the systems
- Plan service needs to minimize life-cycle costs
- Plan, schedule and conduct maintenance activities to optimize pollution control
- Apply efficient and effective work methods
- Accurately match staffing levels and equipment/materials availability with work requirements

#### 3. Provide Cost-Effective Services in a Sustainable Manner

Whenever the City must select between two alternatives that meet the same goal, the City will opt for the most cost-effective solution. Minneapolis will consider all life cycle costs in a cost effective analysis, including planning/design, construction, operation, and maintenance. Providing cost-effective services in a sustainable manner requires that:

- Both short- and long-term lifecycle analyses will be conducted to adequately assess all project/program costs
- Lifecycle analyses will include all costs (city and non-city)
- Multi-objective strategies for water resources management are incorporated in all projects and programs

- The capabilities and capacities of existing water resources systems are optimized
- Source water is protected to improve water treatment efficiency
- Multi-functional capital and development-related projects are collaborative

## 4. Meet or Surpass Regulatory Requirements

At a minimum, all water resources management activities must meet regulatory requirements. However, Minneapolis residents have voiced the expectation that surface water quality should surpass minimum requirements. Therefore, Minneapolis activities often are aimed at surpassing regulatory requirements. Meeting or surpassing regulatory requirements requires that the City:

- Anticipate regulatory trends and implement projects/programs before a regulation is finalized
- Achieve regulatory compliance effectively and efficiently
- Apply standard Maximum Extent Practicable (MEP) to control of pollutants in stormwater
- Employ resources without regard to jurisdiction and organization

## 5. Educate and Engage the Public and Stakeholders

Minneapolis has long involved the public in the development of public improvements and programs. A portion of the budget for all projects includes funds to engage the public and stakeholders during development of a project/program, and educate the public and stakeholders once the project/program is implemented. For example, the



Engaging stakeholders in project activities will enable the City to obtain more successful project results that consider public expectations.

City has provided ongoing water quality education efforts related to compliance with requirements in the Minneapolis NPDES Stormwater Permit.

Educating and engaging the public and stakeholders requires that:

- The public's role in water resources management is established and understood
- The stakeholders in each project/program are identified and engaged early in the project/programs development
- The service needs and expectations of the public are understood and dictate education and engagement
- The public's and stakeholder's responsibility, accountability, creativity, and innovation is promoted

- Employee leadership of citizen engagement activities is the norm and results in effective projects and programs
- Engagement and education processes facilitate incorporation of regional goals and strategies in water resources management programs/projects

## 6. Enhance Livability and Safety

Residents judge the quality of their neighborhood according to standards of livability and safety. The quality of Minneapolis parks, including the quality of the surface waters within each park, is directly tied to the success of livability in Minneapolis. Enhancing livability and safety require that:

- Water resources are integral to the fabric of the City
- Water is valued as an asset
- Water resources are managed to contribute to the fulfillment of quality of life expectations

As previously noted, the Water Resources Management Guiding Principles provide the direction needed to allow water resources management activities to meet multiple goals – no single principle can be tied to a single goal. Table 2-1 shows which of the City's goals and policies are supported by each Water Resources Management Guiding Principle. Appendix C inventories the existing activities that are accomplished in support of the Guiding Principles.

## **Progress Towards Goals**

Minneapolis has set up internal monitoring activities that track progress towards certain goals, including water resources management goals, which are reported in the following annual reports:

- <u>NPDES Annual Report Documents</u> tracks stormwater management activities and goals set by NPDES stormwater permit
- <u>Minneapolis Park & Recreation Board 2004 Water Resources Report</u> tracks water quality trends in lakes plus other MPRB water resources management activities
- <u>CSO Annual Report</u> tracks CSO management activities and goals set by NPDES CSO permit
- Sustainability Initiatives tracks sustainability targets

		Wate	er Resour	ces Princ	iples	
Table 2-1. City Goals Supported by Water Resources Guiding Principles	Maintain and Enhance Infrastructure	Provide Cost- effective Services	Meet or Surpass Regulatory Requirements	Protect People, Property and the Environment	Educate and Engage the Public and Stakeholders	Enhance Livability and Safety
2006 Goals Established by Mayor and City Council	1		ı			
1. A Safe Place to Call Home	Х	Х		Х		Х
2. One United Minneapolis					Х	Х
3. Lifelong Learning is Second to None			Х		Х	
4. Connected Communities						Χ
5. Enriched Environment	Х	X	Х	Χ	Х	
6. A Premier Destination					Х	Х
Minneapolis Plan Policies						
7.2 Manage the use of the City's environmental resources to meet present needs while considering future concerns.	х	Х	х	х	х	X
7.4 Encourage the planting and preservation of trees and other vegetation.	х				Х	Х
7.5 Protect and sustain water resources	х		х	X	х	X
7.6 Take measures to reduce water consumption and encourage water conservation	х	Х	Х	Х	Х	
7.8 Support pollution prevention programs as an important first step in maintaining a healthy physical environment.	х	Х	х	х	х	х
7.10 Enhance the safety and appearance of our built environment through education, inspection and enforcement.	х		х	х	х	
7.12 Play a leadership role in setting up examples and pilot projects.			х		х	
Sustainability Initiatives						
Number of newly planted trees	Х			Х		Х
Acres/percent of permeable surface	Х	X	Х	Х		X
Combined Sewer Overflows	Х		Х	Х	Х	
Water quality of lakes, streams, rivers	Х	Х	Х	Х	Х	Х
Air quality			Х	Х		

# Section 3 Land and Water Resources Assessment

#### **Overview**

This section of the Minneapolis Local Surface Water Management Plan focuses on the physical characteristics of the City. Detailed information is provided for each water resource that is listed as a <u>public water</u> by the Minnesota Department of Natural Resources (also termed protected water). Summaries of water quality monitoring studies are provided; with detailed information contained in Appendix H. Detailed copies of the figures are available from <u>Minneapolis Public Works – Engineering Services</u> (612-673-2405).

## Population and Land Area

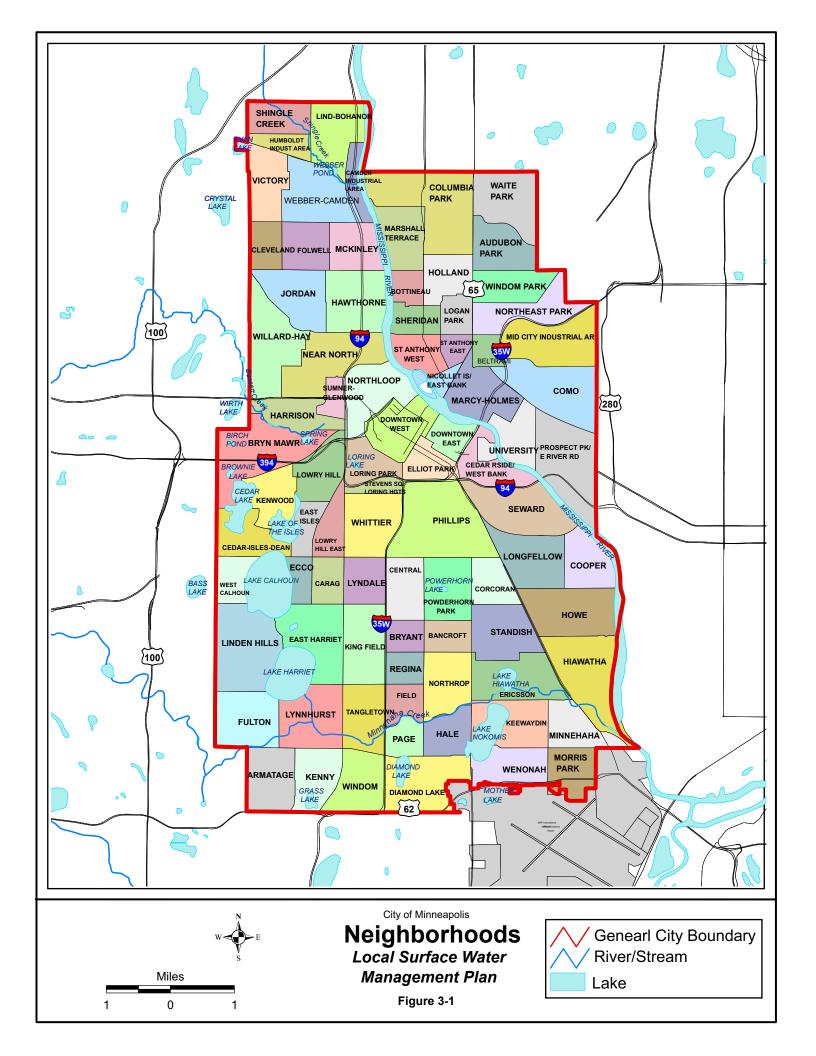
Minneapolis is the largest city in Minnesota and the county seat of Hennepin County. The 2000 census noted a total population of 383,000, which is spread over 81 neighborhoods (Figure 3-1). The City has 19 lakes and about 151 parks that are wholly or partially within MPRB property, comprising a total of 10 square miles out of a total City area of 59 square miles (Figure 3-2). The Mississippi River and approximately 13 miles of creek (Bassett, Minnehaha, and Shingle) wind through the City.

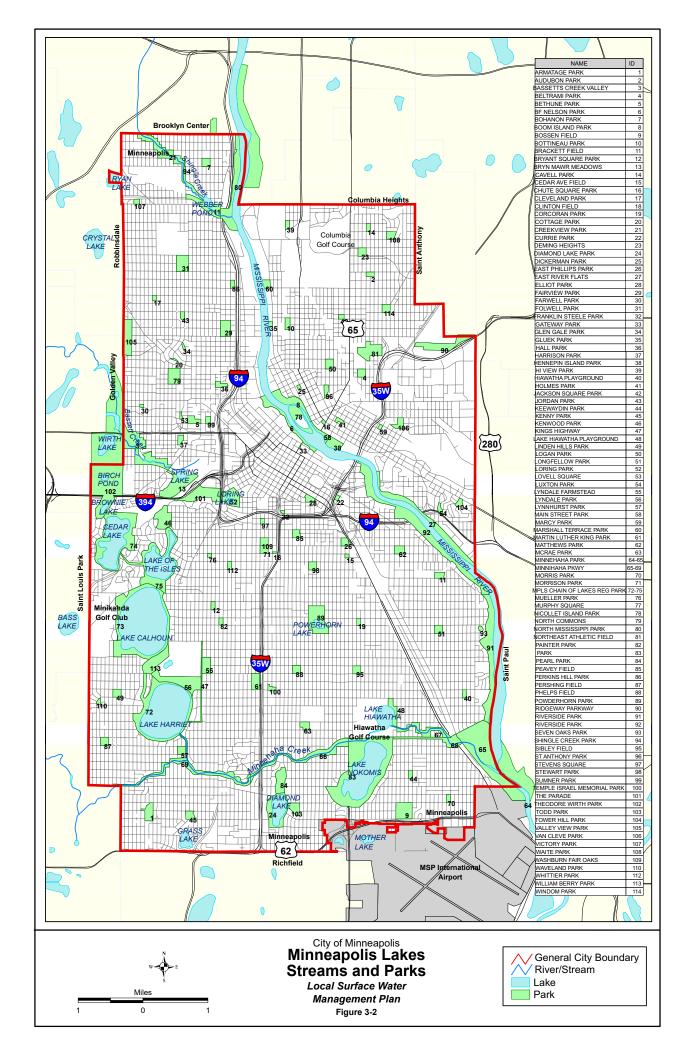
### **Soils**

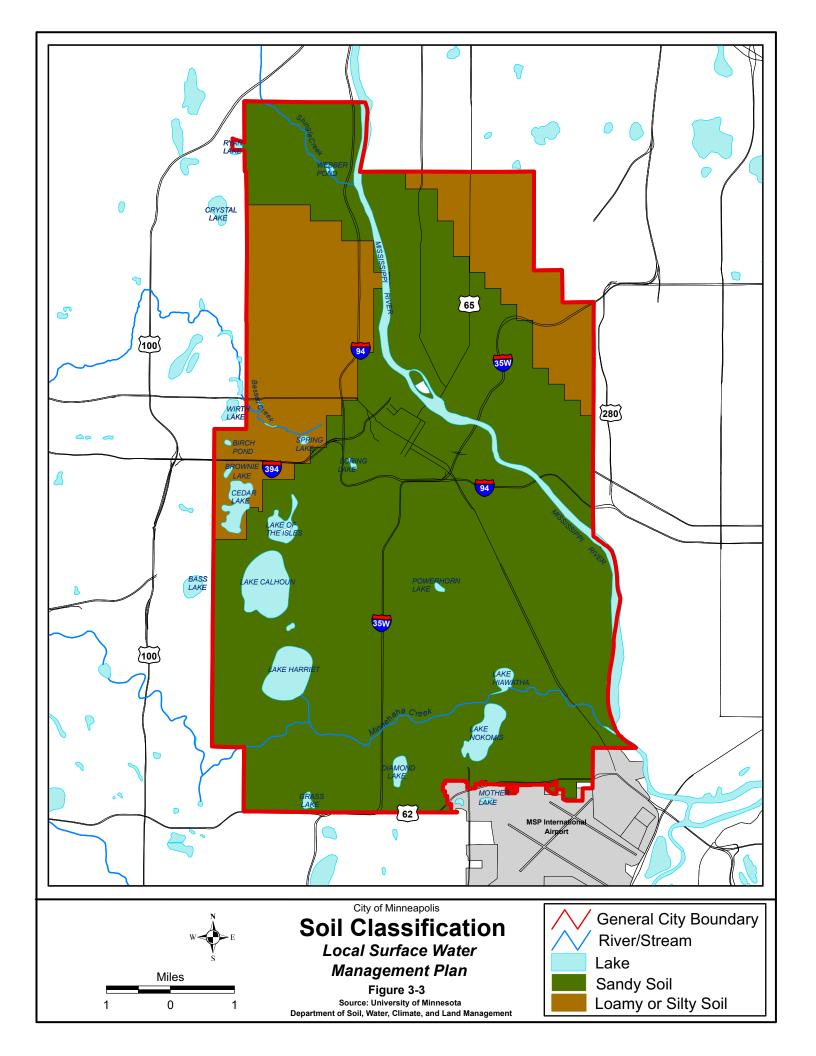
Minneapolis surface soils are highly variable and altered, which is typical of urban cities. According to the University of Minnesota Department of Soil, Water, Climate and Land Management, underlying soils in Minneapolis can be broadly classified as two main soil types: sandy/loamy or silty. Figure 3-3 shows the general location of these two classifications in the City. More detailed soil information is contained in the Soil Survey of Hennepin County, available from the <u>U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS)</u>. Recent trends in stormwater management are an increasing use of infiltration or filtration techniques. The information contained in this LSWMP is not of sufficient detail to determine if a site is suited for stormwater infiltration. Designers should conduct on-site soil investigations to ensure proper design, construction and operation of a soil based stormwater management practice.

## Climate Precipitation

Minneapolis has a continental climate, strongly influenced in the summer months by weather systems that originate in the Gulf of Mexico and the Pacific Ocean. Average annual temperatures and precipitation are listed in Table 3-1. Precipitation in the form of snowfall is included in these values and is described in terms of water equivalent. Growing season (May-September) precipitation averages 17.6 inches, or about 60 percent of the annual precipitation.







**Table 3-1. Temperature and Precipitation Monthly Averages** 

Measure	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Mean Temperature (degrees Fahrenheit)	49.6	33.0	19.5	13.5	17.7	30.3	46.2	58.2	68.0	73.2	70.7	61.6	N/A
Mean Precipitation (inches)	2.07	1.47	0.92	0.86	0.84	1.61	2.21	3.43	4.22	3.62	3.43	2.91	27.58

(Source: University of Minnesota, Department of Soil, Water and Climate, 1981 – 2005)

#### Snowfall and Snowmelt

In the winter months (November - March), snow predominates in Minneapolis. Table 3-2 lists average monthly snowfalls for the city. Snowfall occurs throughout the winter in small, low-flow events and generally does not affect surface water management. The spring snowmelt, on the other hand, can be the single largest water event of the year. The spring snowmelt occurs over a comparatively short period of time (e.g., approximately two weeks) in March, or April. The Minnesota Stormwater Manual recommends that the stormwater management practices be designed to accommodate the full volume of this snowmelt. The average annual snowmelt can be computed by multiplying the average snow water equivalent by the average depth of snow during the last two weeks of March, less the depth of snow that is expected to infiltrate through the thawing soils. Additional information on the annual volume of snow melt can be found at Analysis of Snow Climatology.

**Table 3-2. Snowfall Monthly Averages** 

Measure	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Season Total
Mean Snowfall (inches)	0.6	6.2	8.8	10.0	7.8	9.4	3.6	0.2	0.0	0.0	0.0	0	45.8

(Source: University of Minnesota, Department of Soil, Water and Climate, 1884 – 2005)

## **Topography**

The Minnesota landscape is a product of the continental glaciers that covered it. It consists of gently rolling and steep hills, numerous marshes and lakes, and extensive outwash plains. The City of Minneapolis has a relatively flat topography resulting from outwash deposited 14,000 years ago by the Des Moines Lobe of the late Wisconsin glaciations.

Bedrock, examples of which can be seen exposed along the Mississippi River bluffs, is not continuous beneath the glacial drift (gravelly material deposited by glaciers). For example, the Chain of Lakes exists where valleys filled with glacial drift and buried the bedrock. Glacial drift deposits are up to 300 feet thick under Lakes Calhoun and

Harriet. In contrast, at Minnehaha Falls along the Mississippi River, glacial drift is completely eroded, exposing the bedrock underneath.

The Mississippi River has a distinct geologic stratigraphy with a layer of glacial till and river deposits overlying oceanic limestone, shale and sandstone bedrock. Under Minneapolis, groundwater is primarily located in unconsolidated deposits and bedrock formations from the surface down to about 300 feet. Most groundwater under Minneapolis makes its way to the Mississippi River and its tributaries.

Topography divides Minneapolis into four main watersheds: Mississippi River, Bassett Creek, Minnehaha Creek, and Shingle Creek. About 51 percent of the land area in Minneapolis falls within the MWMO boundary, 36 percent is within the MCWD and approximately 13 percent falls within the BCWMC and SCWMC boundaries. Figure 1-3 and Table 3-3 depict the jurisdictional watershed boundaries within Minneapolis.

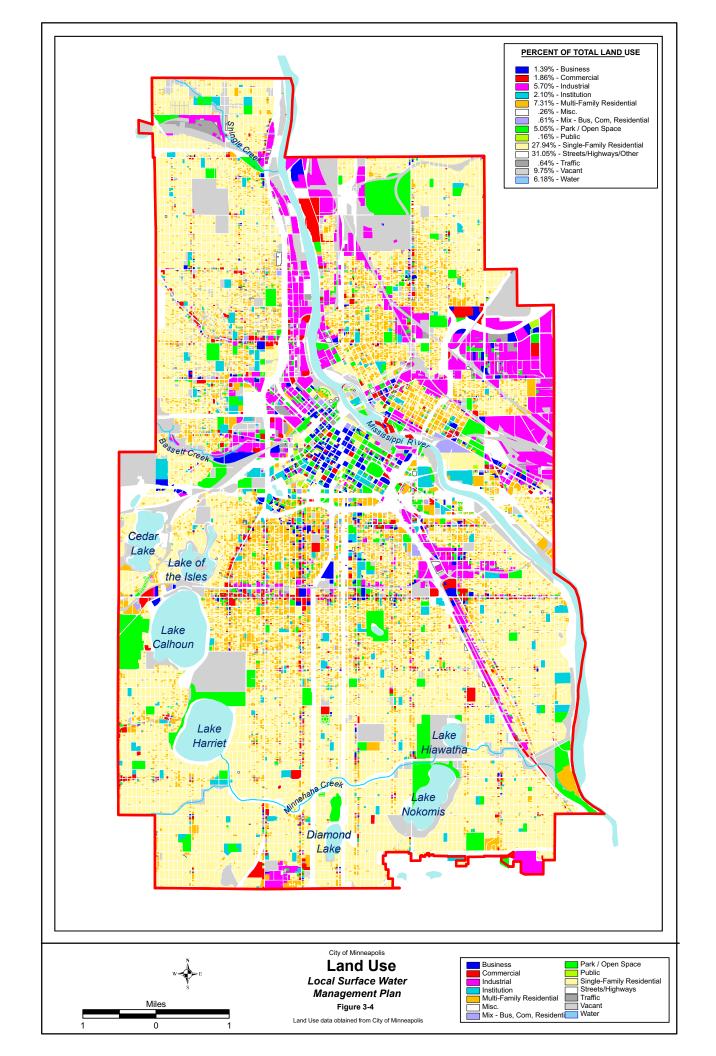
Table 3-3. Area of the City Within Each of the Major Jurisdictional Watersheds

Watershed	Area	% of City	% of Watershed
Bassett Creek WMC	1,800 acres	5	7
Minnehaha Creek WD	13,400 acres	36	9
Mississippi WMO	19,900 acres	54	94
Shingle Creek WMC	2,000 acres	5	7

Note: Percentages are rounded. (Source: City of Minneapolis)

#### Land Use

Minneapolis is a fully developed City with more than 50 percent of its total area residential. Public and recreational usage represents the next highest area at 16 percent, followed by industrial land use. Highways constitute about 3 percent of the City's land area. About one square mile of vacant land remains scattered throughout the City (State of the City Report, 2001). Figure 3-4 shows the City's land use distinguished by the categories mentioned in this paragraph, as well as additional minor categories. Future land use maps are being revised and are not available as of the publication date of this report.



Non-residential land use dominates the north central and northeast portions of the City. Notable within these areas are downtown, the industrial corridor that abuts the river north of downtown, and the industrial area in the eastern part of the City that is tucked between I-35 West and the Mississippi River. Distinct commercial/industrial corridors include:

■ Lake Street

University Avenue

■ Hiawatha Avenue

Washington Avenue

West Broadway

Multifamily residential is concentrated around the downtown core and thins out into single family residential toward the periphery of the City.

Minneapolis has 770 square feet of parkland for every resident. There is a park within six blocks of every Minneapolis resident. In total, the Minneapolis Park System consists of about 151 parks and 170 park properties that encompass nearly 6,400 acres of land and water. The MPRB has about 24 miles of shoreline along lakes and 14 miles of shoreline along the Mississippi River (Figure 3-2).

Land use in the Upper Mississippi River corridor has been in a state of constant flux for the last 125 years. This has provided opportunities for the City to implement policies that encourage light industrial and park development to coexist with some of the more traditional warehousing and industrial uses. Riverfront living has become popular and residential development is replacing industrial uses along the river.

### **Pollutant Sources**

Minneapolis has established a Contaminated Sites Working Group within the Department of Regulatory Services – Environmental Management. This group maintains information on brownfield sites, Superfund sites and other contaminated properties. The most current information on pollutant sites in Minneapolis can be found at <a href="Environmental Management">Environmental Management</a> - Land.

## **Industrial Discharges**

**Wastewater** - Industrial sites that discharge wastewater into City sanitary sewers are required to meet the pre-treatment requirements of the Metropolitan Council Environmental Services (MCES). The most current information on permit requirements and permits issued in Minneapolis can be found at <a href="MCES">MCES</a> - Standard <a href="Industrial Discharge Permits">Industrial Discharge Permits</a>. Industrial sites that discharge treated wastewater directly into surface waters are required to obtain an NPDES permit from the Minnesota Pollution Control Agency. Current holders of NPDES industrial permits should be obtained directly from the MPCA.

**Stormwater** – Certain industrial sites that discharge stormwater are required to obtain a NPDES Industrial Stormwater Discharge Permit from the MPCA. Permits are required regardless of whether the discharge is to the City stormwater drainage system or directly to surface waters. Information on industries that are required to be permitted and how to obtain a permit is available from the <a href="Stormwater Program for Industrial Activity - MPCA">Stormwater Program for Industrial Activity - MPCA</a>. Current holders of NPDES industrial permits should be obtained directly from the MPCA.

## Minneapolis Waterbodies and Watersheds

Minneapolis is defined by its extensive system of surface waters. These water resources are vital to the health, safety, and welfare of the City's citizens and visitors. A brief description of the surface waters (rivers, streams, lakes, and wetlands) serving Minneapolis follows.

#### River

The Mississippi River has historically been the City's source of commerce, recreation, and drinking water. Approximately 12.2 miles of the Mississippi, with a local drainage area of 19,900 acres, flows from northwest to southeast through the City. Maintaining good water quality in the Mississippi is vital to providing the City's primary drinking water supply, protecting the health of citizens who use the river for

recreation, and maintaining the natural habitat of the river.



The Corps of Engineers operates Upper St. Anthony Lock & Dam on the Mississippi River. (Source: John Kuhne)

The Upper Mississippi River watershed comprises 189,000 square miles of land in five states: Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The upper river extends 750 miles from the river's headwaters in northern Minnesota to its confluence with the Ohio River in southern Illinois. The Upper Mississippi River above St. Paul has a drainage area of about 12 million acres.

The Upper Mississippi provides recreational opportunities for people

who live in the Twin Cities Metropolitan Area. Its numerous riverside parks and trails are popular destinations for hiking, biking, fishing, and bird watching. Numerous cities draw drinking water from the river.

The City's location at the upper extent of the navigational system, built and maintained by the USACE, has been a significant driver for the City's commerce. The Corps also maintains a flood protection system along the Mississippi River. The St. Paul District of the USACE operates and maintains 13 locks and dams on the river, beginning at Upper St. Anthony Falls in downtown Minneapolis and ending at Lock

and Dam 10 in Guttenberg, Iowa. Each dam represents a critical step in the "stairway of water" that makes navigation possible between Minneapolis and St. Louis.

The Upper St. Anthony Dam is also located on the River at mile 854. The dam consists of a horseshoe dam with a chord dam downstream of the horseshoe and a concrete overflow spillway. The lock is also 56 feet wide by 400 feet long. Both the upper and lower dams were constructed and became operational in September 1963.

Lower St. Anthony Falls Dam is located on the Mississippi River mile 853.9 in Minneapolis. The dam consists of a concrete spillway 275 feet long with four Tainter Gates. The lock is 56 feet wide by 400 feet long.

Although water quality in the Upper Mississippi has improved tremendously in the last 25 years, parts are still considered impaired for aquatic consumption and recreation.

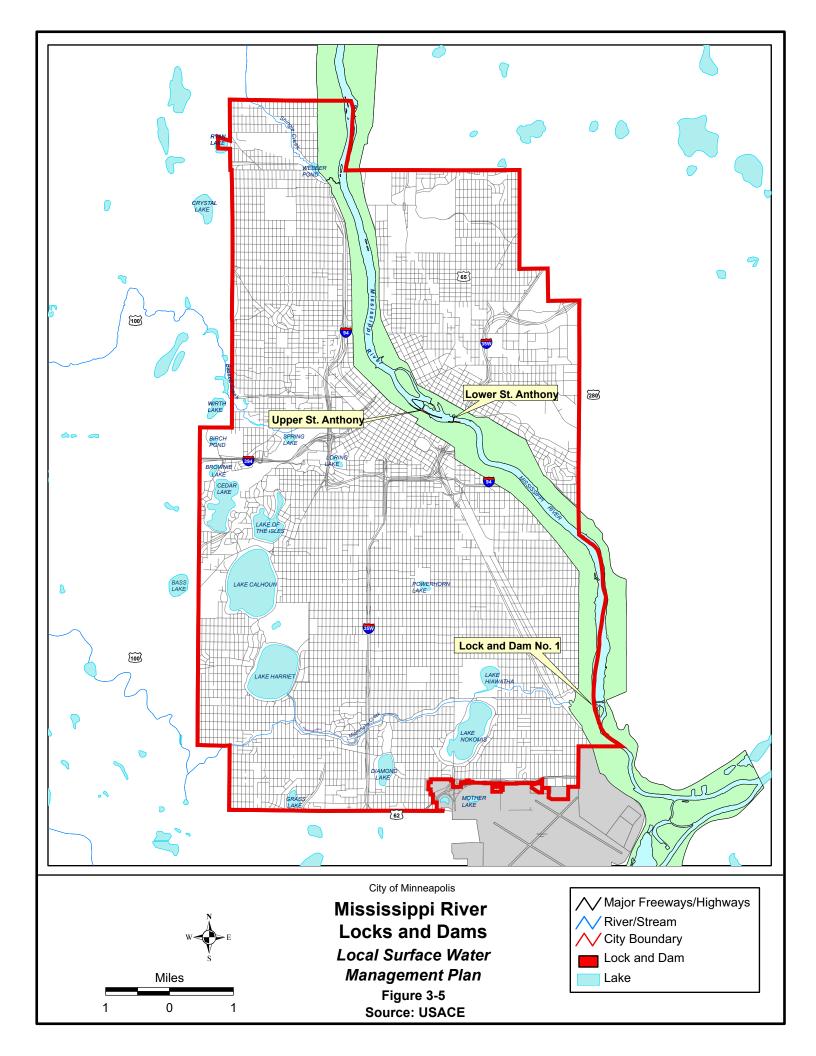
Lock and Dam 1 is located on the Mississippi River at mile 847.9 in Minneapolis. It was constructed in 1917. Major reconstruction took place in 1929, 1932 and 1978-1983. Figure 3-5 shows the locations of these locks and dams.

The Metropolitan Council, the USACE, the United States Geological Survey (USGS), the MPCA and the Minnesota Department of Health (MDH) are involved in monitoring the Mississippi River. Water quality in the Upper Mississippi has improved tremendously in the last 25 years, increasing the ability of the riverine ecosystem to recover from stressors. Mayflies demonstrated a dramatic recovery and submerged aquatic vegetation recovered after a drought in the 1980s. The MPCA's 2006 Impaired Waters List identifies the Mississippi River as

impaired for aquatic consumption, aquatic life and aquatic recreation (Appendix F). The pollutants that are listed include fecal coliform, mercury and PCBs.

Minnesota Rule 7050 classifies the beneficial use of the segment of the Mississippi River through Minneapolis as Class 2Bd (north City limits to St. Anthony Falls), Class B (St. Anthony Falls to Lock and Dam #1), and Class 1C (below Lock and Dam #1). The Minnesota Pollution Control Agency, in its 305.B Assessment of Stream Conditions, categorizes the quality of this segment through Minneapolis as 5A. It is listed as 5A, meaning that it is impaired or threatened by multiple pollutants with no completed TMDL plans. Segments of the river designated as impaired are listed in Appendix F.

Mississippi River TMDL studies are at initial stages of development. Two water quality efforts which will likely affect Minneapolis include the <u>Lake Pepin TMDL</u> <u>Study</u> and the <u>Upper Mississippi River Basin Water Quality Plan</u>.



The area of Minneapolis that drains to the Mississippi River has been organized into the Mississippi Watershed Management Organization. Other members include the MPRB, the City of Lauderdale, the City of St. Anthony, and the City of St. Paul. In 2001 the organization became the first joint powers watershed organization to obtain Special Taxing District designation from the Minnesota Legislature (MS 276.066). This allowed the MWMO to hire full time staff and implement new programs. Significant programs include:

- Capital improvement grants for stormwater management and combined sewer overflow corrections
- Non-point source education programs
- Stewardship grants
- Monitoring and research
- Land acquisition

Very little remains of the native landscape in the Twin Cities, and what remains can be found mostly along the Mississippi River. Among a number of plans for improvement in and along the river is the USACE Environmental Pool Plan. The Pool Plans have been developed with the view of establishing common habitat goals and objectives for the Upper Mississippi River and serve as a guide toward a sustainable ecosystem (see Appendix D).

#### **Streams**

Three tributaries to the Mississippi River - Bassett Creek, Minnehaha Creek, and Shingle Creek - originate in communities west of the City and flow through Minneapolis to the Mississippi River (Figure 3-2). Bassett Creek meanders westerly from Medicine Lake, through the municipalities of Plymouth and Golden Valley and through Theodore Wirth Park. Near Irving Ave. N. in Minneapolis, Bassett Creek flows into a tunnel system completed by the USACE in 1990. The original Bassett Creek connected to the Mississippi River just south of Plymouth Avenue North. After construction of the tunnel project, the Creek now discharges to the River downstream of St. Anthony Falls. The main stem of Shingle Creek begins in Brooklyn Park in northwestern Hennepin County and flows generally southeast to its confluence with the Mississippi River in Minneapolis. Minnehaha Creek flows from Lake Minnetonka and meanders easterly and southeasterly through Minnetonka, Hopkins, St. Louis Park, Edina and Minneapolis. Brownie, Cedar, Lake of the Isles, Calhoun, Harriet and Hiawatha flow into Minnehaha Creek. Over the years, these streams have been altered to improve drainage, enhance recreation, facilitate transportation, and support development. Table 3-4 summarizes the physical information for the Minneapolis segments of each of these streams.

	Drainage Area								
Name	Total	Percent of City	Length within Minneapolis (miles)						
Bassett Creek	1,800 acres	5	3.0						
Minnehaha Creek	13,400 acres	36	7.7						
Mississippi River	19,900 acres	54	12.2						
Shingle Creek	2,000 acres	5	2.2						

**Table 3-4. Key Streams and Relative Data** 

#### **Bassett Creek**

Bassett Creek was named after Joel B. Bassett, one of the earliest settlers in North Minneapolis. It flows 12 miles from Medicine Lake to the Mississippi River.

Development has drastically altered the creek and its watershed. Wet, swampy banks were filled and trees were cut to accommodate development. Early development, consisting mostly of sawmills and railroads, led to the influx of more industrial and commercial development. Inexpensive homes were constructed on small lots to

accommodate the influx of immigrants.



The City is preparing a master plan to improve Bassett Creek, which has been heavily impacted by development. (Source: BCWMC)

In the late 20th century, as part of a number of flood control projects, Bassett Creek was channelized and the last few miles diverted into underground pipes that empty into the Mississippi River. The creek has problems with phosphorus and sedimentation that are typical of urban streams in watersheds with high percentages of impervious surfaces.

In 1969, the nine communities in the watershed formed the Bassett Creek Flood Control Commission. In 1982, in accordance with the Metropolitan Surface Water

Management Act, the Bassett Creek Water Management Commission was created. Its mission is to control flooding and to maintain and enhance the quality of the surface and ground water resources in the watershed.

The Bassett Creek watershed is nearly 40 square miles in area and is divided into four major subwatersheds. The City of Minneapolis lies in the main stem subwatershed.

Bassett Creek was added to the MPCA's list of impaired waters in 2004 (Appendix F) for impaired aquatic life.

The City is currently preparing the <u>Bassett Creek Valley Master Plan</u> to provide guidance for restoring some of the creek's natural features. The general goals of the master plan are to improve water quality, control erosion, restore native vegetation,

and integrate the creek into the park system through a corridor to the Mississippi River.

Stream monitoring is performed in cooperation with the Metropolitan Council Environmental Services, the MPRB and BCWMC as part of the Watershed Outlet Monitoring Program (WOMP). The WOMP2 station on Bassett Creek is located approximately ¼ mile upstream of where the creek enters the City of Minneapolis storm drainage system. The Bassett Creek Watershed Management Commission has, through its <a href="Capital Improvement Plan">Capital Improvement Plan</a>, identified water quality improvements throughout the creek's watershed.

The BCWMC maintains a list of capital improvement projects aimed at improving the water quality of the main stem of Bassett Creek. There are no projects located within Minneapolis, or which would manage runoff from Minneapolis, in the current 5-year CIP. Two stormwater basin projects which would manage runoff from Minneapolis drainage areas are identified for future funding by the BCWMC. One is located in Bryn Mawr Meadows Park, near the intersection of Laurel Ave and Morgan Ave S. The second is in Golden Valley/Theodore Wirth Park westerly of the intersection of Xerxes Ave N and 14th Ave N.

#### Minnehaha Creek

Minnehaha Creek originates at the mouth of Lake Minnetonka (Gray's Bay Dam) located in the City of Minnetonka. The Creek flows 22 miles through the cities of Minnetonka, Hopkins, St. Louis Park, Edina and Minneapolis and ends at the confluence with the Mississippi River in south Minneapolis. Just upstream of the



Streambank stabilization is a main stakeholder concern for Minnehaha Creek; many residents use this creek for recreation. (Source: John Kuhne)

Mississippi River is Minnehaha Falls, a 53-foot waterfall made famous by the 1855 publication of the poem *The Song of Hiawatha* by Henry Wadsworth Longfellow.

The MCWD monitors Minnehaha Creek as part of their Annual Hydrologic Data monitoring program. Water quality and flow in the creek are monitored at eight locations. Phosphorus and total suspended solids (TSS) concentrations in Minnehaha Creek are comparable to the North Central Hardwood Forest ecoregion mean, which is generally a result of the good quality of water discharged into the creek from Lake Minnetonka. Simply explained, nutrient and sediment loads

increase upstream to downstream, although the impoundments at the major grade controls impact those concentrations. While the flow-weighted average chloride concentrations in the creek were lower than the state chronic standards of 230 ug/L,

several individual grab samples did exceed that standard. None exceeded the acute standard of 830 ug/L.

Grab samples from seven sites in the creek were tested for the presence of *E. coli* bacteria. While the acute standard was not violated in 2004, the 30-day geometric mean standard was violated at five sites on the lower creek for the months of September and October 2004. In 2005, the MCWD expanded the creek monitoring to additional sites and adjusted sampling frequency to identify the source or sources of *E. coli*. Samples are also being analyzed for traces of caffeine, which may indicate that human waste is one of the sources of *E. coli*. Results are pending.

Dissolved oxygen was measured at eight locations and generally maintained levels greater than the 5 mg/L State of Minnesota standard for class 2B waters. Measurements did dip below the 5 mg/L standard periodically, depending on flow in the creek and on location relative to large riparian wetland complexes. Minnehaha Creek was added to the MPCA's list of Impaired Waters in 2006 (Appendix F) for impaired aquatic life.

*Biologic Integrity.* Minnehaha Creek is listed on the State of Minnesota's 303(d) list of Impaired Waters for impaired biotic integrity. The most limiting factor for the ecology of Minnehaha Creek is its variability of flow, which ranges from intensive periods of high volume and velocity flow to periods of low or no flow. During those latter periods, much of the channel runs dry, leaving few pools or backwaters to serve as refuge for fish and macroinvertebrates. The creek also has a lack of physical complexity. The channel is mostly of relatively constant dimensions, has very small amounts of woody debris, and little variation in depth and slope. These factors severely limit opportunities for aquatic life to sustain viable populations.

Stakeholders
focused on
improving aquatic
life and enhancing
erosion control at
Minnehaha Creek.

Creek Visioning. In 2005 the MCWD undertook a joint partnership with the USACE to develop a large-scale, long-term vision for Minnehaha Creek to serve as guidance for organizations that share creek corridor management responsibilities. A Citizen Advisory Committee of community representatives and a Technical Advisory Committee of agency representatives developed a common vision and management recommendations through a stakeholder input process.

The 2005 MCWD Minnehaha Creek Visioning Partnership Final Report presents the results of that process and summarizes the Partnership's recommendations for future creek management. Erosion control and support of aquatic life were overall the highest ranked priorities for improvement. However, when considered reach by reach, support and maintenance of recreation were the highest priority for the reaches upstream of the Browndale dam, followed by improvement of aquatic life and erosion control. Erosion control and streambank stabilization were the highest priorities for the reach downstream of the Browndale dam. The Partnership recommended the

MCWD consider bioengineered stabilization techniques over hard armoring where possible, and that habitat improvement be focused on the management of riparian vegetation and retention of large woody debris rather than in-stream habitat management. The Partnership also recommended that water quality be improved through the reduction of peak stormwater flows, pretreatment of discharges, application of BMPs and good housekeeping practices in the subwatershed, and repair of existing erosion.

An important part of the visioning process was the discussion of several streamflow management scenarios developed by the Corps to model what would happen with changes to the operation of the Grays Bay dam. The dam is managed to discharge water from Lake Minnetonka into Minnehaha Creek only when the DNR-established runout elevation of the lake is exceeded. During dry periods the lake level falls and there is minimal discharge; flow in the creek falls to minimal flow-related aquatic habitat conditions and canoeing is not possible. The Corps developed a number of scenarios that would provide targeted releases for recreation or habitat purposes, and then modeled the resulting impact on water level in Lake Minnetonka; the percent of time creek flow fell within optimal conditions for aquatic habitat and recreation; the percent of time potentially erosive flows could be expected; and resulting estimated water quality. Each scenario attempted to balance these often competing interests. The Partnership ultimately recommended that further study be completed to find a way to optimize and balance year round minimum flows and moderate extreme flows with recreational and lake uses.

#### **Shingle Creek**

Shingle Creek flows through the northern edge of Minneapolis. The main stem of



Sampling in Shingle Creek at Queen Avenue has revealed that the creek is a warm water fishery, mainly home to white sucker fish. (Source: SCWMC)

Shingle Creek begins in Brooklyn Park in northwestern Hennepin County and flows southeast to its confluence with the Mississippi River in Minneapolis. Shingle Creek is formed at the junction of Bass Creek and Eagle Creek, two of the minor tributaries in the watershed. The creek historically flowed into Webber Pond before discharging to the river, but it now bypasses the pond. The creek is approximately 11 miles long and drops approximately 66 feet from its source to its mouth.

Presettlement vegetation in the watershed consisted of oak-savannah, prairie, and maplebasswood communities. Urban development

has left little of the original vegetation. In 1997, the 2,000 acres of Shingle Creek Watershed within the City of Minneapolis consisted of the following land use proportions:

■ 50 percent residential

- 12 percent commercial and industrial
- 22 percent parks and vacant
- 16 percent open water, right-of-way, other uses

Several cities, including Minneapolis, work cooperatively to manage recreational parks and trails within the vicinity of Shingle Creek.

Shingle Creek is classified as a warm water fishery from the analysis of fish samples taken at two sites in Minneapolis (Queen and Zane Avenue). White sucker dominates, though representatives of all feeding groups were present. Shingle Creek is isolated from the Mississippi River by a waterfall in Webber Park that prevents any migration of fish upstream.

In 1999, a hydrologic study of the Shingle Creek watershed by the SCWMC was completed using the HydroCAD computer model. The model was used to refine maximum discharge rates established in the First Generation Watershed Management Plan, prepared by the SCWMC. That plan determined a maximum allowable discharge of 1310 cubic feet per second [cfs] for Minneapolis and also set a target of reducing this discharge to 810 cfs by the year 2020.

There are two monitoring sites on Shingle Creek within the City of Minneapolis. An outlet monitoring site is located on Shingle Creek at 45th Avenue. Cumulative drainage area at this point is about 40.6 square miles, or 92 percent of the watershed. Stream stage is continuously recorded, and a range of events are sampled and analyzed for total phosphorus (TP), dissolved phosphorus (DP), total suspended solids (TSS), volatile suspended solids (VSS), Nitrate+Nitrite, and chloride. The site has been monitored since 1997.

The second site is on Shingle Creek at Queen Avenue near the border between Minneapolis and Brooklyn Center. Cumulative drainage area at this point is about 30.9 square miles, or 70 percent of the watershed. This site was maintained by the USGS as part of their National Water Quality Assessment (NAWQA) Program. Water quality monitoring was discontinued in 1999. However, flow is still being monitored by the USGS at this site.

Shingle Creek is listed on the 2006 MPCA list of impaired waters for chloride, low oxygen and impaired aquatic life (Appendix F).

#### Lakes

Nineteen lakes exist partially or wholly within the City with most integrated into the City's parks as shown in Figure 3-2. These lakes are the focus of the City's park system, providing residents with numerous opportunities for land and water based recreation. Table 3-5 provides details of the City's lakes and wetlands which are listed

by the DNR as a public water. As property owner of record for much of the shoreline in the City, the MPRB is responsible for maintaining the shoreline, and has created an effective program of lake management, further detailed at <a href="Minneapolis Park & Recreation Board - Water Quality">Minneapolis Park & Recreation Board - Water Quality</a>.

Table 3-5. Lakes and Wetlands on DNR Public Waters List

Watershed	Water Resource	DNR Lake ID	Watershed Area (acres) in City	Surface Area (acres)	Watershed to Lake Area Ratio	Mean Depth (feet)	Max. Depth (feet)
	Bassett's Pond*	27-0036		0.3			
всммс	Birch Pond	27-0653	31	4	7.8	-	-
DCWIVIC	Spring Lake	27-0654	45	3	15	10	28
	Wirth Lake*	27-0037	348	40	8.7	12	25
	Brownie Lake	27-0038	34	11	3.1	22	50
	Cedar Lake	27-0039	224	172	1.3	20	51
	Lake of the Isles	27-0040	760	111	6.8	9	31
	Lake Calhoun	27-0031	1,249	421	73.0	30	90
	Cemetery Lake	27-0017	205	11	18.6	na	na
	Sanctuary Marsh	27-0665	68	3	22.7	na	na
	Lake Harriet	27-0016	863	342	2.5	29	82
MCWD	Diamond Lake	27-0022	685	55	12.5	3	7
	Lake Nokomis	27-0019	620	206	3	14	33
	Lake Hiawatha	27-0018	1,008	55	18.3	16	31
	Powderhorn Lake	27-0014	286	12	23.8	4	20
	Grass Lake	27-0681	386	26	14.8	2	5
	Taft Lake*	27-0683	100	14	7.1	-	-
	Mother Lake*	27-0023	49	48	1	2	5
	Legion Lake	27-0024	49	71	0.7	-	-
MWMO	Loring Pond	27-0655	24	7	3	4.9	17
	Webber Pond	27-1118	2	3	0.7	3	7
SCWMC	Ryan Lake	27-0058	49	29	1.7	15	33
	Crystal Lake*	07-0034	470	5	na	na	na

<sup>\*</sup> Lakes outside corporate limits of Minneapolis that receive discharge of stormwater runoff from areas within the City.

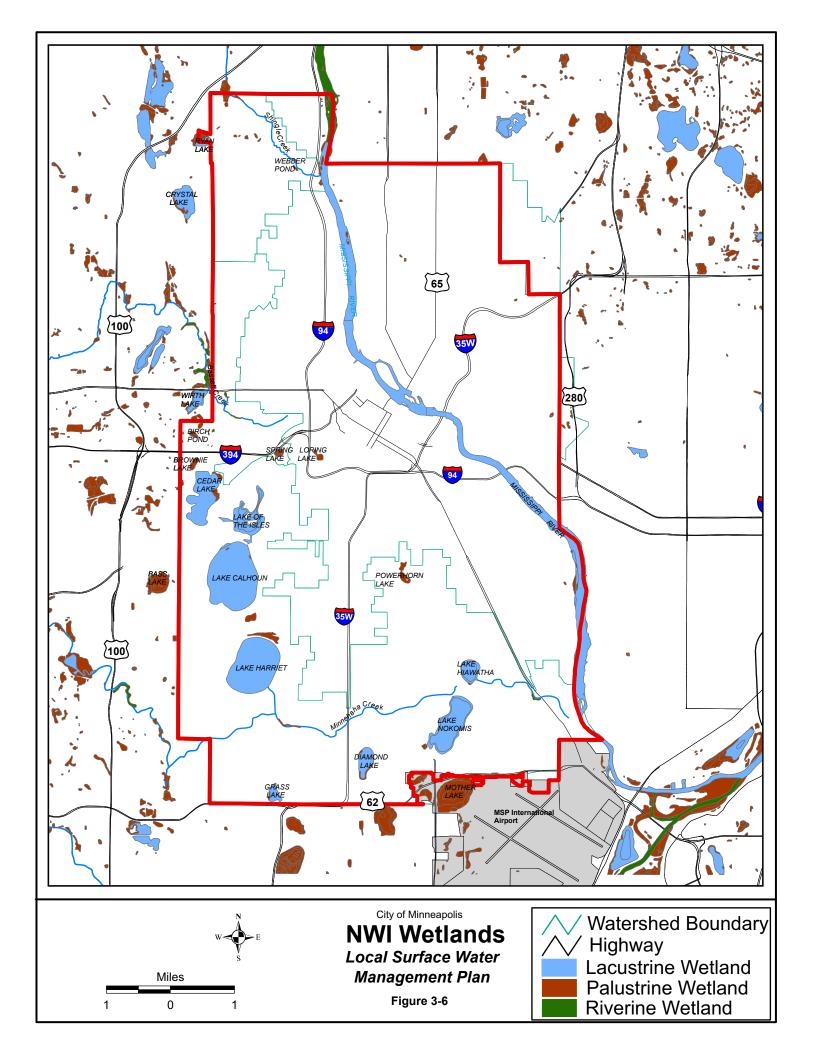
#### Wetlands

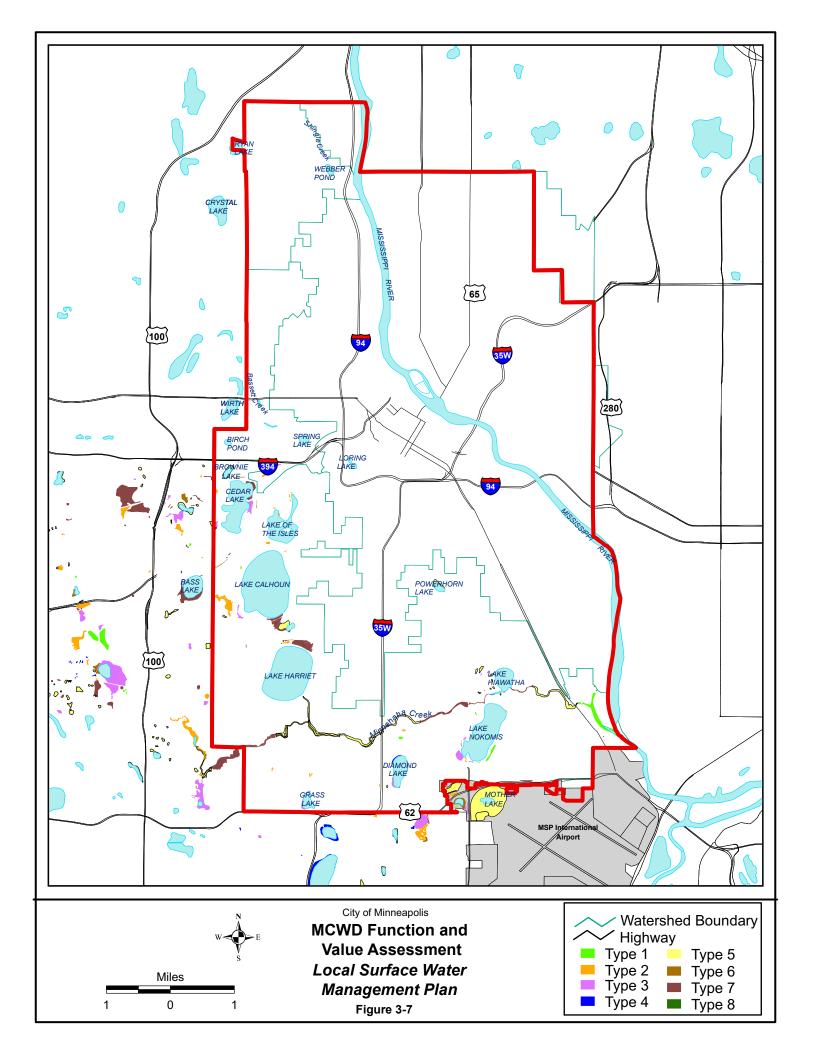
Minneapolis has several wetlands within its boundaries, as shown on Figure 3-6. None of the City's wetlands remain in a natural state, though some of the wetlands in Theodore Wirth Park and T.S. Roberts Bird Sanctuary may come close. The Hennepin County Wetland Health

Evaluation Project (WHEP) is an ongoing wetland monitoring program that uses an MPCA-developed approach to measure vegetation and invertebrate diversity. To date, this monitoring program has monitored wetlands contained in Table 3-6.

**Table 3-6. WHEP Monitoring Program** 

Table 6 6: William Monitoring Frogram								
	2002	2003	2004	2005				
Amelia Pond		Х	Х					
Cedar Meadows				Х				
Diamond Lake	Х			Х				
Grass Lake		Х	Х					
Roberts		Х	Х	Х				
Solomon Park Wetland				Х				
Wirth Golf Course	Х	Х	Х					





Monitoring results indicate that all of these wetlands have suffered negative consequences from their watersheds being fully developed. According to the report, the wetlands appeared to have both poor vegetation and poor invertebrate species richness and diversity, which would likely benefit from restoration efforts.

In 2003, the MCWD completed a Function and Values Assessment of wetlands within their jurisdiction. Figure 3-7 presents the wetland locations identified in that effort. Neither the NWI coverage provided in Figure 3-6 nor the MCWD mapping reflected in Figure 3-7 should be used in place of actual wetland delineations. Each is merely a planning tool to aid in stormwater management decisions.

#### Groundwater

There is no single source for groundwater data in Minneapolis. Information is available from the following sources:

- The Minneapolis Department of Regulatory Services Environmental Management maintains permits for construction or sealing of wells.
- The MPRB monitors groundwater levels at wells located on park property.

  Locations of MPRB wells are contained in the MPRB 2004 Water Resources Report.
- The Minnesota Department of Natural Resources issues groundwater appropriation permits, and maintains ground water resources data at <u>Groundwater: Minnesota DNR</u>.
- The USGS maintains a nationwide inventory of groundwater data, which can be found at <u>USGS Ground-Water Data for the Nation</u>. There are no sites in Minneapolis currently being monitored by the USGS.
- The MPCA collects information on the quality of groundwater in Minnesota.

The Minnehaha Creek Watershed District has been monitoring the groundwater levels in an area of southwestern Minneapolis that contributes to Coldwater Springs (located outside the municipal limits of Minneapolis). Although not currently in effect, the MCWD is considering future implementation of groundwater protection measures in the area of influence for this spring.

## Unique Features/Fish &Wildlife Habitat/Scenic Areas

Maps noting unique features, fish habitat, wildlife habitat, and scenic areas of Minneapolis which are contained in the Watershed Management Plans of BCWMC, MCWD, MWMO & SCWMC are included in this LSWMP by reference.

## **Existing Land and Water Resources Management Activities**

## City of Minneapolis and Minneapolis Park and Recreation Board

At the time that the City adopted Chapter 54 into the Code of Ordinances, the City also approved a set of pollutant reduction goals for new developments. These goals were based on the most current water quality studies during 2001. These reduction goals will be maintained by the City until new goals for any water resource through formal goal establishment, such as an approved TMDL Plan or an approved Water Resources Management Plan.

The City of Minneapolis and the MPRB jointly implement stormwater and surface water monitoring activities, which are summarized in Appendix G and in their annual reports, <a href="MPPS Stormwater Annual Report">NPDES Stormwater Annual Report</a> and <a href="MPPS 2004 Water Resources Report">MPRB 2004 Water Resources Report</a>.

In 2006, the City of Minneapolis and the MWMO implemented a joint program to monitor the outfalls to the Mississippi River. The Mississippi Watershed Management Organization's Monitoring Program was established to provide a scientific basis for identifying and evaluating water quality and quantity issues and implementing solutions to improve water quality and reestablish natural water regimes in the watershed. The MWMO currently monitors water quality at six locations in the Mississippi River, five stormwater outfalls to the Mississippi River and Loring Pond (the only lake in the watershed). Fecal coliform and E. coli data are collected from the River to assess pollutants listed on the Minnesota "Polluted Waters" list for the Total Maximum Daily Load (TMDL) process. Data are collected from the stormwater outfalls to assess the volume and rate of water movement in the watershed and to develop a record of baseline data to characterize water quality in the watershed and identify pollutants that exceed water quality standards. Data collected include the physical, chemical and biological constituents: temperature, transparency, specific conductivity, pH, dissolved oxygen, bacteria, nutrients, sediment, inorganic compounds, organic compounds and metals. Fecal coliform and E. coli data are collected from Loring Pond. The MWMO also monitors Best Management Practices (BMPs) to determine their effectiveness on reducing water loss and improving water quality. More information about the MWMO Monitoring Program can be found at www.mwmo.org.

#### Watersheds

Each watershed district/organization in Minneapolis has implemented programs to improve the quality of surface waters. Programs include monitoring activities, education programs, standards for new and re-developments and structural stormwater BMPs. A list of all monitoring activities in Minneapolis is contained in Appendix G. Reports and studies are contained in Appendix H. The most current information is available directly from each watershed district/organization. Contact information is contained in Appendix A, and at the following websites:

Bassett Creek Watershed Management Commission (www.bassettcreekwmo.org)

Minnehaha Creek Watershed District (www.minnehahacreek.org)

Mississippi Watershed Management Organization (www.mwmo.org)

Shingle Creek Watershed Management Commission (www.shinglecreek.org)

## **Existing Assessment Studies Impaired Waters**

Lake assessments are prepared for the U.S. Congress under Section 305(b) of the Clean Water Act to estimate the extent to which Minnesota water bodies meet the goals of the Clean Water Act. The MPCA 305(b) Report includes information about waters of the state: healthy, threatened, and impaired. This information is intended to be shared with planners, citizens and other partners in basin planning and watershed management activities. The lakes in Minneapolis on the 305(b) Report are shown in Table 3-7.

Table 3-7. 305(b) Assessments of Lake Conditions in Minneapolis

Lake	Swim	ming	Trophic State
Lake	Use	Data	- Trophic State
Brownie	PS	M	Eutr
Calhoun	ST	M	Eutr
Cedar	ST	M	Eutr
Diamond	NS	M	Hyper
Harriet	FS	M	Meso
Hiawatha	NS	M	Eutr
Isles	NS	M	Hyper
Loring (S. Bay)	PS	M	Eutr
Nokomis	NS	M	Eutr
Powderhorn	NS	M	Hyper
Ryan	NS	E	Hyper
Webber	PS	M	Eutr
Wirth	NS	M	Eutr

Use: PS=Partial support; NS=Not supporting; ST=Supporting but threatened

Data: M=Monitored (current); E=Evaluated

Trophic State: Eutr=Eutrophic; Hyper=Hypereutrophic; Meso=

Mesotrophic

The 305(b) list includes only those waters that are either threatened or impaired. If monitoring and assessment indicate that a water body segment is impaired by one or more pollutants, it is placed on the 303(d) list and then a strategy needs to be developed that would lead to the attainment of the state Water Quality Standard (WQS) contained in Minnesota Rule 7050. The TMDL process involves four phases:

- Assessment and listing
- TMDL study
- Implementation plan development and implementation
- Effectiveness monitoring

A number of surface waterbodies in Minneapolis, including segments of the Mississippi River, are listed in the state impaired waters list (303(d) list). Impaired waters are those streams, rivers and lakes that currently do not meet their designated use and associated WQS. Appendices E and F list all the City's surface waters on the State's 2006 305(b) and 303(d) list.

#### **Current TMDL Studies (2006)**

In cooperation with the Minnesota Pollution Control Agency (MPCA), the Shingle Creek Watershed Management Commission and the Minnehaha Creek Watershed District have begun the monitoring and implementation plan development phases of the TMDL process for waterbodies in their jurisdictions which are listed on the MPCA 303(d) report. This site also includes a document that lists the overall status of each TMDL study underway in the State. The following summarizes the status of the active TMDL projects which affect Minneapolis:

#### **Crystal Lake**

Although not in Minneapolis, runoff from a 470 acre area drains to Crystal Lake. The SCWMC has initiated a TMDL project, which is currently in a monitoring phase. Recommendations from the TMDL Implementation Plan could affect Minneapolis. Results of the Crystal Lake TMDL study are not yet available.

#### Ryan Lake

In August 2005, the Shingle Creek Watershed Management Commission released the first phase of Ryan Lake TMDL Study in conjunction with their study of Twin Lakes in Robbinsdale. The report includes information on the monitoring, but does not yet include allocation of sources of pollutants or implementation recommendations.

#### **Nine Lakes**

The Minnehaha Creek Watershed District has begun a TMDL study of nine lakes within their watershed. Six of those lakes are within Minneapolis: Brownie Lake, Diamond Lake, Lake of the Isles, Lake Hiawatha, Lake Nokomis and Powderhorn Lake. The MPCA has put this TMDL project on hold until they finalize new policies on water quality standards that affect lake TMDL projects.

#### **Shingle Creek Chloride**

The Shingle Creek Watershed Management Commission has completed a TMDL study and draft implementation plan for mitigation of chloride impairment of Shingle Creek. Implementation activities are being coordinated by the Minnesota Pollution Control Agency. Detailed discussion of Minneapolis winter street maintenance activities, including revised activities based on the results of this study, are contained in Section 4, System Inventory and Related Activities.

#### Mississippi River - Lake Pepin

The Minnesota Pollution Control Agency is coordinating a turbidity and lake eutrophication TMDL project for Lake Pepin on the Mississippi River. The tributary area for Lake Pepin includes the entire watersheds of the Minnesota River, St. Croix River and upper Mississippi River. The upper Mississippi River watershed includes the entire City of Minneapolis. The most recent timeline schedules monitoring and modeling activities through 2007, analysis of scenarios in 2008 and completion of an

implementation plan in 2009. It is possible that recommendations of the implementation plan will affect Minneapolis.

## Minneapolis Park and Recreation Board

The Environmental Operations Section of the Minneapolis Park and Recreation Board (MPRB) implemented a lake water quality monitoring program in 1991 as part of a diagnostic study for the Chain of Lakes Clean Water Partnership. The Chain of Lakes includes Brownie, Cedar, Isles, Calhoun and Harriet. The monitoring program was

Rehabilitation
efforts have
returned Lakes
Calhoun and Harriet
to pre-European
settlement
conditions.

expanded in 1992 to include Hiawatha, Nokomis, Diamond, Powderhorn, Loring, Webber and Wirth lakes. Spring Lake was added on a limited basis in 1993. Grass and Ryan lakes were added on a limited basis in 2002.

The MPRB uses the Trophic State Index (TSI) as a benchmark for comparison of water quality across all lakes in the City. TSI is calculated from water transparency, chlorophyll-a values and surface phosphorus values to produce a score from 0-100. Historical TSI scores from 1991 to 2004 for the monitored lakes (Appendix E) are used to calculate trophic state trends.

The water quality of Lake Calhoun and Lake Harriet has improved to pre-European settlement conditions. Rehabilitation efforts have helped these urban lakes tremendously.

The other assessments and monitoring that MPRB performs are:

- Phytoplankton and Zooplankton Monitoring
- Lake Aesthetic and User Recreation Index
- Exotic Aquatic Plant Management
- Lake Levels and Ice dates
- Winter Ice Cover
- Aquatic Plants

- Fish Kills
- MPRB Monitoring
- Watersheds Outlet Monitoring Program Monitoring
- Public Beach Monitoring
- NPDES Monitoring
- Stormwater BMP Monitoring

For detailed information, refer to MPRB Annual Water Resources Report

## Lake Assessment Studies by Watershed Districts and Organizations

In addition to the ongoing lake monitoring by the Minneapolis Park and Recreation Board, monitoring is performed by each of the Minneapolis watershed districts/organizations. Tables summarizing the most recent monitoring efforts can be

found in the annual assessment completed by the Minneapolis Park and Recreation Board and in Appendix G.

#### Completed and Ongoing Water Quality Related Efforts

To improve water quality and/or prevent degradation of the existing water quality, many public agencies have completed a number of monitoring programs, surveys and water quality improvement projects. See Appendix H.

#### **Green Report**

In July 1993, a group known as the Water Quality Management Citizen Advisory Committee presented Mayor Sharon Sayles Belton with the Green Report, which evaluated the Chain of Lakes and recommended strong measures for preserving and improving them. The committee urged the City and MPRB to proceed with similar

The Green Report outlined measures to improve and preserve major water resources.

evaluations and water quality improvement projects for the other waters in the City that were not covered in the Green Report.

Funded by a Clean Water Partnership grant and made up of members of the MPRB, City Council, neighborhood groups, and community organizations, the committee developed a report that moved quickly from an assessment of the Chain of Lakes to goals, recommendations, and implementation steps. With support from

their technical staff, the committee reported on the state of the Chain of Lakes. Their findings for each lake were:

*Cedar Lake:* The technical data showed Cedar Lake to be eutrophic. Furthermore, Secchi disk TSI values increased rapidly through the 1960s. In fact, the water quality of Cedar Lake was found to be worse than predicted by water quality modeling, suggesting that internal loading played a significant role.



Improvement efforts have improved Lake Calhoun's conditions to better than mesotrophic (Source: MPRB)

Lake of the Isles: Lake of the Isles was found to be eutrophic and had the highest measured total phosphorus concentrations in the entire chain. Algal blooms were frequent. Water quality in the lake was actually better than predicted by modeling likely due to the presence of milfoil, a plant that utilizes phosphorus from the water.

Lake Calhoun: Like Cedar Lake and Lake of the Isles, the committee found in 1993 that Lake Calhoun was eutrophic. Another concern

identified at Lake Calhoun was the fish consumption advisory issued by the MPCA in May 1993 due to elevated levels of mercury found in fish pulled from the lake.

*Lake Harriet:* Lake Harriet was the only lake of the four that was mesotrophic – indicating a significantly lower total phosphorus concentration than the other lakes.

The committee considered Lake Harriet as a model for what might be accomplished at Cedar Lake and Lake Calhoun. One of the key indicators of Lake Harriet's good water quality was the persistence of daphnia, a zooplankton, throughout the year. As noted for the other lakes, the persistence of daphnia occurs when algal blooms are limited.

The LSWMP goals echo many of the goals identified in the Green Report. Both the Green Report and the LSWMP emphasize public education and protecting public health. Specifically, the plans address protection of swimmers from bacteria and protection and warning to consumers of the lakes' fish. Both the Green Report and the LSWMP share goals for reduction of in-lake pollutants – primarily phosphorus – and implementation of BMPs.

The committee indicated some mean TSI goals in the five- to 10-year timeframe. At present, the City, MPRB, and MCWD have implemented sufficient BMPs that these TSI goals are now being met at Cedar, Calhoun, and Harriet, and are nearly being met at Isles. Finally, the Green Report had a goal to improve government management of water quality issues. This involves coordination among different agencies and jurisdictions as well as improvement of management within MPRB and the City.

#### **Blue Water Commission**

In May 1998, another citizen group, the Blue Water Commission, presented its findings to the residents of Minneapolis. Their recommendations for improving the water quality of Lake Nokomis and Lake Hiawatha echoed the earlier work done for the Chain of Lakes. The Blue Water Commission was primarily made up of MPRB members and neighborhood representatives. Also represented were the City of Minneapolis, Hennepin County, MCWD, the City of Richfield, and the Metropolitan Airports Commission. Much of the information that the commission weighed was provided by a diagnostic study funded by MCWD.

The Blue Water Commission findings were similar to those summarized in the Green Report for the Chain of Lakes – namely that Hiawatha and Nokomis are eutrophic and that the process of eutrophication was continuing. The commission also identified fecal contamination and fish kills as primary among the many other concerns associated with the lakes. The commission organized their concerns around central themes such as:

- *Swimability* interference by algae and weeds, fecal contamination, and swimmer's itch
- Fishability safety of fish consumption, fish kills, and weeds impeding fishing
- *Aesthetics* odor, clarity, algal blooms and shoreline aesthetics
- *Plant Diversity and Wildlife* namely reduction in exotic species
- Shoreline Environment vegetation restoration and elimination of sediment deltas

These concerns led the Blue Water Commission to recommend implementation steps. These recommendations included a strong emphasis on reducing phosphorus inputs into both lakes. Since the commission's report, the City, MPRB, and MCWD have implemented several projects that follow directly from the report recommendations.

Modifications to the Lake Nokomis outlet structure were made to reduce phosphorus inputs from the creek into the lake. Grit chambers were installed on the east side of Lake Nokomis, carp were removed, and treatment wetlands were constructed on the west side of Nokomis. Additionally, the City banned the use of phosphorus in fertilizer, a ban that was subsequently followed by the statewide ban.

## **Surface Water Quality Monitoring Task Force**

Minneapolis set a water protection trend by banning the use of phosphorous in fertilizer; the state followed suit.

A Water Monitoring Task Force was created by the City Council resolution on July 15, 2003. The purpose of this task force is to:

- Oversee existing water quality monitoring data in Minneapolis
- Improve the coordination of water quality monitoring data and protocols
- Establish public health standards
- Develop strategies to reduce water quality problems identified through monitoring efforts

Public Works and the MPRB are jointly responsible for direction and coordination of the task force. The task force included representatives from Minneapolis Regulatory Services, Minneapolis Health & Family Support, as well as the watershed organizations within City boundaries.

#### Task force objectives include:

- 1. Evaluate existing monitoring the task force will consider which parameters are the most important for monitoring and discuss methods for standardizing the use of monitoring data.
- 2. Coordinate monitoring standards and data sharing the task force will consider ways to improve data sharing both among agencies and with the public.
- Develop strategies to reduce water quality problems the task force will review findings from previous reports and use recent monitoring to look ahead to future improvements.
- 4. Develop standards and policies across watersheds to ensure public health.
- 5. Recommend policy changes for the evaluation of standards.

One of the first items to come out of the task force meetings is a revised classification system for the City's lakes, called the Minneapolis Lakes Recreational/Aesthetic Indicator (Appendix J).

#### Minneapolis Lakes Recreational/Aesthetic Indicator Development

To provide clarity to management decisions, the task force has developed a different classification system. The report that summarizes this system is included as Appendix J. This system is presently being used by the MPRB. The proposed system considers four aspects of water quality:

■ Environmental quality

■ Aesthetic considerations

■ Public health

■ Recreational interferences

The indicator for the environmental quality measure is the trophic state index used widely in Minnesota. High TSI numbers indicate euthrophication of a water body as manifested in algal blooms during the summer.

The second measure is public health, and the indicator for this is *E. coli*. High levels of this bacterium result from fecal contamination and lead to beach closings. As it most directly impacts swimming, this indicator is of primary importance only on lakes with beaches.

The third measure takes into account aesthetic considerations. These are subjective measures that include odor, water color, and the presence of debris. Assessment of these indicators will focus on areas where people come into close contact with the lake, like piers, docks, landings and beaches.

The final measure is recreational interference and the indicator is the extent to which weeds and other aquatic vegetation interfere with boating and swimming.

The classification system consists of value rankings for each indicator, ultimately creating a score for each of the four measures. Annual reporting of these scores would be a benchmark of overall lake condition.

#### Source Water Assessment

In 1996, amendments to the Safe Water Drinking Act required source water assessments to be prepared for public water systems. Minneapolis' own assessment, completed in 2001, meets the requirement by providing information on:

- The area which supplies drinking water to the Minneapolis Water Works
- An overview of why this source is susceptible to potential contamination
- A description of the contaminants of concern

■ The source of the contaminants of concern, as possible

Minneapolis obtains its drinking water from the Mississippi River and the Minneapolis Water Works intake is in Fridley. On average, the Water Works takes 65

The Source Water Protection Project focuses on improving water supplies for communities along the river. million gallons per day of the estimated 3.9 billion gallons of daily flow. The susceptibility of the supply to contaminants is generally dependent on the proximity of the source to the intake. This geographic variability leads to a three-layer approach to describing vulnerability.

The area most directly connected to the supply and the area over which a spill or contamination could quickly reach the intake is termed the "inner emergency response area." This area includes subwatersheds immediately adjacent to the river from the intake upstream to Elk River – a distance along the river of 26 miles. The

"outer source water management area" is conceived as an area where protection against chronic sources of contamination is emphasized or where periodic low levels of contamination occur. This management area consists of those subwatersheds immediately adjacent to the river from Elk River to St. Cloud. Notably, the furthest extent of the Minneapolis "outer source water management area" generally coincides with the downstream portion of the City of St. Cloud's "inner emergency response area." The final assessment area is the entire Mississippi watershed, above the Twin Cities, approximately 19,000 square miles.

The Source Water Assessment document lists potential contamination sources. These sources are derived from a number of state and federal databases. The overall intent of the assessment is to provide public information. In the document's own words, "The assessment provides the community with a significant amount of information regarding where your drinking water comes from (the source) and what the risks are to the quality of that source."

#### **Upper Mississippi River Source Water Protection Project (UMRSWPP)**

In 2001, the City of St. Cloud (as primary sponsor) partnered with Minneapolis Water Works, St. Paul Water Utility, Minnesota Department of Health and Metropolitan Council to implement the Upper Mississippi River Source Water Protection Project (UMRSWPP). Source assessments were completed in 2001 and are available from the MN Department of Health. As of 2005, the cities were collaborating to prepare source water protection plans using Federal Clean water Act Section 319 funding. Major elements of the project include:

- Delineation of protection areas
- Time of travel estimates
- Inventory of potential contaminant sources
- Investigation of areas of surface/ground water interaction

- Development of a process to formally designate source water protection areas
- Education and outreach
- Communication to wellhead protection teams
- Identification and accommodation of high priority land uses

## Section 4 System Inventory and Related Activities

#### **Overview**

This section of the Minneapolis LSWMP focuses on the built system of stormwater drainage and sanitary sewers which have an impact on the water resources of Minneapolis. The City of Minneapolis has created a system of sanitary sewers and storm drains that are predominantly independent systems. Components of the stormwater management system include conveyance (gutters, catch basins, pipes, channels and county ditches), water quality/flood retention basins, and water quality treatment structures (grit chambers). Cross connections between the storm drainage and sanitary sewer systems still exist. This interconnection of the stormwater drainage and sanitary sewer collection systems is most evident during and immediately after large summer rainstorms. Excessive stormwater finds pathways to the sanitary sewers, and excessive sanitary flows find routes to surface waters. During extreme storm events, the overwhelmed sanitary sewers will overflow raw sewage to the Mississippi River at regulator sites, or will backflow raw sewage into basements. Therefore, this inventory of the systems that affect the water resources in Minneapolis includes the storm drainage system and cross connections with the sanitary sewer system.

Separate storm drains and a Citywide repaving program reduced strains on the wastewater treatment facilities. Minneapolis' sewer system was established in 1870 with the construction of combined sewers that collected sanitary and stormwater flows and discharged directly to the Mississippi River. Starting in 1922, a dedicated stormwater system was constructed around the lakes and within areas of new development; however, the existing combined sewers were still used. After 1938, regulators were installed in combined sewers to direct average daily flows to interceptors and then to the newly-constructed wastewater treatment facility. Flows in excess of the interceptor capacity, as experienced during rain events, would overflow and then be discharged to the Mississippi River.

The combined sewer flows were a burden to the wastewater treatment facility and placed a capacity limitation on the sewer system and treatment facilities. What is now the Metropolitan Council Environmental Services (MCES) took responsibility for the interceptors and regulators in the mid-1960s. In 1960, the City banned rainwater drainage to the sanitary sewer (City Code 1960, As Amend., § 614.010); all sewers constructed after 1960 were dedicated to either sanitary or storm flows. Also in the 1960s, the City began to construct separate storm drains in conjunction with a city-wide street repaving program. Beginning in 1985, the City accelerated construction of separate storm drains to be in compliance with a schedule set in the City's NPDES CSO permit (Appendix K), which resulted in decreased occurrence of overflows to the Mississippi River.

Minneapolis currently operates two systems which are not fully separated. Both systems contain constructed pollution control devices in conjunction with institutional controls and best management practices (BMPs) to protect its water resources.

#### **Infrastructure Inventory**

The City of Minneapolis maintains a sewer system that is more than 130 years old. Sewers are constantly being improved to meet the development, quality of life and environmental stewardship goals set in <a href="The Minneapolis Plan">The Minneapolis Plan</a> as described in Section 1. This system inventory provides a summary of the sanitary and storm sewer systems in 2006. Inventory data was collected from recent reports and from the City's geographic information system (GIS) database.

#### Sanitary Sewer System

The City of Minneapolis owns and maintains a sanitary sewer collection system of shallow sewer and deep tunnels which is a total of 837.5 miles in length. These sewers

Table 4-1. Summary of Sanitary System

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Material	Size	Year Constructed	% of System
Clay	8" - 36"	1888 to present	80
Brick	24" - 96"	1870 to 1930	10
Cement	12" - 24"	1882 to 1884	3
Concrete	12" - 102"	1927 to present	4
Other	6" -30"	1931 to present	3

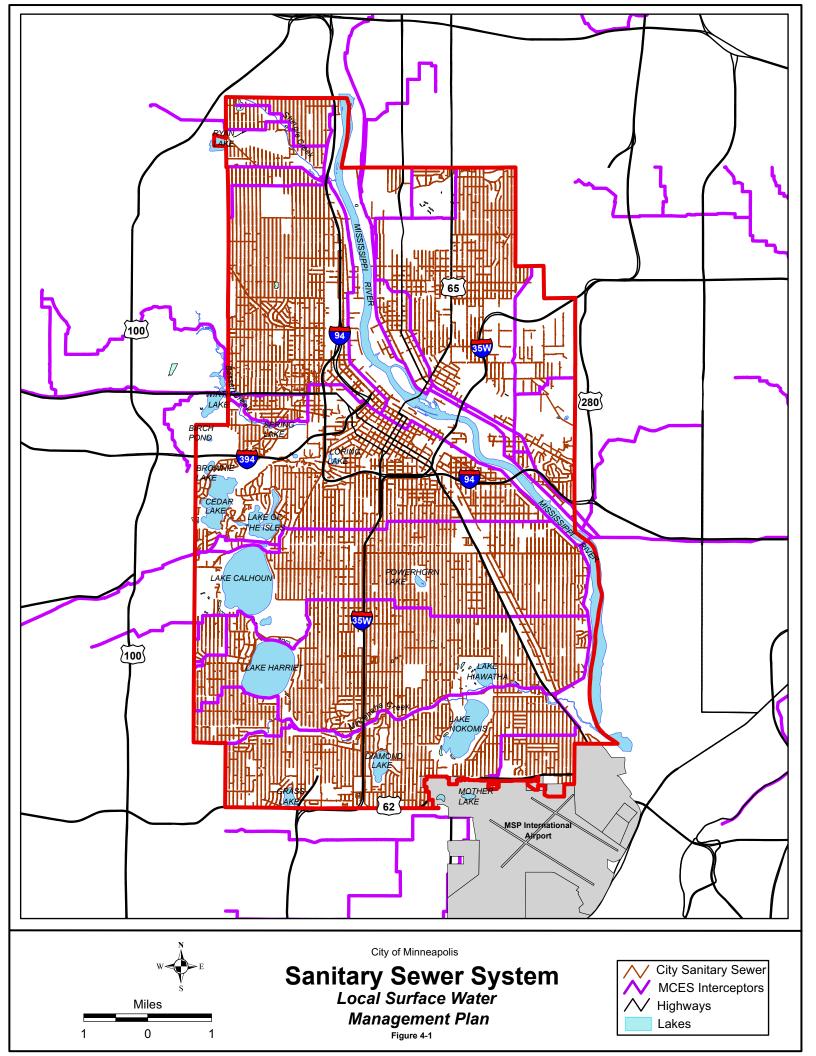
Table 4-2. Sanitary Sewer System Infrastructure Inventory – City Owned

Component	Quantity
Pipes	
• Tunnels	5.5 Miles
Trunk and Local Sewers	832 Miles
Manholes	29,000
Pump Stations	10
Regulators	8

drain into the regional MCES interceptors that convey the sewage to the Metropolitan Treatment Facility in St. Paul. Figure 4-1 shows both the Minneapolis and MCES sewer system. It also notes the location of the remaining regulators where excessive flows are directed to the Mississippi River during extreme storm events. Tables 4-1 and 4-2 provide summaries of the Minneapolis sanitary sewer system.

Non-wastewater enters the sanitary sewers in the form of inflow or infiltration. This extraneous water can result in overflows at the seven remaining CSO locations. In addition, excessive inflow and infiltration (I/I) which does not overflow reaches MCES interceptors and is treated at the Metro Wastewater Treatment Plant. Excessive extraneous flows have caused MCES to create an incentive/penalty program to encourage municipalities to remove these non-

wastewater flows. This <u>I/I Surcharge Program</u> will have a major impact on Minneapolis stormwater drainage systems, because much of the I/I flows will be redirected to the storm system.



Since the mid-1980s, the focus of the City's CSO program was to expand the storm drainage system to locations where street and alley catch basins were connected to the sanitary sewer. It was estimated in 1986 that 4651.3 acres of runoff from street inflow connections were served by combined sewers. By 2000, 4582.5 acres of street drainage (98.52 percent) were separated, leaving 68.8 acres that are still served by combined sewers.

A major source of inflow in Minneapolis is rainwater from roof drains. Minneapolis ordinances require property owners to disconnect rainleaders and then enable City staff to inspect for compliance. A field survey in 1985 found that of the 99,900 buildings in the City, it was estimated that between 5,280 and 5,380 (5 percent) had rainleader connections. The City re-initiated its inspections of private properties in 2002, and has found 4,181 rain leader violations (see <a href="Combined Sewer Overflow - A Minneapolis Solution">Combined Sewer Overflow - A Minneapolis Solution</a>). Since the 2002 rain leader inspection program began, 760 properties (18 percent of violations) have disconnected rainleaders from the sanitary sewer. Inspection will continue in 2006. An additional 21,312 parcels are scheduled to be inspected in 2006.

The success of City programs and policy aimed at eliminating combined sewers connections and inflow can be seen by observing the change in total overflow volumes at the remaining CSO locations (see 2004 CSO Annual Report). Figure 4-2 shows total annual overflow volumes since 1984. Total annual overflow volume was reduced by 99% from 1984 to 2001.

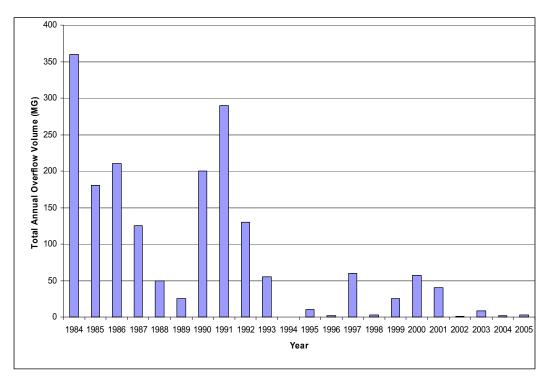


Figure 4-2. Annual Overflow Volume at CSO Locations

0.1%

0.3%

0.5%

2.7%

27.0%

7.5%

8.8%

16.8%

17.1%

14.3%

4.7%

0.1%

% of Storm Sewer

System by Length

#### Minneapolis Storm Drainage System

The storm drainage system of Minneapolis is newer than the sanitary sewer system.

Table 4-3 provides a quick look at its history. In the period between 1938 and 1960, storm drains were constructed in developing areas of the city, but the older combined sewers still conveyed both sanitary and storm flows. Since the 1960s, the city has dramatically increased the mileage of storm drains either as part of road reconstruction projects or in efforts to separate the combined sewers. Currently, the Minneapolis stormwater system handles approximately 50 square miles, with the following major City owned components:

- control localized flooding.
- Water quantity detention facilities to
- Water quality treatment facilities including stormwater ponds and grit chambers.
- Drainage system, including surface water, drainage ways and storm drains; and,
- Deep tunnels which convey stormwater to the Mississippi River.

Table 4-4 and Figure 4-3 summarize the storm drainage system owned and operated by the City of Minneapolis. This inventory includes the storm drainage system that was transferred to the City of Minneapolis from the Minneapolis Park and Recreation Board in 2000.

**Table 4-4 Storm Drainage System Infrastructure Inventory** 

Table 4-3. Storm Drainage

**Year Built** 

Pre-1900

1901 - 1910

1911 - 1920

1921 - 1930

1931 - 1940

1941 - 1950

1951 - 1960

1961 - 1970

1971 - 1980

1981 - 1990

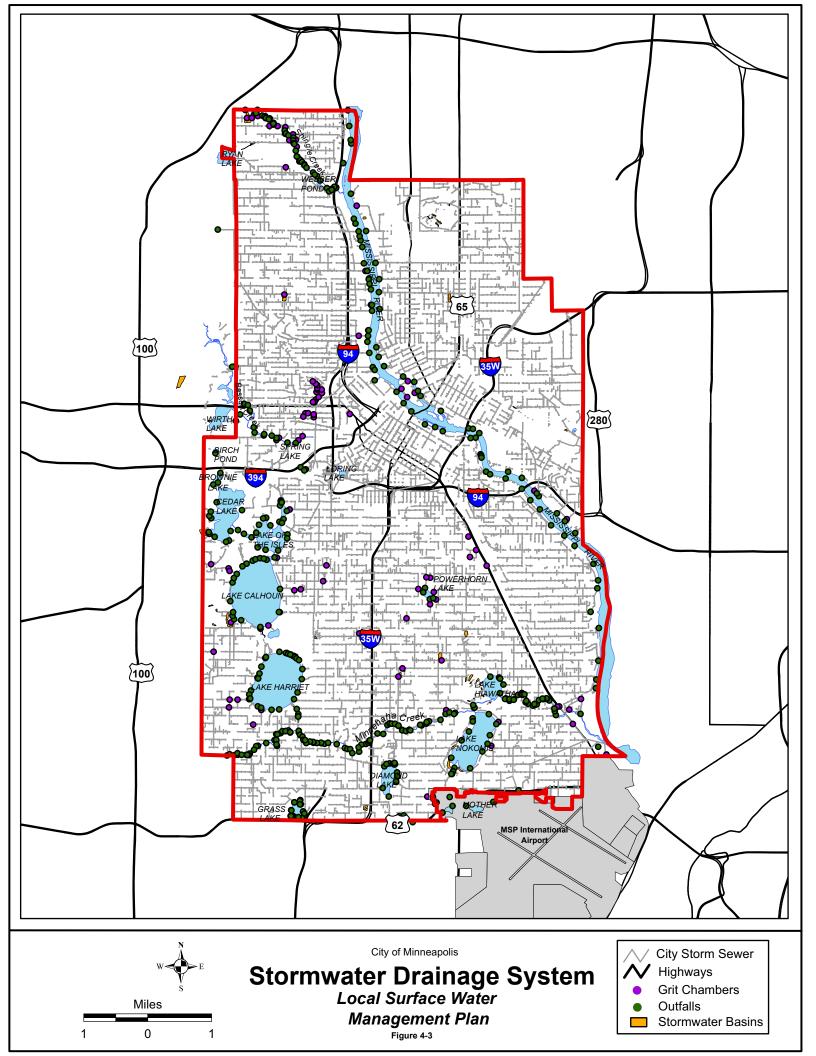
1991 - 2000

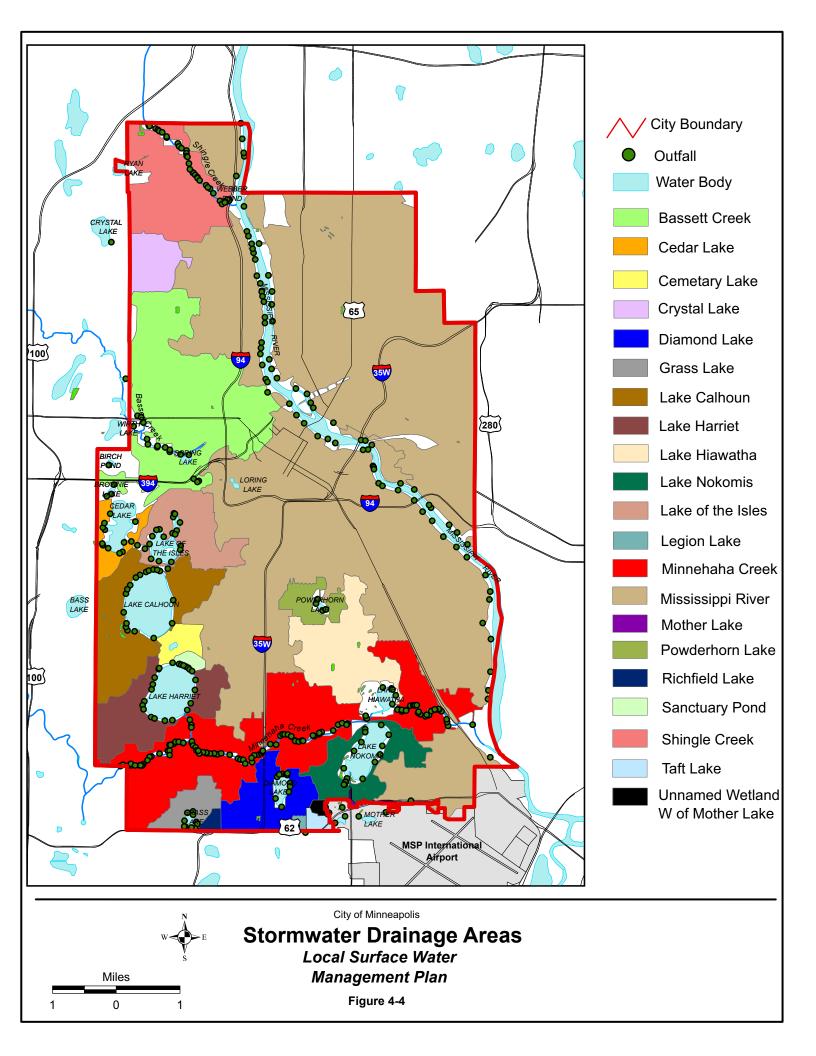
2001 - 2006

Component	Qu	antity
Pipes	556	Miles
Storm tunnels	16.7	Miles
Manholes	18,200 +	
Catch Basins / Inlets	25,000 +	
Detention Facilities (Public)	16	Ponds
Grit Chambers / Quality Controls	127	
Pump stations	25	
Outfalls	387	

Figure 4-4 illustrates the

individual catchment areas served by the Minneapolis drainage system. This figure also shows how the jurisdictional boundaries of the watershed district/organizations overlay onto the catchment areas.

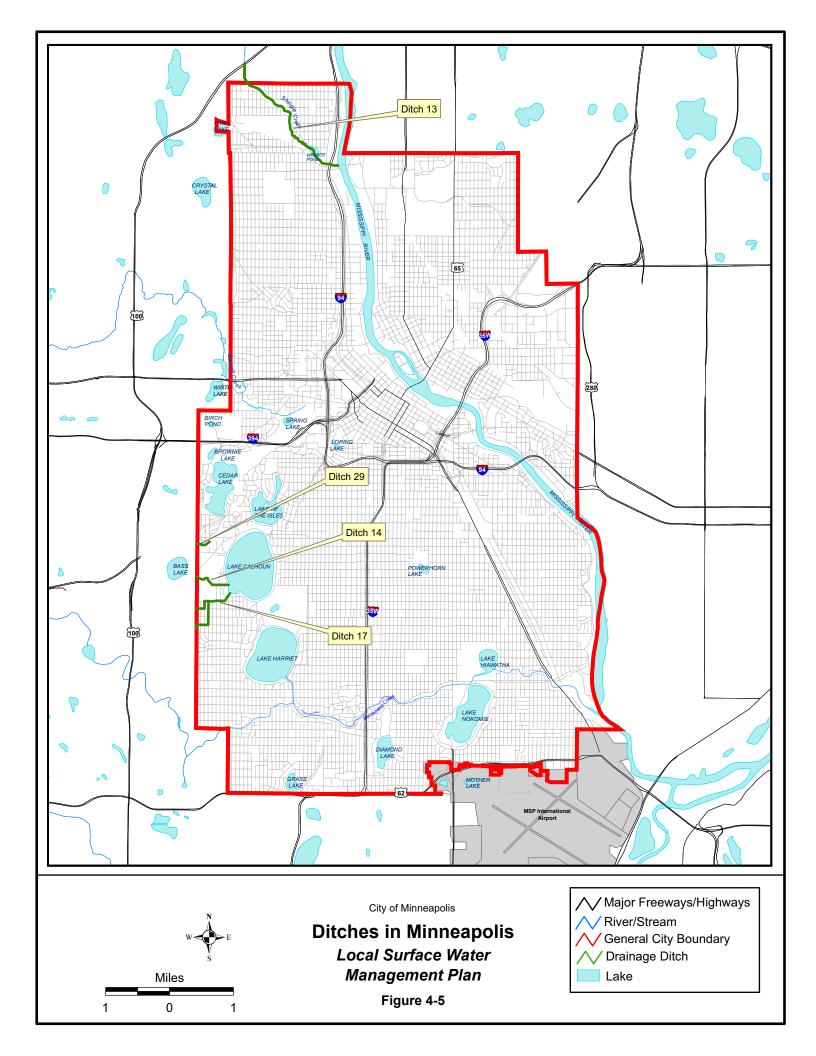




#### Non-Minneapolis Storm Drainage System

Interconnected with the Minneapolis storm drainage system are networks owned and operated by other public agencies. Cooperative agreements that govern the construction, operation and maintenance are contained in Section 1, Introduction. Non-Minneapolis storm drainage systems are described below, and are not included in the inventories of this LSWMP:

- University of Minnesota owns a surface drainage and deep tunnel storm drainage network that discharges directly to the Mississippi River. This system serves the original campus area of the University, primarily southeasterly of University Avenue and 15<sup>th</sup> Street SE. The newer campus areas drain to the Minneapolis system. As owner of a storm drainage system, the <u>University of Minnesota</u> is subject to MS4 permitting requirements of the USEPA stormwater regulations.
- Minnesota Department of Transportation owns surface drains and deep tunnels that serve the interstate highway system. Areas of the Minneapolis system drain into this MN/DOT system. The reverse is generally true for the Trunk Highway system, where the MN/DOT system drains into the Minneapolis system. This is a general description of the ownership for MN/DOT; exceptions should be researched on a case-by-case basis.
- Hennepin County is responsible for County Ditch 13 which is also known as Shingle Creek. The section of Shingle Creek from the city border with Brooklyn Center to approximately Humboldt Ave N is designated as this county ditch (Figure 4-5). For purposes of water quality improvements considered in this LSWMP, this section is considered a public water. However, the Minnesota Department of Natural Resources does not have any jurisdiction to issue permits or otherwise approve any improvements. Permission to connect to or construct improvements along this ditch must be obtained from the County. As owner of the ditch, Hennepin County is subject to MS4 permitting requirements of the USEPA stormwater regulations.
- Minnehaha Creek Watershed District serves as the ditch authority for all county or judicial ditches that exist within the area of their jurisdiction. Ditches number 29, 14, and 17 all drain from the west into Lake Calhoun (Figure 4-5). Each of these has been constructed as an underground storm drain, and is interconnected with the Minneapolis system. As owner of these ditches, the MCWD is subject to MS4 permitting requirements of the USEPA stormwater regulations.
- Bassett Creek Watershed Management Organization shares the responsibility for the operation, maintenance and repair of the Bassett Creek tunnel system with the City and MN/DOT. Although Minneapolis owns both the old and new sections of the tunnel, Section 5.2.2.1 of the BCWMC 2004 Watershed Management Plan notes that BCWMC accepts responsibility for inspection, maintenance and repair of the new tunnel. This plan also requires that cities obtain approval from the BCWMC prior to altering the physical structure or altering the hydrology of the area tributary to the new tunnel.



#### **System Operation and Maintenance Activities**

#### **System Maintenance**

Public Works Field Services Division, Sewer Maintenance Section routinely inspects and maintains the sanitary sewer and storm drainage systems as needed to ensure the system properly functions. Frequency of inspections and maintenance are often event-driven and based on experience and inspection results history. Sewer maintenance staff have developed a formal inspection, cleaning and repair schedule in response to NPDES Phase I requirements. The following periodic inspection and maintenance procedures are followed:

- Street maintenance staff annually inspect and clean basin grates on street sweeping routes during the summer.
- Catch basin and manhole castings are inspected, cleaned and replaced as necessary.

During summer street sweeping, City staff typically inspect and clean basin grates

- Catch basin and manhole rings are inspected and replaced and/or regrouted as necessary.
- Catch basin and manhole structures are inspected and are repaired or replaced as needed. Pipe inverts, benches, steps (verifying integrity for safety), and walls are checked. Cracked, deteriorated, and spalled areas are grouted, patched, or replaced.
- Storm sewer piping is inspected either manually or by television to assess pipe condition. Items looked for include root damage, deteriorated joints, leaky joints, excessive spalling, and sediment buildup. The piping system is programmed for cleaning, repair, or replacement as needed to ensure the integrity of the system.

Specific information on the annual maintenance activities for the stormwater drainage system is detailed in the <u>City's NPDES Annual Report</u>.

In 2000, the City and the MPRB created an inventory of the entire public infrastructure owned and managed by each. During subsequent negotiations, the City and the MPRB assumed either maintenance or ownership certain components of each others infrastructure. As part of this agreement, the MPRB transferred ownership of their entire stormwater drainage system to the City. Since that time, Public Works has increased inspection of these storm drains in order to create a current inventory, determine the condition, and determine the need for additional maintenance.

# The City maintains a storm drains spatial database to assist with planning.

#### **Storm Drain Catch Basins**

To fully utilize storm sewer capacity, catch basins (also called inlet structures) are kept operational to allow runoff to easily flow into the underground storm drains. All efforts are made to keep catch basins and other inlets free of debris and sediments so as not to restrict flow and cause localized flood damage. Leaf and lawn litter are the most frequent cause of inlet obstructions. On a routine basis, City staff visually inspect catch basins to ensure they are operational.

#### **Piping System**

The City spends approximately \$1 million each year rehabilitating and repairing sanitary sewers. CCTV inspections are used to select specific areas in need of lining. Rehabilitation is recommended where sewers are either structurally failing, have excessive infiltration of groundwater, or have excessive root intrusion. Inspections, rehab or repair of the storm drains are conducted on an as-needed basis.

Over the past several years the City has made an extensive effort to update its storm drains spatial database. Almost all of the storm drain system has been digitized with attribute information attached. Most recently the storm drain network newly transferred from the MPRB was incorporated into the database. This information will be used for lifecycle modeling and budget projections.

#### **Open Channels and County Ditches**

Open ditches and vegetated channels are a minor part of the Minneapolis stormwater drainage system. Vegetated channels are periodically inspected and maintained, as high flows can create erosion within the channels.

#### **Pump Stations**

Pump stations are periodically inspected and monitored based on performance factors and specified pump maintenance schedules. An annual check-up is conducted for each pump station.

#### Grit Chambers, Sump Manholes and Sump Catch Basins

Grit chambers, sump manholes and sump catch basins are included in storm drainage systems to collect sediments before they are transported to downstream water bodies. Once sediments are transported to a lake or pond, they become much more expensive to remove. Sediments originate primarily from road sanding operations, construction activity and soil erosion.

As of 2005, there are 127 grit chambers distributed across the City, with more being planned. These structures are designed to collect these sediments and are inspected at least once a year, and cleaned as necessary, to provide capacity for future sedimentation. Suction vacuum equipment is typically used to clean these grit chambers. Sediment quantity removed, floatable amounts, presence of oil, and date

cleaned are recorded and maintained in a database. Removed substances are screened for visual or olfactory indications of contamination. If contamination is suspected, the material is sent for analysis and subsequently disposed of appropriately.

#### **Stormwater Basins**

Stormwater flood control and water quality basins represent a sizable investment in City's drainage system. General maintenance of these facilities helps ensure proper performance and reduces the need for major repairs. Periodic inspections are performed to identify possible problems in and around the basin. Inspection and maintenance is conducted for basin outlets, basin inlets, side slopes and sediment buildup.

#### **Basin Outlets**

The City maintains stormwater basins by conducting the following activities:

- The area around outlets is kept free and clear of debris, litter, and heavy vegetation.
- Trash guards are installed and maintained over all outlets to prevent clogging of the downstream storm sewer. Trash guards are inspected at least once a year, typically in the spring, to remove debris that may clog the outlet. Problem areas are addressed more frequently, as required.
- Emergency overflow outlets are provided for all ponds when possible. These are kept clear of debris and other materials and properly protected against erosion.

#### **Basin Inlets**

Inspection and maintenance of basin inlets address the following:

- Inlets are inspected for erosion. Where erosion occurs near an inlet, energy dissipaters or riprap is installed.
- Inlets are inspected for sediment deposits, which can form at the inlets due to upstream erosion. Sediment deposits are removed to ensure that design capacities of storm drains entering the basin are maintained.

Vegetation keeps side slopes from eroding or depositing sedimentation into basins.

#### Side Slopes

Inspection and maintenance of basin side slopes address the following:

- Side slopes are kept well-vegetated to prevent erosion and sediment deposition into the basin. Severe erosion along side slopes can reduce the quality of water discharging from the basin and require dredging of sediments from the basin.
- Noxious weeds are periodically removed from around basins.

Some basins in highly developed areas require mowing. If mowing is performed, a buffer strip of 20 feet or more adjacent to the normal water level is typically maintained. This provides filtration of runoff and provides wildlife habitat.

#### Sediment Buildup

Inspection and maintenance of sediment buildup in basins address the following:

- Basins are inspected to determine if sediment buildup is causing significant loss of storage capacity. Excessive sediment buildup significantly reduces the stormwater treatment efficiency of water quality ponds. Inspections occur after significant rainfalls.
- Sediment removal is performed where excessive sediment buildup has occurred. As a general guideline, ponds require dredging every 15 to 20 years.

#### Road Maintenance

According to regulations enacted by the USEPA, the gutters of urban streets are also considered part of the storm drainage system. Therefore, maintenance activities conducted for the roadways are integral to maintenance of the storm drainage and surface water systems.

#### Winter Street Management Practices

Minnesota receives an average of 40 inches of snow during a typical year. This requires a large amount of deicing chemicals (primarily salt) to be applied to roads and sidewalks each winter. Studies indicate that an estimated 80 percent of the environmental damage caused from de-icing chemicals is a result of improper storage and handling of the material (MPCA 1989). Improper storage and overuse of salt increases the risk of high chloride concentrations in runoff and groundwater. High chloride concentrations can be toxic to fish, wildlife, and vegetation.

The City owns a number of storage facilities designed according to MNDOT specifications for runoff control. All salt stockpiles are stored under cover at these locations, to minimize potential for groundwater contamination and runoff. Plans are underway to build a larger facility with better runoff collection systems in place.

The City will continue to use and improve the procedures it has established for efficient application of de-icing materials to reduce cost and minimize environmental damage. Good accounting of materials applied during a season is in place. Street conditions are assessed for each individual event and ice control material application is adjusted accordingly. Equipment is maintained in good working condition and is properly calibrated to prevent excessive application. Maintenance supervisors receive training at the Local Road Research Board.

The Shingle Creek Chloride TMDL study found that the primary source of chloride in the stream was from the use of deicing chemicals on impervious surfaces. The analysis in this study concluded that a 71 percent reduction in chloride use would be necessary to reduce the chloride levels in Shingle Creek to water quality standards. The <u>Shingle Creek Chloride TMDL Implementation Plan</u> contains recommendations for member cities to implement:

- Incorporate chloride management BMPs into NPDES Stormwater Pollution Prevention Plans (SWPPP)
- Develop and maintain a salt management plan
- Create chloride reduction requirements for individual commercial properties seeking site plan approval
- Improve application equipment and decisions:
  - Calibrate spreaders annually
  - Use MN/DOT Road Weather Information System to improve application decisions
  - Evaluate new technologies such as pre-wetting and anti-icing on annual basis
  - Investigate and adopt new products where feasible and cost effective
- Maintain good housekeeping practices at storage sites
- Conduct annual training for supervisors and operators
- Stockpile snow away from sensitive areas
- Sweep streets as soon as possible in later winter
- Integrate chloride management BMPs into NPDES permit and annual report

The primary mission still remains to provide the best snow and ice control with the resources available. In response to the recommendations contained in the Shingle Creek Chloride TMDL Implementation Plan, the City of Minneapolis has started the process to change the equipment used in the Shingle Creek Watershed area of Minneapolis. Changes being considered are to transition from manually controlled sanding equipment to fully automated sanding equipment. This will give the City the ability to improve tracking of material use. It is believed that the use of the pre-wet system and ground speed control, will achieve a reduction of up to 30% of the materials used with little change in the level of service. With electronic tracking/data storage, the ability to most closely tailor response to the storm event will be possible as data is acquired and results of our efforts are analyzed. They have added anti-icing activities as a method to get ahead of the storm event and reduce the amount of material that may be needed to de-ice after the event.



Street sweeping reduces the volume of sediment that enters the drainage system and water bodies. Source: City of Minneapolis

#### **Street Sweeping**

Street sweeping is an integral part of the City's surface water management system. It greatly reduces the volume of sediment that has to be cleaned out of sump structures and downstream water bodies. The City will continue to practice a minimum of two sweeping operations a year, in spring and fall. All City streets are swept, aided by enforcement of temporary parking bans. Special methods are employed to address seasonal conditions and to optimize cleaning. Pressurized water is applied to push sediment and leaves to the gutters. Street sweepers follow and clean the gutters. Tandem

sweeping takes place with air regenerative sweepers following mechanical sweepers. High traffic commercial areas and priority areas are swept more frequently.

In the fall, leaves are bunched into piles and picked up and sent to a composting facility for disposal. This greatly reduces inlet blockages and protects the water quality of downstream water bodies. Street sweeping and leaf litter pickup minimizes impacts to City surface waters from leaf litter, sand, salt and other debris.

#### **Capital Improvement Activities**

#### Design: Assessments and Standards Water Quantity Assessment Standards

The City has initiated a practice of modeling the storm drainage system in coordination with developing a solution to a problem, such as street flooding. Often this modeling will lead to development of a capital improvement project. To ensure consistency of modeling efforts, the City created modeling guidance, which can be found in Appendix M.

#### Water Quantity and Water Quality Design Standards

The City of Minneapolis has developed standards for design, performance and management of its stormwater systems. The City intends this guidance to ensure that all hydrologic, hydraulic and water quality analyses will be prepared in a manner consistent with City requirements. Water quantity standards are intended to ensure the system is adequately sized for future flows, to prevent flooding and to ensure all design allows for economical maintenance. Hydrologic and hydraulic design standards are contained in the City's modeling guidance (Appendix M). In 2000, the City formally adopted the MPCA Manual Protecting Water Quality in Urban Areas, Best Management Practices for Minnesota, October, 1989, as design standards for stormwater best management practices. The recently released Minnesota Stormwater

<u>Manual</u> is being reviewed by Public Works staff for use as guidance on structural BMP design and maintenance procedures, including stormwater infiltration systems.

#### **Capital Improvement Program (CIP)**

Minneapolis invests in water resources management within the framework of its current capital and operating budgets of the City. Both are approved on an annual basis. Future CIP projects are listed, but are subject to considerable change. In any given year City departments may need to use water resources management funds to match a MNDOT project or to solve a new flooding problem or to implement a recommendation of a TMDL study. The City's annual CIP budget is developed in a very open process that starts with City department proposals which are reviewed in detail by a citizen's committee (CLIC – Capital Long Range Improvement Committee)



The City has established funding for storm and tunnel reconstruction and rehabilitation, such as this project at Bassett Creek. (Source BCWMC).

and the Mayor. Finally, the City Council holds public hearings before final budget adoption. Creation of a more specific capital improvement budget is not feasible; it would not allow adjustments for new priorities, nor would it be able to adapt to citizen based priorities. Funding established in the City's 2006 Capital Improvement Program identifies all the water resources related projects anticipated by the City in 2006. Specific projects designated in the current 2006 - 2011 CIP are described in Section 5. The following pages detail the funding programs that have been established by the City.

#### Storm and Sanitary Tunnel and Sewer Rehabilitation

These funds are used to rehabilitate and repair storm drain tunnels, sanitary sewer tunnels, and sanitary sewers. The program establishes annual funding to permit repair and rehabilitation activities to be completed as needed to the storm drain and sanitary sewer system as prioritized by the Minneapolis Public Works Field Services Division.

The Public Works Department recently completed a comprehensive condition rating report (Tunnel Management Plan), which outlines identified deficiencies and repair priorities. Based on assessment completed to date on the storm drain tunnels, typical problems include voids above or below the tunnel structure, cracking due to pressurization, erosion of the tunnel floor, and infiltration of ground water. Currently the Public Works Department is conducting repairs on those most in danger of collapse or those for which failure has been identified such as the 2<sup>nd</sup> Avenue Storm

Tunnel and the Hennepin Avenue Storm Tunnel, (4th Street North Drift). The cost to repair these tunnels varies with the magnitude of the problems.

#### **Miscellaneous Storm Drains**

This program provides for infrastructure repairs or improvements to solve small drainage and flooding issues. Funds are utilized to create minor improvement to the storm drainage system, especially those improvements where it is unfeasible to wait for available capital improvement funding. Typical projects include minor improvements necessary to accommodate a redevelopment project, or minor repairs that need immediate attention.

#### Implementation of US EPA Stormwater Regulations

Funds from this program are used to implement structural BMPs. The programs are a combination of capital improvement projects, maintenance activities, ordinances, stormwater monitoring and public education which, in total, will improve the runoff being discharged to the lakes, and streams in the City of Minneapolis. The net benefit of the overall program is improved water quality in our receiving waters and compliance with US EPA regulations.

#### **Combined Sewer Overflow Improvements**

The primary focus of this program is to remove City-owned inflow of stormwater from the sanitary sewer system, and redirect this flow to the storm drain system. Originally established in the mid-1980s, these funds have been used to relocate street and alley drains from the sanitary sewers to the storm drainage system. To date over 99% of the projects have been completed. Project areas designated for future funding in this program are shown on Figure 4-6. In 2006, the City added City-owned buildings with roof drain inflow connections to the list of projects funded by this program.

Elimination of overflow events is mandated by a NPDES permit issued jointly to the City of Minneapolis and MCES. The current NPDES permit (expired in 2001) required elimination of CSOs within that permit's timeframe. The MPCA has communicated to staff at the City and MCES that a plan for elimination of CSOs must be submitted before a new permit can be issued. The City is currently following recommendations from a CSO study jointly conducted by the City and MCES, completed in April 2002. MCES approved the Minneapolis Tier II Comprehensive Sewer Plan on Jan. 29, 2003, which documents the City's implementation plan for CSO improvements based on this joint study. If the City fails to complete this commitment, the Met Council could withhold development funding to the City. In addition, failure to meet permit mandates could be subject the City to Clear Water Act, such as citizens' lawsuits with fines up to \$25,000 per violation per day.

According to the 2002 joint study, this CSO program requires all components to be implemented to meet the goal of effectively eliminating Combined Sewer Overflows, except under extreme conditions. This includes the removal of both public and private stormwater inflows to the sanitary sewer system. In addition, the effectiveness

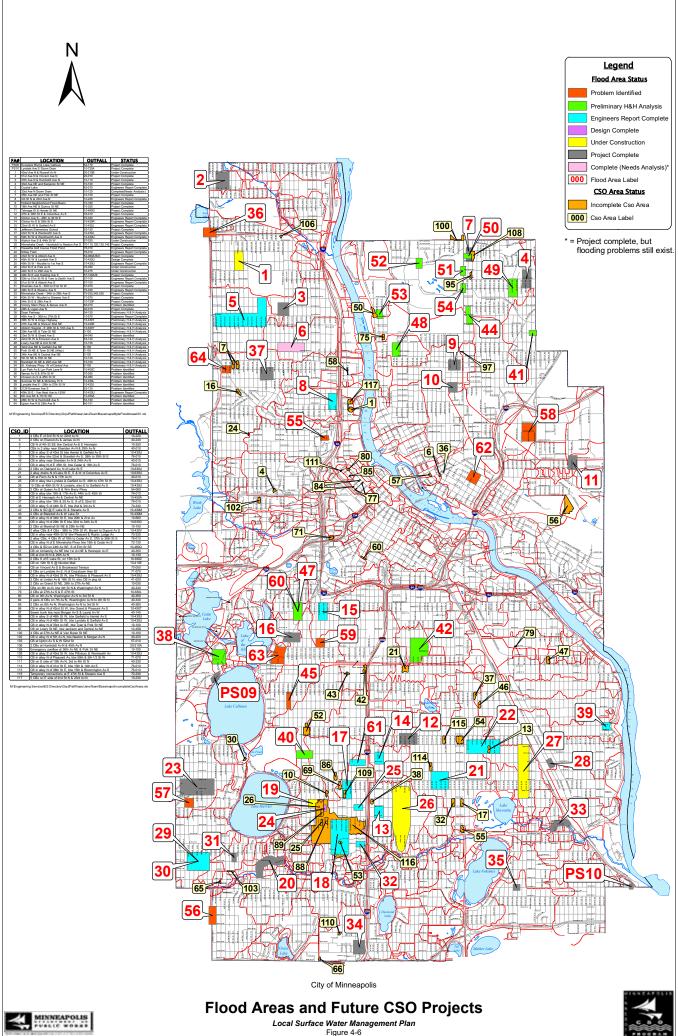


Figure 4-6

of ongoing property inspections to identify and remove illegal connections to sanitary sewers will be reduced if supporting capital improvement projects are not funded. CIP projects will be needed to provide additional storm drains for redirected stormwater connections, or add capacity to prevent flooding.

#### Flood Mitigation and Alternative Stormwater Management Strategies

The City established the Flood Mitigation Program in response to severe building flooding that occurred in the summer of 1997. In a report titled *Flood '97*, the Department of Public Works identified 39 areas of flooding that could be mitigated through improvements to the storm drainage system. Five areas were identified with the worst recurring flooding and immediate funding was established to purchase the houses and relocate the residents, in preparation for construction of stormwater holding basins or ponds. The logic of starting the program with property acquisition was based on the principle of removing residents from the harm of future flooding, if a severe storm occurred before the future basins were in-place.

The program included construction of six stormwater retention basins (or ponds) plus 20 major storm drain construction projects. Originally the scope of the program was to spend \$63 million over nine years (1998 through 2006). The City has taken specific steps to incorporate flood mitigation in the annual capital improvement program. Several flood mitigation projects were proposed in 2004 to the Capital Long-Range Improvement Committee (CLIC). CLIC is a committee comprised of citizens and business people that consider the projects proposed for the City's Five Year Capital Improvement Program. In reviewing the flood mitigation program proposals for the 2005-2009 in July, 2004, the committee noted that the mitigation program "represent a large capital expenditure for perhaps a relatively small number of homes" and made the recommendation that the "City take a "big picture" look at gradually returning many of these (flooded) home sites to their earlier nature, as wetlands, natural holding ponds and parklands." As a result of that direction, no other flood area mitigation projects have been submitted. Flood control measures are now programmed under a new activity, Alternative Storm Water Management Strategies.

## Regulatory Activities CSO Program

The NPDES CSO permit (Appendix K) mandates that Minneapolis and MCES submit an <u>annual report</u> to the MPCA on the City's CSO program. The program's current goal is to eliminate CSOs at the eight remaining regulator sites in the city or at a minimum to meet or exceed the EPA's current sewer overflow policy. The annual report summarizes yearly rainleader disconnection activities and sewer separation work. The report also details maintenance activities; sewer cleaning, storm drain inspections, and grit chamber inspections.

As part of <u>The Minneapolis Plan</u> approved by the MCES, the City entered into a Memorandum of Understanding that included both parties funding a CSO evaluation study. Accordingly, the City and the Met Council jointly hired a consultant to study the sanitary sewer system in order to determine the source of clean water draining into the system. This extraneous water is the cause of ongoing overflows of untreated sewage mixed with stormwater to the Mississippi River during severe rainstorms called "Combined Sewer Overflows." The study concluded that multiple actions are necessary to further reduce the occurrence of CSOs. Even with 100% removal of inflow sources, CSOs would still occur. Recommendations include a combination of inflow reduction, regulator modifications, and in-line storage.

The City instituted a program to reduce stormwater inflow through redirection of rooftop rainleaders to side yards and storm drains.

The City has responded to these recommendations with a program to remove both public and private sources of stormwater inflow to the sanitary sewer system. A new ordinance was approved effective Aug, 1, 2003: Chapter 56, Prohibited Discharges to Sanitary Sewer System. It requires property owners to redirect rooftop rainleaders and private surface area drainage either to side yards or to the public storm drain system. Property inspections are being conducted to identify illegal connections to sanitary sewers, and then notifications are sent of the work needed to comply with the new ordinance. This CIP program funds the addition of storm drains where not available for storm connections, and separation of current storm connections from the sanitary sewer.

#### Stormwater Management Program

The NPDES Stormwater Permit (Appendix L) mandates that the City submit an annual stormwater management program report by June 1 of each year. The Minneapolis Stormwater Management Program and Report summarizes system maintenance during the previous year, identifies areas for program improvement, defines responsibilities of various City departments, and defines a work plan through the next year.

#### Standards for Stormwater Management for New Construction

The City of Minneapolis and the Minneapolis Park and Recreation Board have adopted ordinances that influence stormwater management for new construction projects (see Sect ion 1, Introduction). Specific ordinances and the departments responsible for oversight are listed in Section 1 of this LSWMP. New construction projects that propose to alter wetlands must comply with provisions of the Minnesota Wetland Conservation Act. The City of Minneapolis, Department of Public Works, is designated as the Local Government Unit by the Minnesota Board of Soil and Water Resources. As LGU the City is responsible for ensuring the provisions of the WCA are implemented in Minneapolis.

Stormwater management requirements established by Minneapolis overlap with the standards established by the watershed district/organizations with jurisdiction in the

City. These also overlap with stormwater management requirements set by the Minnesota Pollution Control Agency in their General Permit for Construction Activities. Table 4-5 cross-references the minimum sized site that is required to meet specific activities (erosion control, rate control, stormwater infiltration, floodplain management, water quality management, buffer strips and wetland conservation) for each of these organizations. Areas in the table that are highlighted note the most restrictive requirement for each activity. In most circumstances, the Minneapolis requirements apply to the smallest sites and therefore are the most comprehensive.

## Illicit Dumping and Illegal Discharges into the Storm Sewer System

The Regulatory Services Environmental Management Division of the City provides education and regulation for unauthorized and non-stormwater discharges in the storm drains. The current system is complaint-based inspection and investigation.

The City's NPDES Stormwater Permit requires that 20% of the City's outfalls are inspected annually on a rotating basis. The locations of all existing major outfalls are identified in the field and indicated on the City's storm drain base map. If dry weather flows are detected and illicit connections could be the source of the flow, a grab sample is collected for analysis to determine if pollutants are present. Inspectors work with Public Works Field Services to discover the source of the illicit flows.

The Mississippi Watershed Management Organization (MWMO) and the City of Minneapolis Environmental Services are developing a cohesive water monitoring program that will identify a series of baseline chemical, physical and biological parameters discharging from a watershed-wide storm drainage system (primarily through outfall monitoring) that is also designed to detect illicit discharges entering into water bodies in the City. The sample results will track the water quality changes at the outfalls identifying points of potential illegal discharges, sewer cross connections, an assessment of outfalls and their drainage areas for non-point source pollutants.

Typically, storm water flows to area catch basins which are typically located on city streets. From the catch basins the storm water flows through underground pipes and discharges through outfalls to the lakes, streams or the Mississippi River in Minneapolis. There are over 105 storm drain outfalls on the Mississippi River within the City limits alone. The sampling and monitoring effort is currently focusing on those outfalls and drainage areas to the Mississippi River.

Illicit discharges include both intentional dumping of wastes and accidental spills of chemicals/liquids in the City's storm drain system. Intentional discharges would include dumping of oil/paint or other regulated wastes into catch basins. Motor vehicle collisions and electrical transformer overloads are examples of accidental releases that enter area storm drains. The result is untreated waste and hazardous materials that contribute to high levels of pollutants, including heavy metals, toxics and solvents. Environmental Services is responsible for illicit discharge detection and

Table 4-5. Comparison of Minimum Size Sites	siloqsənniM	BCMMC	МСМБ	оммм	эсмис	∀Э⊲М
Erosion Control						
Minimum site area	5000 sf	10000 sf	5000 sf		15 ac <sup>a</sup>	1 ac
Minimum volume of stockpile or grading	500 cy	200 cy	50 cy	adopts	5ac <sub>p</sub>	
Other triggers for water management requirements				requirements of member cities	<ul><li>within floodplain</li><li>adj to waterbody</li></ul>	
Rate Control						
Minimum site area: single family subdivision - new	1 acre	:	8 acres			:
Minimum site area: multi family subdivision	1 acre	required for all sites	5 acres	adopts	required for all	required for all
Minimum site area: commercial/industrial/institutional	1acre	or tunnel - no	0.5 acre	requirements of	projects requiring	projects which
Minimum site area: roads/streets/highways w/o added imp. surface	exempt	Ξ	none	member cities	project review	impervious surface
Minimum site area: roads/streets/highways w/ 1 ac. added imp. surface	all projects		all projects			-
Stormwater Infiltration						
Minimum site area: single family subdivision - new						
Minimum site area: multi family subdivision					required for all	
Minimum site area: commercial/industrial/institutional					projects requiring	
Minimum site area: roads/streets/highways w/o added imp. surface					project review	
Minimum site area: roads/streets/highways w/ 1 ac. added imp. surface						
Floodplain alteration						
Floodway alteration	prohibited			40.00		
Floodfringe alteration - permit required for fill	25 cy			adopts		
Floodfringe alteration - other	permit required			member cities		
Floodplain alteration	n.a.	permit required	permit required		permit required	
Water Quality						
Minimum site area: single family subdivision	1 acre	2 acres°	20 acres			
Minimum site area: multi family subdivision	1 acre	2 acres°	8 acres			11-1-17
Minimum site area - residential redevelopment	1 acre	10 acres <sup>cd</sup>		adopts	required for all	required for all
Minimum site area: commercial/industrial/institutional	1 acre	0.5 acre	8 acres	requirements of	projects requiring	projects winding
Minimum site area - commercial/industrial/institutional redevelopment	1 acre	5 acres <sup>d</sup>		member cities	project review	impervious surface
Minimum site area: roads/streets/highways w/o added imp. surface	exempt	1 acre	none			
Minimum site area: roads/streets/highways w/ 1 ac. added imp. surface	1 acre	1 acre	5 acres			
Buffer strips						
Buffer required for sites adjacent to wetlands and water bodies			required		required	
Wetland						
Minimum site area for wetland alteration	mo minimum	not LGU	not LGU	not LGU	not LGU	
9 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -						

<sup>&</sup>lt;sup>a</sup> single family residential

<sup>&</sup>lt;sup>b</sup> all other land uses

 $<sup>^{\</sup>circ}$  and must contain 4 or more proposed units

dall redevelopment projects in BCWMC must meet non-degradation requirement (no increase in phosphorus load) for all projects that increase impervious surface highlight represents most restrictive requirement

elimination by City Ordinance. Activities include development of baseline information, identification of problem areas, investigation and determination of sources, documentation and requiring corrective action.

Additional efforts to eliminate illicit discharges to the sanitary sewers include public education, and direct response to notifications received from the community, other city departments and government agencies. At the present time Environmental Services addresses complaints of materials being discharged to the Minneapolis storm drainage system whether they are permitted discharges or not. Environmental Services also reviews compliance with NPDES, SDS, and general storm water permit requirements for businesses as needed. Staffing and priorities are being reviewed as part of the Regulatory Services Business Plan and the Minneapolis Sustainability Plan for conducting regular facility inspections which can include site inspection, review and compliance with MPCA and MCES permits (air, NPDES, and industrial permit), TRI efforts, and the businesses spill response and prevention plan and mechanical integrity plan.

## **Emergency Preparedness Spill Response**

The City of Minneapolis has a written statement of policies and procedures to be followed in the event of a spill. Both the MPCA Duty Officer and the Minnesota Department of Public Safety are informed of the spill if it exceeds a specified volumetric threshold. First responders to emergency spills are typically environmental management and/or fire department personnel. Measures are taken for spill containment, source elimination and recovery. After the event, the sewers are completely serviced; street maintenance and/or environmental management staff coordinate the final clean up and disposal. Environmental and others continue to be involved in site monitoring. The event is concluded with a follow-up as to how the event occurred and what measures need to be taken to prevent future incidences.

#### Flood Response

In the event of a flood, the City is prepared to follow the City's Emergency Plan.

#### **Rainleader Inspections**

Minneapolis is in the process of separating sanitary sewers from storm drains. This separation effort works to reduce the number of combined sewer overflows. It has been determined that a major source of clear water in the sewer system comes from rainleaders, which are connected to the sewers. The added flow from rooftop connections can significantly contribute to the occurrence of overflows of the sewer system.

The City has passed an ordinance (<u>Title 3</u>, <u>Chapter 56</u>), which requires property owners to disconnect rainleaders connected to the sanitary sewer system. The rainleader ordinance gives the City authority to identify sources of prohibited stormwater discharge to the sanitary system by performing property inspections.

If a prohibited stormwater discharge is identified, property owners will receive a disconnection notice. The notice will give the property owner a deadline to complete the disconnection work. Property owners can request a time extension to the deadline by filing a request form and paying a processing fee. If the prohibited stormwater discharge is not disconnected by the deadline, the property owner must pay a fine up to \$700, face imprisonment, and/or have any City licenses revoked.

#### **Education**

Education plays an important role in any effort to implement a stormwater management program. The objectives of an education effort differ based on the target audience. In general, the target audiences include policy makers, City staff, residents, businesses and the development community.

#### **Policy Makers**

Ultimately, the important stormwater management decisions are made by the City's policy makers like the City Council and Park and Recreation Board. The sheer volume of decisions the Council and Board make means that stormwater information must be presented clearly and consistently.

#### **City Staff**

City and Minneapolis Park and Recreation Board staff have a wide range of responsibilities in the implementation of the LSWMP are trained to have a basic understanding of water resources management, including:

- A description of the major stormwater management issues (including known stormwater management problem areas, stormwater management expectations for new and redevelopment projects, incorporation of stormwater mitigation into capital improvement projects, and regulatory jurisdiction).
- The objectives of the LSWMP, and the general approach outlined in the LSWMP for resolution of outstanding issues.
- The responsibilities of the different work units in implementing the LSWMP.

#### **Public**

Successful management of the City's surface waters requires positive support and action from the public. In order to engage City residents and gain their active support and participation it is vital to inform City residents about basic stormwater management issues, flood mitigation and water quality concepts, and policies and recommendations in the LSWMP.

The City of Minneapolis keeps its residents informed through its web page. Information is provided on specific projects, and periodic updates on the progress of the listed projects are made available. Press releases to local papers and journals are also good methods by which this information is disseminated. Public meetings are held to invite public input on certain issues.

Starting in 2006, the Department of Public Works will begin an education program that focuses on partnering with the Minneapolis Blooms Program, the Committee on Urban Environment (CUE), Friends of the Mississippi River, the Green Institute, and the Minneapolis Park and Recreation Board (MPRB) for its Stormwater Education and Outreach Program. The following is a summary of those partnering efforts:

- The Minneapolis Park and Recreation Board: MPRB naturalist staff provides stormwater information at neighborhood events, park events, local festivals and parades, and outdoor concerts.
- Minneapolis Blooms Program: Rain Garden Workshops, including workshop facilitation, rainwater garden design, program funding, facilities for the rainwater garden events, and providing stormwater education. The MWMO has provided funding for this program since 2003.
- Friends of the Mississippi River coordinate the City's Catch Basin Stenciling Program. Volunteers stencil storm drains, distribute education door hangers to residences and business in the stenciled neighborhoods, provide classroom visits, and reach out to non-English speaking communities with multilingual materials. Water quality education programs and materials would target non-English speaking households. MWMO contributes funding.
- The city-wide storm drain stenciling program was implemented by the City of Minneapolis in 1995. At that time, volunteer activities were coordinated by the League of Women Voters through an annual contract with the City. Later, the City contracted the volunteer coordination to the Friends of the Mississippi River. Volunteers stencil storm drains and distribute door hangers to residences and businesses in the stenciled neighborhoods. In 2004, the MWMO provided partial funding for activities in the MWMO jurisdictional area.
- The City of Minneapolis and the MWMO jointly fund a program to increase water awareness and education in multicultural communities. The program is coordinated by the City's Office of Multicultural Affairs. In 2006 the program initiated an assessment and planning for education in the Hmong community.
- The "Water down the Drain Interactive Multimedia Kiosk" was initiated by the MCWD in partnership with the City, MPRB, MWMO, and Hamline University College for Global Education. The kiosk is a stand-alone, self-directed education tool with modules in English, Spanish, or Hmong that helps users understand the urban water cycle.
- The Green Institute coordinates Stormwater Education pilot projects that would target both business and neighborhood organizations.

#### **Public Engagement**

When implementing a new activity or developing a capital improvement project the City of Minneapolis actively seeks to engage the public in the process of decision making. The City of Minneapolis is committed to incorporating community engagement activities into decision making for all activities undertaken by City departments. To standardize the process and to manage the expectations of citizens, The City of Minneapolis Communications Department prepared a guidebook for use by all departments.

#### **Coordination with Other Government Agencies**

The City of Minneapolis goals and policies outlined in this LSWMP are consistent with those of the City's four watershed district/organizations.

At present, the City of Minneapolis is not proposing any change in the current system of approvals and permits necessary for land disturbing activities in the City. Table 2.2 in Section 2 (Goals and Policies) outlines the regulatory responsibilities of the City, four watersheds, and the MPRB. This Plan's impact on other units of government will be to foster more collaborative efforts—where each entity does what it does best without another entity duplicating those efforts. In this vein, the City will assume the lead in infrastructure management and construction: M

The City takes the lead in infrastructure management and construction.

the lead in infrastructure management and construction; MPRB the lead in water quality monitoring, and management of park lands; and the watersheds the lead in water quality implementation and assessment.

The LSWMP envisions the City of Minneapolis and its watershed management organizations continuing to:

- Perform a joint review of construction projects before permits are issued
- Review and approve any new outfalls (where stormwater is emptied into surface water)

Watershed management district/ organizations help coordinate the efforts of multiple agencies.

- Cooperate to enforce regulations and ordinances, including erosion control, stormwater management and floodplain alteration
- Share the costs for constructing regional water quality controls that use Best Management Practices (BMPs)

Hennepin County has jurisdiction over 83.5 miles of roads within Minneapolis. In the past, the City and County have

worked together to identify retrofitting opportunities on County road projects. Lake Street is a recent example of this cooperation, where the project will include installation of water quality devices.

The Minnesota Department of Transportation (MNDOT), with jurisdiction over 46.3 miles of the roadway within the City, is frequently involved in cooperative agreements with Minneapolis for construction of new stormwater facilities — particularly new storm drains. While MNDOT and the City maintain separate storm drain systems, runoff water from each travels into the other's system—necessitating a high level of coordination.

Drainage does not conform to municipal boundaries, which is the primary reason watershed districts were created. The City of Minneapolis cooperates with and coordinates efforts with neighboring cities when managing common drainage areas. Most coordination is accomplished through the structure of the watershed management organizations, though some cooperative projects have been accomplished outside of this structure, including:

- Establishing responsibilities for mutually agreed upon BMPs protecting common surface waters by adopting cooperative agreements
- Monitoring water quality for common receiving waters
- Working together to fund and complete water quality projects

The City of Minneapolis and MCES cooperate on the CSO program, controlling private discharges to the storm and sanitary systems and billing for sewer service. These cooperative efforts will continue.

## **Existing Assessment Studies Condition and Capacity Assessments Deep Tunnel System**

In early 2004, the City completed its Storm Tunnel System Management Plan. Creation of the Management Plan involved the inspection of approximately 14.7 miles of City-owned deep storm tunnels to determine their structural condition. Each tunnel's structural condition is the primary factor used to determine whether a tunnel can continue to function as originally intended. This survey did not include the non-City owned tunnels nor the Basset Creek Tunnel, which is inspected as a culvert by bridge inspectors.

In addition to conducting the inspections and evaluating tunnel condition, hydrologic and hydraulic modeling was performed to determine the hydraulic loading to each tunnel system. The modeling used a simulated 100-year, 24-hour, 6-inch rainfall event over the area tributary to each tunnel system. The results were evaluated and correlated to structural conditions encountered in the inspections.

The hydraulic analysis showed that the majority of tunnels operate under surcharge. Based on this hydrologic and hydraulic analysis, it was determined that only four of the tunnel systems operate with no surcharge for the 100-year event. These four

tunnel systems operate without surcharge because they are relatively short, have large cross sections, and serve small drainage areas. The rest of the tunnel systems pressurize for the 100-year event. The effect this has on individual tunnels varies and depends on the tunnel's structural condition.

By linking hydraulic results with structural conditions and action levels, the overall condition of each of the tunnel systems is determined. The tunnel systems that need the most maintenance and rehabilitation are the  $10^{th}$  Avenue Southeast, St. Mary's, and East  $38^{th}$  Street tunnel systems.

#### **Stormwater Monitoring and Calibration Project**

In 2003, the City hired Bonestroo, Rosene, Anderlik & Associates to install flow monitors in three areas of the City to collect volume and water quality during peak

flows. The monitored areas had already been modeled by the City for flood mitigation projects, therefore modeled results and monitored data could be compared. The purpose of making these comparisons is to determine standard hydraulic and hydrologic modeling parameters for use in future citywide modeling efforts.

The calibration report concluded that additional flow monitoring is needed before modeling parameters can be determined. General recommendations included:



Monitoring was performed to assist in calibration of stormwater models. (Source MPRB)

- 1. Use subcatchment width and slope to obtain the desired time of concentration and thus peak flow off the drainage area. Given that the citywide modeling will consistently use drainage areas as small as two to five acres, reasonable variations in width and slope will not have a dramatic effect on the timing and magnitude of drainage area flow peaks.
- 2. Runoff volume should be calibrated using impervious percentage first, then other parameters later. In all cases, a review of aerial photographs is required to determine the total percent impervious. From this, the connected portion can be calculated from some assumptions outlined in the calibration report.
- 3. Green-Ampt equations are the recommended method for calibrating infiltration on the pervious portion of the drainage. The calibration report is based on monitoring data from 2003. The scarcity of large events that season meant limited occasions where runoff was actually generated off the pervious surface. For this reason it was not possible to calibrate Green-Ampt parameters to the actual data.

- In lieu of a calibration, a sensitivity analysis was prepared to illustrate the relative impact of each of the three Green-Ampt parameters.
- 4. Depression storage and catch basin inlet capacity are two parameters that also affect flow and volume. Depression storage, both off the pervious and impervious surfaces, helps determine how much runoff is intercepted before it can become runoff. In this way it affects volume calculations. It also affects peak flow calculations to a lesser degree. Catch basin inlet capacity can affect both volume and peak. If the inlet capacity causes bypass of the catch basin and flow into another drainage area then the inlet capacity will affect flow volume. If the inlet capacity does not cause discharge into another drainage area, the limit on the amount of water that can enter the pipe system will strongly affect the peak flow in that system.

#### **SWMM Calibration and Standards Study**

In August through October, 2004, SRF Engineering monitored pipe flow and water quality data and rainfall in an area of south Minneapolis as part of a modeling calibration study conducted for the City. Information was used to study the I-35W tunnel, calibrate hydrologic and hydraulic parameters, and calibrate water quality parameters. One goal is to establish standards for future modeling efforts in the City such that all models can eventually be integrated together. This will result in a higher level of model accuracy and greater confidence in the results. One product of this effort was a *Development Manual for SWMM Users* that is contained in Appendix M.

## Section 5 Planning and Implementation

#### **Overview**

The City of Minneapolis has well established programs that have been created to protect, maintain and improve surface water quality. The intent of the implementation plan in this LSWMP is to continue these programs and to supplement with additional activities, as needed, to fill gaps identified for each program.

## **Additional Activities Needed to Meet Water Resources Goals**

Minneapolis water resources management activities were compared against current City goals, watershed district/organization requirements, and other regulatory mandates to identify additional activities necessary to maintain or improve the quality of Minneapolis surface waters. Generally, the existing City programs exceed, fully meet, or partially meet existing regulatory requirements. Some programs are in need of additional activities to make the programs fully consistent with requirements. City staff identified service gaps and additional activities that will help meet existing and impending regulatory demands and meet the City's water resources management goals. The details of this analysis are summarized in detail in Appendix N. Additional activities which will supplement the City's water resources management activities and help to meet the City's long-term goals of sustainable water resources are identified and described in the following pages. A schedule to implement these activities is contained in Table 5-1.

## Protect People, Property and the Environment (Guiding Principle #1)

### Construct improvements to sanitary sewers and storm drainage systems that provide protection

- Implement capital improvement projects which create integrated solutions to multiple wet weather problems of excessive infiltration, inflow, flood mitigation and/or stormwater quality. Evaluate green initiative techniques for stormwater runoff volume control as alternative to flood mitigation projects recommended in Flood '97 report.
- 2. Update prioritization system for capital improvement projects that incorporates life-cycle considerations, multiple objectives, and cooperating partnerships.
- 3. Expand existing hydraulic and water quality models, including tunnel model and MCWD H&H model to create predictable backbone model that establishes baseline flow rates, and is linked to sanitary model. Model should be able to be expanded to assess impact of specific proposed improvement, and measure baseline stormwater volumes for sustainability targets.

- 4. Work with BCWMC and MCWD to resolve differences between Minneapolis Floodplain Ordinance and watershed rules.
- 5. Accelerate program to inspect for and remove rainleader and foundation drain connections to sanitary sewers to meet requirements of MCES I/I Surcharge Program.
- 6. Investigate feasibility of redesign or limiting access to manholes subject to frequent surcharging during storm events that exceed design capacity of storm drain.

## Maintain and Enhance Infrastructure (Guiding Principle #2) Maintain condition of sanitary sewer and storm drainage systems

- 1. Expand sanitary sewer preventive maintenance inspections to storm drainage system. Consider inspection schedules recommended in 2005 Minnesota Stormwater Manual.
- 2. Increase length of sanitary sewers that are visually inspected to locate areas of excessive infiltration in order to meet requirements of MCES I/I Surcharge Program.
- 3. Renegotiate and amend cooperative agreements between Minneapolis, MN/DOT and BCWMC that govern the operation, maintenance and repair of Bassett Creek Tunnel and Culvert to be consistent with current policies of BCWMC.

#### Maintain capacity of sanitary sewer and storm drainage systems

- 1. Expand existing hydraulic and water quality models, including tunnel model and MCWD H&H model to create predictable backbone model that establishes baseline flow rates, and is linked to sanitary model. Model should be able to be expanded to assess impact of specific proposed improvement, and measure baseline stormwater volumes for sustainability targets.
- 2. Define allowable emergency CSO overflow conditions for renewal of NPDES CSO Permit.
- 3. Investigate use of in-line storage in sanitary sewers to minimize overflows.
- 4. Continue to assess opportunities to remove excessive infiltration and inflow from sanitary sewers.
- 5. Institute CMOM (Capacity Management Operation and Maintenance) practices as basis of asset management system.
- 6. Measure actual stormwater outflow at selected outfalls to determine if sustainability goals are being met.

- 7. Fully investigate impacts on stormwater drainage system prior to disconnection of inflow sources from sanitary sewers.
- 8. Investigate techniques and policies to decrease area of impervious surfaces in public construction projects.
- 9. Formalize design parameters for stormwater infiltration systems.
- 10. Investigate methods to incorporate stormwater runoff volume controls into Minneapolis Code of Ordinances, Chapter 54 (Stormwater Management) and Title 20 (Minneapolis Zoning Code).

## Provide Cost-Effective Services in a Sustainable Manner (Guiding Principle #3)

#### Optimize enhancements to sanitary sewer and storm drainage systems

- 1. Implement capital improvement projects that create integrated solutions to multiple wet weather problems of excessive infiltration, inflow, flood mitigation and/or stormwater quality.
- 2. Update prioritization system for capital improvement projects that incorporates life-cycle considerations, multiple objectives, and cooperating partnerships.
- 3. Create unified City-wide stormwater runoff hydraulic and water quality design standards that meet regulatory requirements. Work with watersheds, other public agencies, and private property representatives to resolve conflicting standards.

#### Meet or Surpass Regulatory Requirements (Guiding Principle #4) Operate and maintain public lands consistent with Best Current Practices and City's NPDES permits

1. Continue funding for removal of inflow sources from public properties.



Staff training on efficient use of snow management practices (Source: Minneapolis Public Works).

- Investigate whether existing street maintenance practices comply with recommendations of TMDL implementation studies, including the Shingle Creek Chloride TMDL Implementation Plan.
- 3. Expand sweeping program to include public owned parking lots and parking ramps.
- 4. Continue to train staff on best current practices such as construction site erosion control and lawn care management.
- 5. Apply unified stormwater hydraulic and water

- quality design standards, erosion and sediment control requirements and stormwater management requirements to all public projects.
- 6. Use City funds to leverage stormwater BMP improvements on non-City public projects, including Minneapolis School Board & Library Board properties.

#### Provide ongoing assessments of sanitary sewer and storm drainage systems

- 1. Create a clearinghouse for all assessment studies conducted in City, including TMDL, lake, stormwater, CSO, and stream monitoring efforts.
- 2. Establish coordinator as central contact point for all Minneapolis based TMDL projects and other monitoring studies.
- 3. Consider revisions to water quality standards for new construction projects (Minneapolis City Council Resolution 2000R-042) after new water quality standards are formally approved by a watershed district/organization or after TMDL implementation plans are formally approved.

#### Implement effective water quality improvement programs

1. Negotiate implementation of TMDL based projects in a manner that is consistent with City goals and objectives.

#### **Enforce required rules and regulations**

1. Work with MPCA to negotiate NPDES permits that are consistent with City goals and objectives.

## Educate and Engage the Public and Stakeholders (Guiding Principle #5)

#### Enhance quality and minimize quantity of runoff from redevelopment sites



Stormwater Filtration System on First Street North (Source: Minnesota Stormwater Manual).

- Require disconnection of sources of inflow to the sanitary sewers as a condition of rehabilitation-type building permits.
- 2. Investigate incorporation of stormwater runoff volume controls into Chapter 54.
- Investigate reduction of impervious surface requirements in the Minneapolis Zoning Code.

- 4. Update stormwater hydraulic design standards to incorporate storage for purposes of flood mitigation and storage of snowmelt.
- 5. Investigate financial or water quality sizing based credit system for redevelopment projects that preserve natural site characteristics, such as buffers and native vegetation.
- 6. Improve compliance of Erosion and Sediment Control Ordinance.
- 7. Track and disseminate results and successes of pilot BMP projects. Use as model for new projects.
- 8. Update Chapter 54 to revise water quality standards after new standards are formally approved by watershed.
- 9. Work with BCWMC to ensure that new construction and redevelopment projects in Minneapolis comply with BCWMC non-degradation policy.

### Maintain or enhance quality and minimize quantity of runoff from existing private properties

- 1. Enforce ordinance requirements to eliminate inflow sources from private properties.
- 2. Investigate financial or water quality sizing credit based system for properties which recreate natural vegetation systems.
- 3. Investigate additional maintenance requirements for privately owned parking lots, including sweeping and use of deicing chemicals.
- 4. Educate the public on environmental degradation caused by excessive use of deicing chemicals.
- 5. Reassess education activities to identify audiences not targeted and to maximize coordination with existing education efforts where feasible. Educate landscape businesses about hazards of improper disposal into curb & gutters and control of stormwater runoff from plant nurseries.

## Enhance Livability and Safety (Guiding Principle #6) Preserve, maintain and enhance the City's natural and recreation resources

- 1. Complete MPRB inventory of wetlands in City. Initiate inventory of non-MPRB wetlands.
- 2. Complete MPRB inventory of natural and riparian corridors. Initiate inventory of non-MPRB natural and riparian corridors.
- 3. Complete comprehensive shoreline and streambank condition assessment for MPRB properties. Initiate inventory of non-MPRB shorelines.



Beach Warning Sign (Source: MPRB).

- 4. Evaluate need for wetland ordinance for privately owned shoreline.
- 5. Evaluate need for shoreline stabilization program in cooperation with watershed district/organizations.

### Maintain and/or improve the quality of the City's surface waters

- 1. Include inspection of sediment deltas as part of outfall inspection programs. Remove excessive sediment in accordance with DNR requirements.
- Establish agreements on responsibilities for surface water systems Operation and Maintenance where none currently exist.

#### **Financial Considerations**

As described in Section 2, the Minneapolis budget is current only for the year that it is adopted. Projected budgets are presented for planning purposes, and there is no certainty that future funding will follow the projected budgets. Refer to the actual annual budget, and not to this planning document for the most up-to-date direction of the City. The most current budget for all City programs can be found on the City's web page at Adopted Budget.

The 2006 annual budget for water resources related activities by the City of Minneapolis is approximately \$76 million per year. Of this amount, \$27 million is paid directly to the Metropolitan Council for wastewater conveyance and treatment and \$11.5 million is to pay the debt on sewer bonds. The remaining \$37.5 million is spent on a variety of activities, including sewer maintenance, engineering, street cleaning, and capital improvement projects. The City has no plans to increase this budget in the future, other than to accommodate a projected rate of inflation of 3 percent.

The City works to keep all its activities within the limits of available funding. Prioritization is critical to selecting the specific capital improvement project or regulatory activity within current budgetary limits. The following section summarizes the funding sources typically used by the City in all water resources management activities.

Table 5-1. In	plementation	Plan for	Additional	Activiti

	able 5-1. Implementation Plan for Additional Activities  Program Implementation Year														
Guiding Principle	Activity		cso	Prog	Flood Mitigation		2006	2007						Priority	Partners
		perty and environment				_		1			_		_		T.
Construct im	_	ements to sanitary sewer and storm drain system to provide protection		l	L	<u> </u>							L	н	MPRB
	2	Implement CIP projects that solve multiple wet weather problems  Update prioritization system	x	x	x	x	` ↔	H		┢	┝	H	Ľ	н	MPRB
	3	Expand existing H&H models	×	×	×	x	ř	<b>—</b>	F	L	$\downarrow$		<u> </u>	М	All watersheds
	4	Resolve differences in floodplain requirements			×		H			<	$\Rightarrow$	1	H	М	MCWD and BCWMC
	5	Accelerate rainleader and foundation drain disconnections	х	х			<	F	>	T		Г		Н	MCES, MPCA
	6	Investigate feasibility of redesign of manholes subject to frequent surcharging							<b>←</b>	E	<b>*</b>			М	MNDOT
		nce infrastructure						1			_	1			T
Maintain cor	nditio 1	n of sanitary sewer and storm drainage systems  Expand sanitary sewer preventive maintenance schedule to include storm drainage system			×	×				_	L		<u> </u>	М	MN/DOT, Hennepin County
	2	Increase annual length of sanitary sewers visually inspected	×	x	Ĥ	Ĥ	<u> </u>		,	Ì	ť	H	H	н	wity 501, Heilitepin county
	3	Amend Bassett Creek Tunnel maintenance agreement with MN/DOT and BCWMC to be consistent with BCW	/MC p	olicie	ıs	T	r		<b>←</b>	þ,	-	T	H	М	BCWMC, MN/DOT
Maintain car	pacity	of sanitary sewer and storm drainage systems										Г			
	1	Expand existing H&H models	х	х	х	х		<b>←</b>			$\rightarrow$			М	All watersheds
	2	Define emergency CSO conditions	х	х			<b>+</b>	<u> </u>					<u> </u>	Н	MPCA
	3	Investigate use of in-line storage for sanitary peak flow control	X	X	┝			<b>←</b>	Ż	1	-	H	L	Н	MCES
	5	Continue to assess opportunities to remove I/I Institute CMOM	x	x	x	+	F	F	_	L	$\vdash$	$\vdash$	$\vdash$	H M	MCES MCES
	6	Measure actual volumes of stormwater runoff	Ĥ	Ĥ	x	х	H	H	· -	Ι,	+	H	H	M	MPRB
	7	Investigate impacts on stormwater system for each CSO project	x	х	x	x	<b>-</b>		F	É	<b> </b>	t	H	н	All watersheds
	8	Investigate techniques to decrease impervious surface on public construction projects		L	х	х			<b>←</b>	F	ightarrow	Ī		М	MNDOT, Hennepin County
	9	Formalize design parameters for stormwater infiltration systems		х	х	х			<b>←</b>	-;	•			М	All watersheds
	10	Investigate methods to incorporate runoff volume controls into Code of Ordinances	L	Ĺ	Ĺ		Ĺ		<b>←</b>	Ė	1	Ĺ	L	М	
Provide cost e					_			1		_	_	1	_		1
Optimize enh	hance 1	ments to sanitary sewer and stormwater drainage systems Implement CIP projects that solve multiple wet weather problems	×	×	x		_					L	Ļ	н	
	2	Update prioritization system	x	X	x	x	` +>	-		-		-	ŕ	н	
	3	Create unified design standards for stormwater BMPs			x	х			<	þ,	•	H		М	All watersheds
Aeet or surpa	ass re	guiatory requirements				<u> </u>	<u> </u>			<u> </u>					
Operate and	d mair	ntain public lands consistent with best current practices and with permit requirements				Π	Γ			Π		Π			
	1	Continue funding for removal of inflow sources from public buildings	х	х			<b>←</b>		>					Н	
	2	Implement recommendations of Shingle Creek Chloride TMDL Implementation Plan				х		$\leftrightarrow$						М	SCWMC
	3	Expand sweeping program to include public owned parking areas	x	l	×	x	_		<b>←</b>	P	-		Ļ	M M	
	5	Continue staff training on best current practices  Unify stormwater hydraulic and BMP design standards to be consistent with private requirements	х	х	x	x	È		4	Ι,		F	F	M	All watersheds
	6	Leverage BMP improvements on non-City public facilities using City funds			H	x	H		·	Ļ	-	H	H	M	
Provide ongo	oing a	ssessments of sanitary sewer and stormwater drainage systems			T	T				T		Т	T		
	1	Create clearinghouse for all water resource assessment studies	х	х	х	х						<b>~</b>	>	L	All watersheds, MPRB
	2	Establish central Mpls coordinator for TMDL projects				х	$\leftrightarrow$	<u> </u>						Н	
	3	Revise water quality standards after new standards are formally approved by watershed			<u> </u>	х			<				-	М	All watersheds
Implement o	ongoi	ng assessments of sanitary sewer and stormwater drainage systems  Negotiate TMDL implementation activities in a manner that is consistent with City goals and objectives		_	_							L	Ļ	ш	All watershede and MDCA MDDD
Enforce exis	ting r	regorate 1 MDL implementation activities in a manner that is consistent with City goals and objectives ules and regulations	x	х	х	х		È		H			F	Н	All watersheds and MPCA, MPRB
	-	Negotiate NPDES permits that are consistent with City goals and objectives	х	х	×	х	<b>←</b>	<b>-</b>	-	$\vdash$				Н	MPCA, MPRB
Educate and e	_									<u> </u>	-				
Enhance qua	ality o	f runoff from redevelopment sites													
	1	Require separation of inflow sources as condition of rehabilitation building permit	х	х			<b>←</b>	L	>	╙				Н	
	2	Investigate methods to incorporate runoff volume controls into Chapter 54			х	_			<u> </u>	Ľ	1		<u> </u>	М	
	3	Investigate methods to reduce impervious surface requirements in Zoning Code  Update stormwater hydraulic design standards to incorporate storage for flood mittigation and snowmelt			x	x				_		_	-	M M	
	5	update stormwater nydraulic design standards to incorporate storage for nood mitigation and snowment Investigate financial or water quality sizing credits for redevelopment projects that preserve natural characte	eristic	s	Ľ	x	H			f	+	-	$\vdash$	L	All watersheds
	6	Improve compliance with Erosion and Sediment Control Ordinance (Chapter 52)	I		t	x	t		<b>←</b>	F	F	F	<u> </u>	н	All watersheds and MPCA
	7	Track success of BMP pilot projects for dissemination and use as model in new projects.			х	х				T		<b>←</b>	$\rightarrow$	М	All watersheds
		Revise water quality standards after new standards are formally approved by watershed				х			<	-				М	All watersheds
	8		draw	nents	L	х			<b>←</b>		_			М	всимс
	9	Work with BCWMC to clarify non-degradation policy for new impervious surface and incorporate into site req	uireii	$\overline{}$		1	l	1		1	1	1	1		1
Maintain or e	9 enha	nce quality of runoff from existing private properties			-	+	t		L٠	_	+	1			
Maintain or e	9 enha	nce quality of runoff from existing private properties  Enforce ordinance requirements to eliminate inflow sources from private properties	х	х				<b>←</b>	<b>-</b>			_	L	Н	All watersheds
Maintain or (	9 enha	nce quality of runoff from existing private properties  Enforce ordinance requirements to eliminate inflow sources from private properties  Investigate financial or water quality sizing credits for sites that preserve natural characteristics		x	x	x		<	<b>→</b>			<b>←</b>	<b>→</b>	H L M	All watersheds
Maintain or e	9 enha 1 2	nce quality of runoff from existing private properties  Enforce ordinance requirements to eliminate inflow sources from private properties		x	x	+		<	<b>→</b>	· +		<b>←</b>	<b>→</b>	L	All watersheds  MPRB, All watersheds
Maintain or o	9 enha 1 2 3	nce quality of runoff from existing private properties  Enforce ordinance requirements to eliminate inflow sources from private properties  Investigate financial or water quality sizing credits for sites that preserve natural characteristics  Investigate additional maintenance requirements for privately owned parking lots		x	x	х		<b>←</b>	→ ←	->	•	<b>+</b>	<b>→</b>	L M	
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### **Funding Mechanisms**

*General Fund*: Property taxes spread capital, operations, and maintenance costs of the surface water system over the entire city. General fund revenues are not a major source of funding for water resources projects or programs in Minneapolis. However, these funds may pay for a storm drainage improvement that is part of a larger capital improvement project, such as a highway reconstruction project. General funds are also used to fund some activities of the Minneapolis Park and Recreation Board.

Stormwater Utility Funds: In 2005, Minneapolis implemented a stormwater utility. Revenue from this fee is used for stormwater activities. Implementation of this fee did not create new revenue, but instead changed how each property was billed for stormwater services. The stormwater utility fee is similar to other fees the City charges its residents for services provided, such as a sanitary sewer fee and garbage disposal fee. Stormwater utility rates are based on an estimate of runoff generated and discharged to the City's system from a particular property. The revenues collected are dedicated to water resources management activities.

*Sewer Fund:* Minneapolis utilizes revenue from the sewer fund to pay MCES for wastewater conveyance and treatment. This is also the major source of funding for CSO related projects and sanitary sewer maintenance activities.

*Sewer Bonds:* In certain years, the City may decide to issue sewer bonds to raise money to pay for infrastructure upgrading and replacement. The debt service on these bonds is typically paid for by the sewer fund or by the stormwater utility.

*Special Assessments*: Assessments against benefiting or responsible properties could be used to finance surface water improvements. Historically, Minneapolis has opted to use more general funding sources for water resources improvements which spread the cost across either the City as a whole or some smaller area of the City.

Area and Connection Charges: These are fees charged to developments and redevelopments on an area (cost per acre) and/or connection (cost per unit) basis. These charges are frequently used in communities to ensure that proposed development pays for facilities required to serve it. Minneapolis has not used this funding approach. Future assessments of revenue sources by the budget department may include this approach as a new funding source.

*Grants*: Though subject to budgetary constraints, a number of state and other grant programs are available for surface water management programs. Grants are a good way to supplement locally available resources, but are not very dependable as a sole source of funding and can be scarce when the City needs them most. Most recently, Minneapolis has received water resources funding from the following grant programs:

- Metropolitan Council Parks and Open Space
- Metropolitan Council Metro Environment Program

- Legislative Committee on Minnesota Resources
- Mississippi Watershed Management Organization
- MNDNR Flood Mitigation
- MNDNR Shoreland Habitat
- Direct appropriation of state bonds by Minnesota Legislature
- Bassett Creek Watershed Management Commission
- Minnehaha Creek Watershed District

### Financial Impacts - Capital Improvement Program

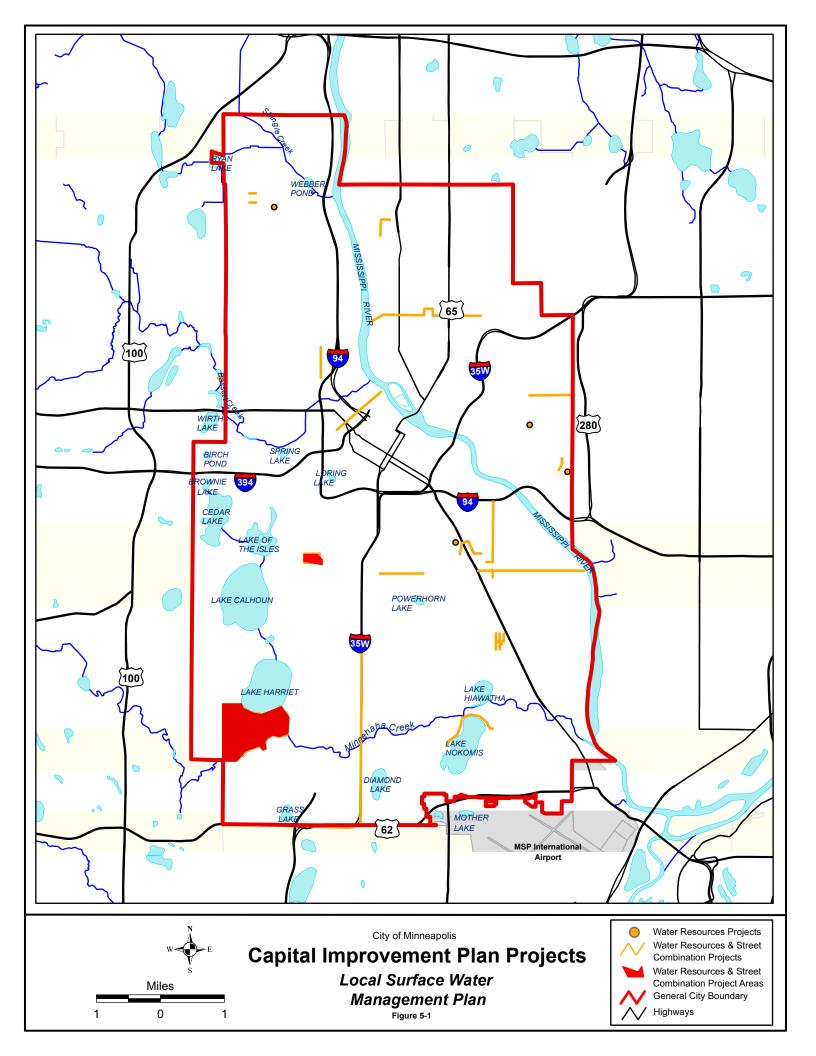
Figure 5-1 and Table 5-2 show the water resources capital improvement projects listed in the 2006 budget. The funding for 2006 is set; the remaining years are projected for planning purposes. The final budget for each of these future years will likely be adjusted to meet the specific needs of that year. Funding for these projects is a combination of sewer bonds, sewer revenue, stormwater utility revenue, and other minor sources.

In 2006, the City and the Minneapolis School Board jointly funded construction of five water resources management projects located on school sites:

- Folwell Middle School
- Longfellow Elementary School
- Sanford Elementary School
- Ramsey International Fine Arts School
- Washburn High School

These facilities provide for flood mitigation, improve water quality and provide an environmental education curriculum and stormwater awareness education. The City used the Alternative Stormwater Strategy Funds for its share of this jointly funded project.

In addition to the water resources funding in Table 5-1, the City implements water quality improvements, where feasible, in street reconstruction projects. Richfield Road is an example where three structural units, costing \$135,000, were installed in 2005. The City is also working with Hennepin County to incorporate at least five units in the Lake Street reconstruction project. MN/DOT has agreed to install a treatment system on one of its Diamond Lake outfalls in conjunction with the Interstate 35W and Trunk Highway 62 reconstruction project.



Other smaller scale water quality projects include the rain garden filtration strips at the 3rd Precinct, pervious pavement at the animal control facility, and a green roof at the Fridley Maintenance Center.

**Table 5-2. Water Resources Capital Improvement Projects** 

Project/Program	2006 Minneapolis Water Resources Capital Improvement Funding (in \$1,000)						
	2006	2007	2008	2009	2010	Total	
Storm and Sanitary Tunnel and Sewer Rehabilitation	2,500	2,500	2,800	4,000	2,500	14,300	
Misc. Storm Drains	220	220	220	220	220	1,100	
Stormwater Regulations	150	150	150	150	150	750	
CSO Improvements	0	4,000	0	0	0	4,000	
CSO Separation – facilities	400	0	0	0	0	400	
Diamond Lake/35W Water Quality Improvements	497	0	0	0	0	497	
Alternative Stormwater Strategies	700	500	500	500	500	2,700	
Lake Hiawatha - Blue Water Partnership	700	800	1,000	0	0	2,500	
I-35W Tunnel Reconstruction	0	0	7,938	7,938	3,175	19,051	
Heritage Park	250	250	0	0	0	500	
Street Renovation	115	115	115	115	0	460	
University Research Park	495	0	0	0	0	495	
27 <sup>th</sup> Ave S	666	0	0	0	0	666	
Lyndale Ave N	249	0	0	0	0	249	
Chicago Ave S	0	0	95	0	0	95	
LaSalle Ave S	0	0	0	0	424	424	

Source: City of Minneapolis 2006 Adopted Budget

## Financial Impacts - Non-CIP

The City's budget for all other water resources activities can be found in Section 5, Financial Plans of the City's annual budget. Table 5-3 summarizes the sanitary sewer fund and stormwater utility fund information contained in the 2006 budget. The 2006 column is the final approved budget; future funding is presented as a forecast which is subject to future change prior to annual adoption.

Table 5-3. Non-capital Water Resources Management Activity Budgets

Activity	2006 Minneapolis Sewer and Storm Funding (in \$1,000)						
Activity	2006	2007	2008	2009			
Maintenance - Sanitary	9,200	10,000	11,000	12,000			
Maintenance – Sweeping	6,100	6,300	6,600	6,700			
Maintenance – Storm	7,700	7,900	8,200	8,400			

The total annual budget for the Public Works activities is limited by the amount raised by the sewer rate fee and stormwater utility fee. Total revenue collected from these fees is not expected to increase, other than modest adjustments based on inflation. The amount budgeted to specific activities is likely to adjust, based on future changes in priorities or regulatory requirements. Table 5-4 details the sewer and stormwater utility rates charged to City users.

Table 5-4. Sewer and Stormwater Utility Rates and Projected Revenue

Year	Sewer Rate (per 100 cubic feet)	Projected Sewer Revenue	Stormwater Rate (per Equivalent Stormwater Unit)	Projected Stormwater Revenue
2006	2.10	\$36,300,000	9.17	\$30,500,000
2007	2.19	\$37,900,000	9.57	\$31,900,000
2008	2.26	\$39,000,000	9.91	\$33,000,000
2009	2.32	\$40,100,000	9.91	\$33,000,000

# **Implementation Implementation Framework**

The City has created a framework for life-cycle management of systems and programs that is the basis for decision making with respect to water resources management. A specific activity begins because of a specific need or regulation, an assessment of the condition is made, planning for improvement is initiated, and then the improvement is implemented. A new structure/program/activity is operated/maintained/inspected until a new need or regulation triggers another change. Figure 5-2 illustrates this implementation framework.

The life-cycle of water resources management activities include three principal phases: assessment, planning and implementation. Components of each include:

#### Assessment

Assessment involves an array of techniques to validate if water resources management practices and infrastructure meet critical City efficiency objectives, such as structural integrity, ability to relieve impacts to health, safety, property, infrastructure, and aquatic life, and regulatory compliance. Activities include inspection, monitoring, routine record-keeping and emergency response readiness:



Figure 5-2. City Goals and Regulations Implementation Framework

- System condition inspection and assessment
- System capacity inspection and assessment
- Regulatory compliance assessment activities
- Problem identification and definition
- Regulatory administrative responsibilities
- Identification of gaps in regulatory controls and programs
- Surface water monitoring sampling protocols, data analysis and reporting

#### **Planning**

Planning uses the finding from the assessment phase to identify capital, operational, regulatory, and administrative measures to cost-effectively address critical impacts. Planning activities are initiated once a problem has been identified in the assessment phase or when a new regulation is being promulgated by a public agency. Typical activities include:

- Creation of specific land use controls
- Financial management of programs and projects
- Financial impact analyses
- Implementation plans
- Public engagement
- Prioritization

- Scheduling
- Design standards
- Regulatory compliance, including reports and permitting
- Future updates to Minneapolis Local Surface Water Management Plan

#### **Implementation**

Implementation puts plans to action by constructing the capital improvements, conducting the maintenance activities, and enforcing the regulations. Activities include:

- Design and construction of prioritized capital improvements
- Operation and maintenance
- Start-up and continuation of new regulatory activities
- Ongoing regulatory compliance activities
- Permitting and enforcement

### Additional Activities and the Implementation Framework

The additional activities needed to meet water resources management goals will add increased value to activities that are already in place. These additional services will be developed under the auspices of the implementation framework. For each proposed activity, stakeholders will be consulted, the scope will be developed, budgets proposed, and authorization to proceed with the activity will be at the will of the Mayor and City Council. As an activity receives prioritization and funding, an assessment of conditions will be made, planning for implementation will be conducted, and the activity will be implemented.

#### **Prioritization**

One of the additional activities identified during development of this plan is for the City to develop an updated system of prioritization for new/improved water resources activities. To meet the intent of this LSWMP, the new system could be set to give preference to activities that meet multiple water resources management objectives. For example, a capital improvement project which removes inflow sources plus adds water quality improvement for runoff that drains to an impaired lake could be given greater preference than a project that only adds a water quality improvement. A quantitative method that assigns points based on water resources objectives could also be created. Points could be assigned based on relative health and safety benefits, number of objectives accomplished, cooperating partners, and other such considerations. Since funding for new programs is limited, available funding could be directed toward the projects or new programs that receive the highest points under the City-adopted priority ranking system.

## Appendix A Watershed District and Watershed Management Organizations

The City of Minneapolis falls under the jurisdiction of four watershed management organizations. They are the Bassett Creek Watershed Management Commission (BCWMC), the Minnehaha Creek Watershed District (MCWD), the Mississippi Watershed Management Organization (MWMO), and the Shingle Creek Water Management Commission (SCWMC). The geographical extent of each organization's jurisdiction within the City of Minneapolis is shown in Figure 2. A general overview of the requirements of each organization is presented below, but readers are encouraged to contact each organization directly to obtain the most up-to-date information on their goals, policies, and programs. Contact information is current as of September, 2006.

## **Bassett Creek Watershed Management Commission**

c/o Barr Engineering Co. 4700 West 77th Street, Minneapolis 55435-4803

Ph: 952-832-2600 Fax: 952-832-2601

http://www.bassettcreekwmo.org

The Bassett Creek watershed, nearly 40 square miles, is divided into four major subwatersheds. The nine municipalities represented by the BCWMC include: Plymouth, Medicine Lake, Golden Valley, Robbinsdale, Crystal, New Hope, Minnetonka, St. Louis Park, and Minneapolis.

The BCWMC adopted its first Watershed Management Plan in February 1972. The Commission released its Second Generation Plan (draft) for public review in July of 2003, which was subsequently approved by BWSR in August 2004 and adopted by the BCWMC in September, 2004. The BCWMC Plan sets the vision and guidelines for managing surface water within the boundaries of the BCWMC.

## **Summary of Goals**

Water resources management goals developed by the BCWMC are included in Table A-1.

#### **Table A-1 BCWMC Goals**

Goal	Description
GOAL 1	Manage the water resources of the watershed, with input from the public, so that the beneficial uses of wetlands, lakes and streams remain available to the community. Improve the quality of stormwater runoff reaching the Mississippi River by reducing non-point source pollution (including sediment) carried as stormwater runoff. Protect and enhance fish and wildlife habitat and maintain shoreland integrity.

Description
Reduce flooding along the Bassett Creek trunk system. Protect human life, property, and surface water systems that could be damaged by flood events. Regulate stormwater runoff discharges and volumes to minimize flood problems, flood damages and the future costs of stormwater management systems. Provide leadership and assist member cities with coordination of intercommunity stormwater runoff planning and design.
Prevent erosion and sedimentation to the greatest extent possible to protect the BCWMC's water resources from increased sediment loading and associated water quality problems. Implement soil protection and sedimentation controls whenever necessary to maintain health, safety, and welfare.
Implement stream restoration measures whenever necessary to maintain health, safety, and welfare. Maintain or enhance the natural beauty and wildlife habitat value of Bassett Creek.
Achieve no net loss of wetlands in the BCWMC, in conformance with the Minnesota Wetland Conservation Act and associated rules (Minnesota Rules 8420).
Protect the quantity and quality of groundwater resources.
Manage public ditches in a manner that recognizes their current use as urban drainage systems.
A. Raise awareness of the watershed's existence and the role that the BCWMC plays in protecting water quality and preserving the watershed's health and aesthetics.
B. Enable the target audiences to have confidence in the BCWMC's expertise and participate in a meaningful way in the planning process and ongoing projects conducted by the BCWMC.
C. Raise awareness of the impact that individuals, businesses and organizations have upon water quality and motivate these audiences to change personal/corporate behavior that has a negative impact on water quality and the watershed.

(Source: BCWMC)

#### **Policies**

Chapter 4 of the BCWMC Watershed Management establishes water quality policies in the areas of Lake and Stream Management, Stormwater Runoff Management, Fish and Wildlife Habitat and Shoreland Management, and Administration of Water Quality Management Standards. Specific policies include:

#### Policies Relating to Lake and Stream Management

- A. Waterbodies are classified into one of four management categories.
- B. Each member city will classify water bodies in local water management plans.
- C. BCWMC will work with stakeholders to manage water bodies.
- D. BCWMC and member cities will implement capital improvement projects listed in Table 12-2 of the BCWMC Watershed Management Plan.
- E. BCWMC will give high priority to projects that include non-structural measures and education.

- F. BCWMC will fund 100% of cost for water quality improvement projects that are listed in their 10-year CIP.
- G. BCWMC will cooperate with member cities, MPCA and other stakeholders in preparation of TMDL studies.
- H. BCWMC will continue to identify opportunities to maintain or improve excellent water quality in Twin Lake.
- I. BCWMC will monitor, or coordinate with others to monitor, the water quality of lakes and streams in the watershed on a regular basis.
- J. BCWMC will add projects from Table 12-3 of Watershed Management Plan to 10-year CIP using minor plan amendment process.
- K. BCWMC will initiate in-stream chloride monitoring when appropriate.
- L. BCWMC will compile water quality report for every sampling year that monitoring is conducted.

#### Policies Relating to Stormwater Runoff Management

- A. BCWMC requires that all regulated stormwater be treated to Level I standards.
- B. BCWMC will continue to participate in MCES Watershed Outlet Monitoring Program (WOMP).
- C. Each city shall adopt an ordinance that enforces the Minnesota State Law limiting the use of lawn fertilizers that contain phosphorus.
- D. BCWMC requires developers to consider/evaluate the use of BMPs in accordance with requirements of Appendix F of the BCWMC Watershed Management Plan.

#### Policies Relating to Fish and Wildlife Habitat and Shoreland Management

- A. BCWMC requires that local water management plans contain buffer policies.
- B. BCWMC will react to recommendation of other agencies, as the BCWMC deems appropriate.
- C. BCWMC will collect, or coordinate with others to collect, macroinvertebrate monitoring data.
- D. BCWMC will promote and encourage protection of non-disturbed shoreland areas and restoration of disturbed shoreland areas.

- E. BCWMC will encourage preservation of streambank and lakeshore vegetation during and after construction.
- F. BCWMC will encourage creation of buffer zone along shorelines.
- G. Member cities are required to maintain control and responsibility for shoreland regulation.

## Policies Relating to Administration of BCWMC Water Quality Management Standards

- A. BCWMC will review projects and developments to evaluate compliance with BCWMC standards.
- B. BCWMC will continue to work with other public agencies to gain compliance with BCWMC water quality management standards.
- C. BCWMC will review local surface water management plans for compliance with BCWMC Watershed Management Plan goals and policies.

#### **Summary of Rules**

A synopsis of BCWMC rules is presented below. The letter system conforms to that used by the BCWMC.

#### Rule C. Floodplain Regulations

The following policies regarding floodplain regulation within the Bassett Creek watershed have been adopted:

- 1. The floodplain of Bassett Creek is defined as that area lying below the 100-year flood elevations as shown in the Water Management Plan of the BCWMC, or as subsequently revised due to channel improvement, storage site development, or requirements established by appropriate state or federal governmental agencies.
- 2. No land use of a type which would be damaged by flood waters is permitted within the floodplain.
- 3. Allowable types of land use which are consistent with the floodplain, such as recreation areas, parking lots, excavations and storage areas, agriculture, and other open space uses, would be allowed only to the extent that they would not increase flooding. Permanent storage piles, fences, and other obstructions, which would collect debris or provide restriction to flood flows are not allowed.
- 4. Filling will generally not be allowed within that floodplain established in the Water Management Plan of the BCWMC. If any municipality desires to fill within the established floodplain, such filling will require the approval of the BCWMC and require provisions for compensating storage and/or channel improvement so that the flood level shall not be increased at any point along the channel due to the fill.

5. Expansion of existing non-conforming land uses within the floodplain will be prohibited unless they are fully floodproofed in accordance with existing codes and regulations.

#### Rule D. Water Resources

#### Water Quality Management

The lakes, rivers, ponds, streams, and wetlands of the Bassett Creek watershed are an important community asset. These resources supply aesthetic and recreational benefits, in addition to providing wildlife habitat and refuge. The BCWMC recognizes a need to ensure adequate water quality in the water bodies in its jurisdiction, and has taken steps to protect these resources. The Water Quality Management Policy was adopted to protect, preserve, and manage the water resources in the Bassett Creek watershed.

#### Control of Streambank Erosion and Streambed Degradation

Streambank erosion and streambed degradation control measures must:

- 1. Be employed whenever the net sediment transport for a reach of stream is greater than zero or whenever the stream's natural tendency to form meanders directly threatens damage to structures, utilities or natural amenities in public areas.
- 2. Include effective energy dissipation devices or stilling basins to prevent streambank or channel erosion at all stormwater outfalls.
- 3. Specify riprap consisting of natural angular stone suitably graded by weight for the anticipated velocities.
- 4. Provide riprap to an adequate depth below the channel grade and to a height above the outfall or channel bottom so as to ensure that the riprap will not be undermined by scour or rendered ineffective by displacement.
- 5. Specify that riprap be placed over a suitably graded filter material or filter fabric to ensure that soil particles do not migrate through the riprap and reduce its stability.
- 6. Require that streambank stabilization and streambed degradation control structures be submitted for review by the BCWMC. The review will consider the need for the work, the adequacy of design, unique or special site conditions, energy dissipation, the potential for adverse effects, contributing factors, preservation of natural processes, and aesthetics.

#### **Grit Chambers**

Grit chambers for presettlement of stormwater must:

- 1. Be designed and sized to provide theoretical settlement of a 0.3-mm grit particle in still water at 10°C (based on Stokes Law).
- 2. Be designed to provide sufficient storage volume for the settled particles consistent with the maintenance schedule.

- 3. Include a device to diffuse inflow and provide a relatively uniform distribution of flow over the cross section of the chamber.
- 4. Provide convenient access for equipment and maintenance personnel to the chamber site and into the chamber itself.
- 5. Be inspected at least three times a year (spring, summer and fall) to determine the volume of stored grit, and be cleaned immediately whenever significant grit has accumulated or there is likelihood that the chamber will be full of grit before the next scheduled inspection

#### Regional Detention Basins

Regional detention basins must:

- 1. Conform to municipalities' stormwater runoff criteria.
- 2. Have water quality features designed based on Level I management classification as set forth in the water quality management policy.

#### Sediment Collection and Nutrient Entrapment

Wetlands used for sediment collection and nutrient entrapment must conform to the criteria for on-site or regional detention basins (whichever are appropriate). In addition, these wetlands and detention basins must:

- 1. Detain stormwater runoff in the first 11/2 feet of stormwater storage depth for an average period of no less than 48 hours.
- 2. Provide an outlet structure capable of draining the wetland or basin substantially dry to permit harvesting of wetland vegetation and removal of sediment.
- 3. Be harvested every fall (usually before October 15) by cutting the vegetation and removing the cuttings to an approved disposal site.

#### Sediment Control

In order to protect the water resources of the Bassett Creek watershed from increased sediment and associated water quality problems, the BCWMC has established the following policies to encourage land use planning and development that minimizes sediment yield:

- 1. The use of on-site settling ponds and/or filter fabric (silt fence) to control the sediment in runoff from construction sites, land clearing, or grading operations is required on all projects.
- 2. The sedimentation ponds will be cleaned on a regular interval determined by calculating the sediment yield expected from the tributary watershed and comparing it to the capacity of the pond.
- Preservation and improvement of marsh areas for sediment removal by natural filtration is recommended as long as the natural intrinsic value of the wetland is not adversely affected.

4. The design of storm sewer, stream channel improvements, and channel crossings must consider temporary erosion control and sediment reduction measures to be implemented during construction and permanent measures to eliminate erosion and reduce sediment production during operations.

#### Minnehaha Creek Watershed District

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http://www.minnehahacreek.org

The MCWD covers approximately 181 square miles and is home to eight major creeks, 129 lakes and thousands of wetlands. The MCWD includes all or part of 27 cities and three townships in Hennepin and Carver Counties. The MCWD "seeks to conserve the natural resources of the Minnehaha Creek watershed principally through analysis of the causes of harmful impacts on the water resources, public information and education, regulation of land use, regulation of the use of waterbodies and their beds, and capital improvement projects". The MCWD's Water Resources Management Plan was adopted in January of 1997. It outlines the MCWD's mission, goals and policies, and implementation plan.

## **Summary of Goals**

Water resources management goals developed by the MCWD are included in Table A-2.

#### Table A-2. MCWD Goals

Goal	Description
GOAL 1	Reduce the severity and frequency of flooding and high water, and improve the chemical and physical quality of surface water.
GOAL 2	Control temporary sources of sediment resulting from construction and land development activities, and identify, minimize, and correct the effects of sedimentation from erosion-prone areas.
GOAL 3	Preserve existing water storage capacity below flood elevations on all water bodies in the watershed to minimize the frequency and severity of high water.
GOAL 4	Preserve the natural appearance of shoreline areas and minimize degradation of surface water quality which can result from dredging operations.
GOAL 5	Maintain the hydraulic capacity of and minimize obstructions to navigation in watercourses and preserve the water quality and aesthetic appearance of shoreland areas.
GOAL 6	Improve water quality by promoting best management practices (BMPs), requiring their adoption in local management plans, and requiring their implementation on development sites.

Goal	Description
GOAL 7	Protect the recreational opportunities associated with water resources by improving water quality and enhancing fish and wildlife resources.
GOAL 8	Enhance public participation in MCWD activities and provide informational and educational material to municipalities, community groups, businesses, schools, developers, contractors, and individuals.
GOAL 9	Maintain public ditch systems within the MCWD as required under ditch authority jurisdiction.
GOAL 10	Support efforts to provide for the protection of groundwater and regulate its use to preserve it for beneficial purposes.
GOAL 11	Protect existing wetlands and restore diminished or drained wetlands.

(Source: MCWD)

## **Summary of Rules**

MCWD rules seek to:

- Protect public health and welfare and the natural resources by reasonable regulation of the modification or alteration of lands and waters of the MCWD
- Reduce the severity and frequency of flooding and high water
- Preserve floodplains and wetlands
- Improve the chemical and physical quality of surface water
- Reduce sedimentation
- Preserve hydraulic and navigational capacity of waterbodies
- Preserve natural shoreland features
- Minimize public expenditures to avoid or correct such problems in the future

A synopsis of the MCWD rules is presented below. The lettering systems conform to that used by the MCWD.

#### Rule B. Stormwater Management Plan

The MCWD attains its policies for stormwater management through Rule B: Stormwater Management Plans for Individual Projects. Rule B covers developments of land for residential, commercial, industrial, institutional or public roadway uses. It also covers redevelopment and additions to existing development. It directs permit applicants to apply for a permit and prepare a local stormwater management plan for the individual project. It also directs them to prepare an erosion control plan for construction and land development activities. The MCWD Board of Managers will

transfer permit and review authority to communities that have approved stormwater management plans. An approved stormwater management plan will conform to Rule B and implement equal or equivalent design criteria for stormwater quantity and quality and require equal or equivalent exhibits. The MCWD Board of Managers will consider any variance requested from these local stormwater management plans.

#### Rule B. Erosion and Sedimentation Control Plan

The MCWD Board of Managers requires cities to adopt the MPCA best management practices and put these into their local surface water management plan (SWMP). These best management practices will meet the MCWD Board of Managers' Erosion and Sedimentation Control policies. MCWD approval of individual local SWMPs will require cities to take responsibility for enforcing erosion and sedimentation control plans for all development and redevelopment sites through their normal permitting procedures. This includes erosion control provisions for small sites associated with building permits, driveway permits, and grading permits.

Local SWMPs must also require documentation that the project has received a National Pollutant Discharge Elimination System (NPDES) Stormwater Permit from the MPCA (if required by the MPCA). The MCWD Board of Managers policy requires landowners proposing to develop land to prepare an erosion and sediment control plan for all construction activities that remove or disturb existing protective cover. The developer must have city approval of this plan before starting any construction. The SWMP must address sediment containment. The local SWMP must also require establishing permanent vegetative cover as soon as construction is done. The erosion and sediment control plan must outline the direction of all site runoff and the location of erosion control measures. Structural methods for erosion control may include, but are not limited to, silt fences, hay-bale barriers, diversion dikes, and sedimentation basins. The local SWMP shall also require installation of structural measures in accordance with the manufacturers' specifications and accepted MPCA guidelines. Non-structural methods include, but are not limited to, natural plant barriers, phased development practices, and grading practices that minimize slopes. Local SWMPs must require employing these methods in accordance with accepted engineering standards and in accordance with MPCA BMPs.

The erosion control plan must temporarily and permanently replace plant cover. These practices include, but are not limited to, seeding, mulching, and sodding. Local SWMPs must require proper care of all structural and nonstructural erosion control measures that must remain in place until the establishment of permanent plant cover. The MCWD Board of Managers recommends that local units of government obtain a surety to make sure that the developer adequately carries out the plan.

#### Rule C. Floodplain Alteration

The MCWD's Rule C applies to floodplain alterations. That rule states that it is the MCWD Board of Managers' policy to:

- Preserve existing water storage capacity below the 100-year flood levels on all water bodies in the watershed to minimize the frequency and severity of high water
- Minimize development in the 100-year floodplain that will unduly restrict flood flows or make known high-water problems worse

The MCWD Board of Managers will conduct the floodplain management program and review all projects proposed within the 100-year floodplain. Rule C criteria will guide the Board of Managers' review of developments and redevelopments within the floodplain. Local SWMPs must include floodplain management strategies. The Board of Managers will review these floodplain management strategies for conformity with Rule C and will transfer permitting authority for floodplain alterations if local floodplain ordinances conform to MCWD Rule C.

#### Rule D. Wetland Protection

The U.S. Army Corps of Engineers (USACE) potentially has jurisdiction over all wetlands in Minnesota. The Minnesota Department of Natural Resources (DNR) through a USACE/DNR general permit currently has authority to preserve protected waters and wetlands. The wetlands under the DNR's jurisdiction include most types 3, 4, and 5 wetlands as defined in the U.S. Fish and Wildlife Circular No. 39. The DNR requires a permit for changes to a protected water or wetland. BWSR provides administrative guidance over implementation of the Wetland Conservation Act (WCA) of 1991.

The MCWD serves as the local governmental unit (LGU) for implementing the WCA where LGU authority has not been obtained by a municipality. MCWD Rule D applies to types 1, 2, 3, 4, 5, 6, 7, and 8 wetlands. It also includes requirements for wetland buffers, restrictions for excavation in wetlands and for locating replacement wetlands. Local SWMPs must incorporate the requirements of Rule D or continue to allow the MCWD to regulate wetland protection. In addition, cities shall assess functions and values by utilizing one of a number of methodologies listed in the Wetland Conservation Act Rules. Cities issuing permits for work in and around wetlands will inform the permittee that these activities may also need DNR and USACE permits prior to approval of the local permit.

#### Rule F. Shoreline and Streambank Improvements

The MCWD Board of Managers encourages cities to adopt and carry out ordinances to protect shoreland. These shoreland ordinances shall address the control of shoreland development as identified in the 1989 DNR "Statewide Standards for Management of Shoreland Areas". The cities have the responsibility to administer and enforce these shoreline management regulations. MCWD Rule F applies to shoreline and streambank improvements. The MCWD Board of Managers may delegate permitting authority for shoreline improvements to cities if the Board of Managers decides that cities have either made Rule F part of their local shoreline ordinance or their ordinance does the same thing.

#### Rule G. Stream and Lake Crossings

MCWD Rule G discourages the use of lake beds and beds of waterbodies for the placement of roads, highways and utilities. The rule further lists criteria, which stream and lake crossing projects must meet. Local SWMPs will be reviewed for conformity to Rule G.

## Mississippi Watershed Management Organization

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Fax: 651-287-1308

http://www.mwmo.org

Boundaries of the MWMO include the Mississippi River as it runs through Minneapolis, as well as the land that drains to the river. The MWMO contains portions of the cities of Lauderdale, Minneapolis, St. Anthony, and St. Paul. The final member of the MWMO is the Minneapolis Park and Recreation Board. The MWMO provides for the long-term management of its water and associated land resources through the development and implementation of projects, programs, and policies that respect ecosystem principles and reflect changing community values. The MWMO assists and cooperates with member cities, other units of government, non-profit agencies, and a variety of groups in managing its water resources to achieve this vision.

The MWMO adopted its Water Resources Management Plan in 2000. The MWMO Plan presents the organization's missions; its goals and policies, and its priorities for implementation.

The primary purpose of the MWMO Plan is to provide for the wise, long-term management of the water and associated natural resources within the watershed through implementation measures that realize multiple objectives, respect ecosystem principles, and reflect community values.

## **Summary of Goals**

Water resources management goals developed by the MWMO are included in Table A-3.

Table A-3. MWMO Goals

Goal	Description
GOAL 1	Prevent the flooding of streets and structures from surface water runoff caused by the insufficient capacity of the stormdrain system and/or lack of detention basins and wetlands
GOAL 2	Mitigate the effects of drought that are caused due to lack of detention basins and wetlands coupled with a high percentage of impervious surfaces that reduces the landscape's ability to store water and promotes evaporation thereby increasing the effects of drought

Goal	Description
GOAL 3	Protect and enhance surface water quality such that the water leaving the watershed is at least no more degraded than when it entered the watershed
GOAL 4	Reduce non-point sources of pollution by setting target levels for specific contaminants based on monitoring and working with members to achieve these targets
GOAL 5	Work with other organizations to improve surface water quality across watershed boundaries
GOAL 6	Provide opportunities for public outdoor recreation in a way that preserves and enhances the environment
GOAL 7	Create a continuous river corridor that would enhance the recreational and ecological value of the river
GOAL 8	Enhance public participation in MWMO activities
GOAL 9	Educate MWMO communities about environmental impacts to the Mississippi River, especially non-point sources of pollution
GOAL 10	Educate MWMO communities about redevelopment plans impacting the Mississippi River
GOAL 11	Protect and preserve groundwater quality and quantity by encouraging brownfield redevelopment, well sealing, watershed education campaigns, and projects that promote infiltration of unpolluted water
GOAL 12	Protect and restore wetland resources
GOAL 13	Control loss of soil due to erosion
GOAL 14	Preserve, minimize impact to, and restore natural habitat; especially shorelines and habitat corridors
GOAL 15	To preserve and interpret cultural resources that relate to the history of the Mississippi River and its watershed
	(Source: MWMO)

(Source: MWMO)

## **Summary of Rules**

The MWMO does not issue permits or provide approval letters for construction projects. Instead, it relies on the existing permitting and enforcement bodies of its member communities. The MWMO Board reserves the right to review and comment on plans that affect the quality and quantity of water within and across its watershed and subwatershed boundaries. Local governments are responsible for:

- Maintaining existing and proposed storm drain conveyance systems, including stormwater detention ponds, sewers, inlet and outlet drainage structures
- Issuing building and grading permits
- Performing inspections to ensure compliance during construction.

The MWMO maintains oversight responsibility to monitor local SWMP implementation. If member cities do not follow their approved SWMPs, the MWMO will enforce its standards and rules.

#### **Erosion and Sediment Control**

The member communities of the MWMO shall adopt and implement erosion and sediment control standards or ordinances to reduce erosion and sedimentation. Member communities shall also follow the best management practices described in the MPCA document, Protecting Water Quality in Urban Areas, or other such documents created by member cities to achieve no adverse impact to receiving water bodies. Construction activities, including redevelopment, utility installation, and road construction, are required to obtain an NPDES Construction Permit from the MPCA in addition to local permitting requirements.

#### Shoreline and Floodplain

The MWMO requires its member cities to have on file both a DNR approved Floodplain Ordinance and a DNR approved Shoreline Ordinance. Where no ordinance is applicable, MWMO requires there be no encroachment on floodways that reduces capacities or expedites flood flows. It is also MWMO policy to allow in the flood zone only those structures that have been protected from high water, either through floodproofing or by other construction techniques recognized and accepted by the MWMO Board.

#### **Land Use**

Although specific zoning and land use planning remains with the individual cities, the MWMO urges its member communities to regulate any activities that may cause contamination of surface and groundwater through restrictive permitting, zoning, and licensing.

#### **Stormwater and Drainage Design Performance**

The MWMO requires all its member cities to develop stormwater management ordinances that address the following requirements:

- Reduce runoff through coordinated efforts of state and local agencies
- Update development and enforcement standards for major new construction and redevelopment projects
- Promote increased stormwater retention in new construction and redevelopment projects

## **Shingle Creek Watershed Management Commission**

3235 Fernbrook Lane Plymouth, MN 55447 Ph: 763-553-1144 Fax: 763-553-9326

http://www.shinglecreek.org/

The Shingle Creek/West Mississippi Watershed covers about 67 square miles in east-central Hennepin County. There are ten cities in this watershed, and they jointly manage the water resources in this area through the Shingle Creek and West Mississippi Watershed Management Commissions. The Commissions work jointly for those communities that are members of both the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission. The goal of the Commissions is to enhance the water quality of the water resources within their watersheds through public education, analysis of the causes of harmful impacts, regulation of the use of water bodies, regulation of land use and capital improvement projects.

The Commissions adopted their First Generation management plans in 1990. The Second Generation Plan was developed between May 2001 and August 2002, and describes how both Commissions will address activities in their respective watersheds over the period 2003-2012. Several citizen, agency, and Commission meetings were held throughout the planning process whereby input was actively solicited from those with an interest in the watershed. The plan was formally adopted by the SCWMC in May 2004.

The SCWMC includes an updated land and water resources inventory; goals and policies in eight specific areas; an assessment of problems and identification of corrective actions; an implementation program; and a process for amending the Plan. It describes how the Shingle Creek and West Mississippi Watershed Management Commissions (SCWMC) will address activities in the two watersheds in the ten-year period 2003-2012.

## **Summary of Goals**

Water resources management goals developed by the SCWMC are included in Table A-4.

**Table A-4 SCWMC Goals** 

Goal	Description
GOAL 1	Maintain the existing 100-year flood profile throughout the watersheds
GOAL 2	Protect and improve water quality based on practical use
GOAL 3	Strive to provide water quality that supports recreation, fish and wildlife based on practical use

Goal	Description
GOAL 4	Establish an education and public outreach program
GOAL 5	Develop an appropriate management strategy for Hennepin County Ditch #13
GOAL 6	Protect and improve groundwater quality and promote groundwater recharge
GOAL 7	Protect and improve wetlands
GOAL 8	Reduce erosion and sedimentation

(Source: SCWMC)

#### **Summary of Rules**

SCWMC rules and standards protect the public health, welfare, and natural resources of the watershed by regulating the improvement or alteration of land and waters in the watershed to:

- Reduce the severity and frequency of high water
- Preserve floodplain and wetland storage capacity
- Improve the chemical and physical quality of surface waters
- Reduce sedimentation
- Preserve the hydraulic and navigational capacities of waterbodies
- Promote and preserve natural infiltration areas
- Preserve natural shoreline features

In addition to protecting natural resources, these rules and standards are intended to minimize future public expenditures on problems caused by the improvement or land and water alterations. A synopsis of SCWMC rules is presented below. The lettering system conforms to that used by the SCWMC.

#### Rule C. General Standards

- All land-disturbing activities, whether requiring a project review under SCWMC rules or otherwise, shall be undertaken in conformance with BMPs and in compliance with the standards and criteria in the SCWMC rules.
- 2. Project reviews are required of: any single family detached housing project 15 acres or larger in size; projects in any other land use such as commercial/industrial/institutional 5 acres or larger in size; and any land disturbing activity requested by a member city to be reviewed regardless of project size.

- 3. No person shall conduct land-disturbing activities without protecting adjacent property and waterbodies from erosion, sedimentation, flooding, or other damage.
- 4. Development shall be planned and conducted to minimize the extent of disturbed area, runoff velocities, and erosion potential, and to reduce and delay runoff volumes. Disturbed areas shall be stabilized and protected as soon as possible and facilities or methods used to retain sediment on-site.
- 5. When possible, existing natural watercourses and vegetated soil surfaces shall be used to convey, store, filter, and retain runoff before discharge into public waters or a stormwater conveyance system.
- 6. When possible, runoff from roof gutter systems shall discharge onto lawns or other pervious surfaces to promote infiltration.
- 7. Use of fertilizers and pesticides in the shoreland protection zone shall be done so as to minimize runoff into public waters by the use of earth material, vegetation, or both. No phosphorus fertilizer shall be used unless a soil nutrient analysis shows a need for phosphorus or in the establishment of new turf.
- 8. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and ponds may be used. The SCWMC encourages designs using surface drainage, vegetation and infiltration rather than buried pipes and man-made materials and facilities.
- 9. Whenever the SCWMC determines that any land-disturbing activity has become a hazard to any person, endangers the property of another, adversely affects water quality of any waterbody, increases flooding, or otherwise violates SCWMC rules, the SCWMC shall notify the member city where the problem occurs and the member city shall require the owner of the land upon which the land-disturbing activity is located, or other person or agent in control of such land, to repair or eliminate such condition within the time period specified therein. The owner of the land upon which a land disturbing activity is located shall be responsible for the cleanup and any damages from sediment that has eroded from such land. The SCWMC may require the owner to submit a project review application under SCWMC rules before undertaking any repairs or restoration.

#### Rule D. Stormwater Management

No person or political subdivision shall commence a land-disturbing activity or the development or redevelopment of land for the following types of projects without first submitting to and obtaining approval of a project review from the SCWMC that incorporates a stormwater management plan for the activity, development, or redevelopment:

1. Plans of any land development or site development of 15 acres or larger for single family detached housing use and 5 acres or larger for all other land uses.

- 2. Plans of any land development or individual site development adjacent to or within a lake, wetland, or a natural or altered watercourse, as listed in the final inventory of Protected Waters and Wetlands for Hennepin County, as prepared by the DNR.
- 3. Plans for any land development or site development within the 100-year floodplain, as defined by the Flood Insurance Study for the member city.
- 4. Plans of any land development or site development regardless of size, if such review is requested by a member city.
- 5. Single-family developments of more than 15 acres that drain to more than one watershed, for that portion of the site draining into the Shingle Creek/West Mississippi Watershed.

#### Rule E. Erosion and Sediment Control

No person or political subdivision shall commence a land-disturbing activity or the development or redevelopment of land for: any single family detached housing project 15 acres or larger in size; projects in any other land use such as commercial/industrial/institutional 5 acres or larger in size; or any land-disturbing activity requested by a member city to be reviewed regardless of project size without first submitting to and obtaining approval of a project review from the SCWMC that incorporates an erosion and sediment control plan for the activity, development, or redevelopment.

### Rule F. Floodplain Alteration

No person or political subdivision shall alter or fill land below the 100-year critical flood elevation of any public waters, public waters wetland or other wetland without first obtaining an approved project review from the SWMC.

#### Rule G. Wetland Alteration

No person or political subdivision shall drain, fill, excavate or otherwise alter a wetland without first obtaining the approval of a wetland replacement plan from the local government unit with jurisdiction over the activity.

#### Rule H. Bridge and Culvert Crossings

No person or political subdivision shall construct or improve a road or utility crossing across Shingle Creek or any watercourse with a tributary area in excess of 100 acres without first submitting to the SCWMC and receiving approval of a project review.

#### Rule I. Buffer Strips

No person or political subdivision shall commence a land-disturbing activity or the development or redevelopment of land for: any single family detached housing project 15 acres or larger in size; projects in any other land use such as commercial/industrial/institutional 5 acres or larger in size; or any land-disturbing activity requested by a member city to be reviewed regardless of project size; on land that contains or is adjacent to a watercourse or wetland without first submitting to

and obtaining approval of a project review from the SWMC that incorporates a vegetated buffer strip between the development or redevelopment and the watercourse or wetland.

## Appendix B Minneapolis Ordinances

## **Summary**

Table B-2 contains a summary of Minneapolis ordinances that help protect water resources in the City. The table also references related ordinances and state laws.

			Document	
Topic	Chapter	Section	Ordinances or State Law	Summary
Solid and Hazardous Waste	46	40 - 60	Minn. R. Ch. 7045; Minn. State.Ch. 116	Outlines the permitting and fee requirements for any person storing, handling or processing hazardous waste
Minneapolis Watershed Management Authority	48	All	Minn, R. Ch. 4715, 4717, 4725, 7035, 7037, 7041, 7042, 7044, 7045, 7046, 7060, 7060, 7060, 7060, 7160, 7160, 7161, Minn. Stat. 115.061; Minn. Stat. 435.439 to 435.4395; Minn Stat Ch. 1156; Minn Stat. 1150; Minn Stat. 1150, Minn	<ul> <li>Establishes the Minneapolis Watershed Management Authority within the Environmental Management Section of the Department of Operations and Regulatory Services with authority to regulate and control watershed pollution. The unit is responsible for administering and enforcing all laws related to the quality of the City's water and land resources. The ordinance addresses storage of regulated substances, investigation of environmental contamination and remediation of contaminated sites.</li> </ul>
Aboveground Storage Tanks For Regulated Substances	48	120	2002-0r-169, Section 6, 11/8/02	Reasonable protection from spills and leaks reaching the stormwater sewer, sanitary sewer, or waters of the state are required.
Investigation of Environmental Contamination	48	190	2000-0r-017, Section 1, 4/7/00 and 2002-0r-169, Section 5, 11/8/02	• The MPCA can ask organizations that own, operate or manage devices that have leaked hazardous materials in the past to provide records and data to help identify the constituents or quantity of hazardous waste in a stormwater sewer, sanitary sewer, or surface waters.
Registration to Discharge to the Sewer System	50	40	Minn. Stat. Ch. 473: 82-0r-225, Section 1.1.4/120, Sts. 85-0-015, Section 1.1.4/20, 815, 86-0r-167, Section 1.7/20/86; Pet. No. 250650, Section 14, 10/27/89; 90-0-074, Section 1.3/16/90, 92-0r-157, Section 1.1.1/20/92, 2002-0r-170, Section 4.1.1/8/02	<ul> <li>It is illegal for any non-dwelling discharge to discharge domestic waste into the Minneapolis sewer system without first registering with the City and paying an annual fee.</li> </ul>
Industrial Waste Discharge Registration	50	50	Minn. Stat. 0r. 473: 82-0r-225, Section 1.11/12/82: 86-0r-015, Section 2.1/25/86: 960-074, Section 2.7/25/86: 900-074, Section 2.3/16/90: 2002-0r-157, Section 2.11/20/92: 2002-0r-170, Section 56.11/8/02	• It is illegal to discharge industrial waste to the sanitary sewer system without first filing an industrial waste discharge registration and paying the annual fee.
Direct Storm Drain Discharge Registration	20	09	82-0r-225, Section 1, 11/12/82; 2002-0r-170, Section 7-8, 11/8/02	It is illegal to discharge water used in a process (including cooling water) into the storm drain without first filing a direct storm drain discharge registration and paying the annual fee.
Erosion Control and Sediment Control Performance Standards	52	70	Minn. Stat. Ch. 40; Minn. Wetland Conservation Act of 1991, 96-Or- 042, Section 1, 5/10/96	<ul> <li>Construction activities must have provisions to prevent soil from being deposited on other properties, in the right of way, in a public storm drainage system, wetlands, or watercourses.</li> <li>Design, testing, and use of erosion control must adhere to Chapter 52 ordinances.</li> </ul>
Erosion and Sediment Control Plan	52	100	Minn. Stat. Ch. 40; Minn. Wetland Conservation Act of 1991.	<ul> <li>An erosion/sediment control plan and permit are needed if a project disturbs over 5,000 ft2 of ground or 500 yd3 of soil.</li> <li>An acceptable plan must allow for temporary stabilization along the perimeter of all dikes, swales, ditches, perimeter slopes, slopes greater than 3:1, embankments of ponds, basins and traps.</li> </ul>
Lubricating and Motor Oil Discharge Control	53	20	Minn. Stat. 325 E310 et seq.; 77- Or-190, Section 1, 9/9/77	<ul> <li>The City has found many occasions where oils fall to the ground, contaminate runoff, and then be conveyed to surface waters and stormwater sewer systems.</li> <li>Designated oil collection points shall be set up and disposal of oil to those points only will be enforced.</li> </ul>
Oil Collection Station Requirements	23	40	Minn. Stat. 325 E310 et seq.; 77- Or-190, Section 1, 9/9/77 and 79- Or-248, Section 1, 12/14/79	<ul> <li>No one shall dispose of used oil anywhere in the City except for a city-operated station or privately maintained service station.</li> <li>It is then the station operators' responsibility to prevent the oil from being released.</li> </ul>
Applicability of a Stormwater Management System	54	50	Minn. Stat. Ch. 103B; Minn. Stat. Ch. 462; Minn. Stat. 1036.005; Minn. R. Ch. 8410; Minn. R. Ch. 8420; 99-Or-156, Section 1, 11/24/99	<ul> <li>A construction project requires a stormwater management system if the site is greater than 1 ac.</li> </ul>
Stormwater Management Standards	54	70	Minn, Stat. Ch. 103B; Minn, Stat. Ch. 462; Minn, Stat. 1036; O05; Minn, R. Ch. 8410; Minn, R. Ch. 8420; 99-Or-156, Section 1, 11/24/99	The Stormwater Design Manual sets stormwater management standards which include: A reduction in suspended solids concentration discharged into the Mississippi O Controlled rate of discharge into streams A reduction in nutrients in stormwater draining into lakes and wetlands Minimum requirements for nutrient removal

Topic	Chapter	Section	Referenced Ordinances or State Law	Summary
Ways to Manage Stormwater Runoff	54	02	Minn. Stat. Ch. 103B; Minn. Stat. Ch. 462; Minn. Stat. 1036.006; Minn. R. Ch. 8410; Minn. R. Ch. 8420; 99-0-156; Section 1, 11,24/99	If development density, topographic features, or soil/vegetative conditions can not handle storm water runoff then the Stormwater Design Manual suggests one uses natural features, vegetation and constructed facilities to control runoff:     Facilities include: wetlands, wet-ponds, detention ponds, pocket ponds, multiple-pond systems, settling basins, infiltration basins and trenches, filter systems, bioretention systems, swales, grass channels, waterways, rooftop detention, skimming devices, grit chambers, sweeping or diversions.
Planning of Ground Disturbances During Construction	54	70	Minn. Stat. Ch. 103B; Minn. Stat. Ch. 462; Minn. Stat. 1036.005; Minn. R. Ch. 8410; Minn. R. Ch. 8420; 99-01-156, Section 1, 11/24/99	Development must be planned to minimize:     Ground disturbances     Runding velocity     Caroling potential     Development should reduce or delay the volume of runoff
Maximizing Infiltration to Minimize Stormwater Runoff	54	70	Minn. Stat. Ch. 103B; Minn. Stat. Ch. 462; Minn. Stat. 1036.005; Minn. R. Ch. 8410; Minn. R. Ch. 8420; 99-01-156, Section 1, 11/24/99	Natural drainage ways and vegetative soil surfaces should be used to convey, store, filter, and retain stormwater before it is discharged into the public storm system. Ways to maximize infiltration include:     Minimizing impervious surfaces on the property.     Directing runoff from impervious surfaces (such as roofs) to lawns or other pervious areas.
General Regulations on Fertilizer Application	55	40	2001-0r-113, Section 1, 9/28/01 and 2002-0r-068, Section 4, 7/26/02	Commercial and non-commercial applicators shall not apply fertilizer at times when excess runoff is likely including:     When the ground is frozen     When the ground is frozen     When heavy rain is in the forecast     Except for the exceptions in Chapter 55.50, all fertilizer can not contain phosphorous.     Fertilizers can not be applied to impervious surfaces
Phosphorous-Containing Fertilizer Exemptions	55	50	2001-0r-113, Section 1, 9/28/01 and 2002-0r-068, Section 4, 7/26/02	The following can apply fertilizers containing phosphorous:     On new lawns during the first growing season     On new lawns during the first growing season     Solis in which a test has been performed in the past three years demonstrating that phosphorous-containing soils will promote healthy turf growth.     Solis in which a test has been performed in the past three years demonstrating that phosphorous-containing soils will promote healthy turf growth.     On golf courses and under the direction of a licensed and certified person or by an approved organization with an ongoing training sourse.
Application of Phosphorous Containing Fertilizers	99	09	2002-0r-068, Section 6, 7/26/02	On properties permitted to apply phosphorous-containing fertilizers (Chapter 55.50) the applier must:     Apply at a rate that does not exceed the rate recommended by the University of Minnesota's Extension Service and approved by the Commissioner of Agriculture.     Fertilizer must be watered so it is immobilized and protected from loss by runoff.
Sale of Fertilizers Containing Phosphorous	92	70	2001-0r-113, Section 1, 9/28/01 and 2002-0r-068, Section 7, 7/26/02	<ul> <li>When selling fertilizers, retailers must:         <ul> <li>Not display phosphorus-contraining fertilizers in or outside of their store.</li> <li>Should post usage restrictions in accordance to Chapter 55</li> <li>At the time of purchase, make available to the buyer a copy of Chapter 55 or a summary prepared by a regulatory agency.</li> </ul> </li> </ul>
Prohibited Connections to the Sanitary Sewer	26	70	2003-0r-053, Section 1, 5/2/03	At one time, some stormwater drains were allowed to connect to the sanitary sewer system. In an effort to minimize sanitary sewer overflows, the following are prohibited from being connected to the sanitary sewer system:     Rainwater pipes, rainleaders, and are ad trains for conveying stormwater/clearwater from any building, structure, ground or premises     Drains from the uncovered top decks of parking garages can not be connected to the sanitary sewer system.     Drains from evered parking garage decks can be connected to the sanitary sewer system.
Disconnection of Previously Allowed Connected	56	80	2003-0r-053, Section 1, 5/2/03	<ul> <li>All building connections (rainwater pipes, rainleaders, area drains and other connections used for conveying stormwater and Clearwater from any building, structure, ground or premises) installed before 1961 or allowed after 1961 must be disconnected by January 1, 2005.</li> </ul>
Disconnection of Stormwater Drains	99	100	2003-0r-053, Section 1, 5/2/03	<ul> <li>No one can perform a disconnection of a rainwater pipe, rain leader, area drain or connection conveying rainwater from a building without first obtaining a disconnection permit.</li> </ul>
Diseased, injured or dead animals	72	all		<ul> <li>Prohibits the possession of dead animals, unless in the care of a licensed veterinarian. The ordinance also regulates the abandonment, care and disposal of diseased and dead animals.</li> <li>The disposal rules can protect water resources from prohibiting the disposal of animals to the sanitary sewer.</li> </ul>
Polluted Water Wells	215	10 - 55	Code 1960, As Amend., Section 789.010; Petition Number 251060, Section 1, 12/15/89	<ul> <li>The use of a contaminated water well is prohibited.</li> <li>This code gives rules on testing polluted wells.</li> <li>Allows the commissioner of health to test the water of any well in the City upon cause and to order any polluted wells to be tagged as impure.</li> </ul>
Water Well Construction	216	15 - 150	Minn. Stat. Ch. 1031; Minn. Laws 1991, Ch. 355; Minn. R. Ch. 4725; 91-0r-155, Section 1, 8/9/91	Gives rules for constructing and sealing water wells.
Pesticide Licensing	230	20	87-0r-078, Section 1, 5/8/87	Anyone in the business of handling or applying pesticides must be licensed by the State.

Topic	Chapter	Section	referenced Ordinances or State Law	Summary
Creation of a Stormwater Utility	510	20	2004-0r-132, Section 1, 11/5/04	<ul> <li>The City Council establishes a stormwater management system (pumping station, sewers, wetlands, ditches, flood control facilities, etc.) and stormwater utility.</li> <li>The Council Intends to operate, construct, maintain, repair, and replace the stormwater management system</li> </ul>
Stormwater System Findings	510	30	2004-0r-132, Section 1, 11/5/04	The stormwater management system has been found to benefit the entire City.
Powers of the Stormwater Utility	510	40	2004-0r-132, Section 1, 11/5/04	The stormwater utility has the power to:  Administer the design, construction, maintenance, and operation of the stormwater management system.  Administer the design, construction, maintenance, and operation swill then be presented to the City Council.  Administer the ordinances in Chapter 510 and all adopted regulations and guidelines including:  Administer the ordinances in Chapter 510 and all adopted regulations and guidelines including:  Administer the ordinances in Chapter 510 and all adopted regulations and guidelines including:  Administer the ordinances in Chapter 510 and all adopted regulations and guidelines including:  Administer on easing of the sewer system and make recommendations to the City Council on ordinances and regulations to protect water quality in the stormwater system  Analyze the cost of service and the structure of fees of the system at least once per year  Analyze appropriateness of providing credits against stormwater charges for properties that use best management practices to minimize the quantity or improve quality of runoff  Administer programs that provide credit to reduce stormwater charges imposes against properties  Administer programs that provide credit to reduce stormwater charges imposes against properties
Operating Budget for the Stormwater Utility	510	20	2004-0r-132, Section 1, 11/5/04	The City will adopt an annual operating budget for the following fiscal year. The first budget is from January 1, 2005 to December 31, 2005.
Stornwater Charges for Single Family Properties, Residential Developed Properties, Non-Residential Developed Properties, and Vacant Properties	510	09	2004-0r-132, Section 1, 11/5/04	<ul> <li>This Chapter sets up the charge structure for each type of property. Single Family Residential Properties can be adjusted (as shown in Chapter 510.60) based on acres of impervious land on the property.</li> </ul>
Credit to Stormwater Charges	510	09	2004-0r-132, Section 1, 11/5/04	<ul> <li>Stormwater charge credits can be given to properties that use best management practices to reduce the quantity or improve quality of stormwater runoff.</li> <li>The City Engineer Director can set propose rules and provide guidance to award credits. The City Council will approve of these rules.</li> </ul>
Procedure to Appeal Stormwater Charges	510	02	2004-01-132, Section 1, 11/5/04	Owners of a property can appeal:
Collection of Stormwater Charges	510	80	2004-0r-132, Section 1, 11/5/04	Stormwater charges will be billed and collected by the City.
Use of stormwater charges	510	06	2004-0r-132, Section 1, 11/5/04	<ul> <li>Stormwater charges will be put into an account called the 'Stormwater Fund'. The fund will be used for capital improvements, administration of the stormwater utility, O&amp;M on the stormwater utility and debt service.</li> </ul>
Equivalent Stormwater User Rate	270	100	2004-0r-132, Section 1, 11/5/04	
Rainwater draining into sanitary sewers	511	10	Code1960, As Amended., Section 614.010	<ul> <li>No rainwater pipes, leaders or conductors from any building, grounds or premises shall be connected with any sewer, sewer pipe, sewer connection in any sewer district in which sewers are provided for disposal of sewage alone.</li> </ul>
Discharging sewage into a watercourse	511	20	Code1960, As Amended., Section 614.020	• It is illegal to discharge sewage or commercial or industrial waste into the Mississippi River or any stream within or adjacent to the City boundaries.
Discharging unpolluted water to a watercourse	511	30	Code 1960, As Amended, Section 614.030	<ul> <li>It is illegal to build or repair a ditch, lay or repair a pipe or a conduit to discharge storm, surface, cooling or condenser water into the Mississippi River or stream within or adjacent to the City boundaries.</li> </ul>
Disposing wastes from outside the City	511	40	Code 1960, As Amended, Section 614.040	• It is illegal to bring septage from containers located outside of the City into sewers of the city.
Removal of manhole covers	511	50	Code 1960, As Amended, Section 614.040	It is illegal to remove manhole covers without a permit from the City Engineer.

Fish in sewers Substances prohibited from the sewers sewers prohibited from the Sewers prohibited from the Sewers sewer	Chapter 511 511 511 511 511 511 511 511 511 51	\$ection 130   130   300	Meterenced Ordinances or State Law Code 1960, As Amended, Section 1 S83.115, Ord of 6/14/74, Section 1 Code 1960, As Amended, Section 611.250 Code 1960, As Amended, Section 615.070 None referenced None referenced	No one can put live fish into the sewer  It is illegal to deposit butchers' waste, garbage, dead animals, ashes, shavings, gas drippings or solid waste  Areas that are within 50 ft of protected waters that are governed by SH Shoreland (1,000 ft from the highwater mark of a lake, pond, wetland or flowage; or 300 ft from a river or streams floodplain extend – whichever is greater) and MR Mississippi River Critical Area (300 ft from the Mississippi River) Overlay bisrircts shall remain undeveloped.  No development, grading or alterations are allowed within 50 ft of a wetland  Areas within the SH Shoreland Overlay District (1,000 ft from the highwater mark of a lake, pond, wetland or flowage; or 300 ft from a river or streams floodplain extend – whichever is greater) shall avoid placements of parking tots, structures or other impervious structures.  The SH Shoreland Overlay district is defined as 1,000 ft from the highwater mark of a lake, pond, wetland or flowage; or 300 ft from a river or streams floodplain extend – whichever is greater  Development will not be within 500 ft of the highwater mark of any protected water except when approved by a conditional use permit.
Development Guidelines for the SH Shoreland Overlay District Development Guidelines for the MR Mississippl Overlay District	551	660 - 720	2000-0-048, Section 2 - 7, 5-19- 2000 2000-0r-048, Section 8 - 10, 5-19- 2000	<ul> <li>Development will not be on of a steep slope or bluff.</li> <li>If vegetation is removed during construction it is to be replaced to minimize surface runoff, provide screening, and minimize surface erosion.</li> <li>If development will comply with regulations to govern stormwater management.</li> <li>Development will employ best management practices to:         <ul> <li>Maximize offsite runoff</li> <li>Maximize offsite runoff</li> <li>Maximize offsite runoff</li> <li>Maximize offsite runoff</li> <li>Minimize offsite runoff</li> <li>Replicate pre-development hydrologic conditions</li> </ul> </li> <li>Minimize off site discharge of pollutants.</li> <li>The Mississippi River Overlay District is defined as the Mississippi River and Mississippi River Corridor (Executive Order 79-19).</li> <li>The regulations for the SH Shoreland Overlay District (Chapter 554.440-530) shall apply to the Mississippi River is assumed to be a protected water.</li> <li>The Mississippi River is assumed to be a protected water.</li> <li>Development will not be on a bluff or within 40 ft from the top of a bluff.</li> </ul>

## Appendix C Water Resource Management Guiding Principles – Existing Activity Inventory

## 1. Protect people, property and the environment

Construct improvements to sanitary sewer and storm drainage systems that provide protection

 Construct projects to mitigate flooding caused by inadequate capacity of storm drainage system

The City will continue to pursue a policy aimed at reducing flood potential through either land use changes or structural measures, as it deems appropriate. The City may employ any or all of the following means:

- 1. Review plans to ensure development proposals include adequate rate control
- 2. Construct dry detention basins
- 3. Construct stormwater ponds
- 4. Use design standards that reduce the probability of flooding in problem areas during critical periods
- Consider all development, redevelopment and rehabilitation projects in light of potential downstream impacts, particularly in downstream areas with known flooding problems
- 6. Upgrade existing storm sewers in areas known to have flooding problems
- 7. Provide more inlet capacity by replacing grates with higher capacity models
- 8. Construct more catch basins
- 9. Provide backup generators for pump stations
- 10. Floodproof or acquire properties deemed vulnerable to repeated flooding
- 11. Increase inspections and maintenance of inlets and drains located in floodsensitive areas
- 12. Reduce sewer backups by removing cross-connections between storm and sanitary systems, reducing infiltration and inflow, and replacing existing sanitary manhole covers with watertight covers

- 13. Consider aesthetics as well as design standards in new development, redevelopment or flood mitigation projects
- Construct projects to mitigate sewer backups into buildings by hydraulic deficiencies in sanitary sewers
- Cooperate with public and private partners towards creation of multipurpose stormwater quality and quantity structures

On-site management to achieve stormwater standards will be incorporated on all sites to the greatest extent possible. When development density, topographic features, soil, or vegetation conditions prohibit this, full or partial participation in existing regional stormwater facilities within the drainage area of the same receiving body may be permitted with the City's prior approval.

At its discretion, the City will allow shared or joint use of stormwater facilities in new developments and redevelopments, including public or private stormwater basins.

The City will continue to coordinate with government entities such as watershed management organizations, the Minnesota Department of Natural Resources (MNDNR), the Minnesota Pollution Control Agency (MPCA), highway departments, neighboring cities, Hennepin County, and the Metropolitan Council.

■ Monitor Beaches

## 2. Maintain and enhance infrastructure

#### Maintain condition of sanitary sewer and stormwater drainage systems

Ensure adequate funding for maintenance activities

The estimated replacement cost of Minneapolis' stormwater drainage infrastructure, based on recent studies by the City, is \$860 million.

Industry standards recommend that 1% of the infrastructure value should be spent annually to rehabilitate and maintain the system. This equates to a minimum of \$8.6 million per year for just the storm drainage system. This amount is simply to maintain the existing level of service and does not include money necessary to improve the level of service like money spent on flood mitigation. Other studies have identified non-routine maintenance improvements, which would increase the base figure of \$8.6 million per year. These include rehabilitation of storm drains on MPRB lands, tunnel rehabilitation (estimated at \$12,000,000) and maintenance and rehabilitation of stormwater pumping stations, grit chambers, and storm ponds.

■ Ensure a dedicated source of revenue for maintenance activities

With the implementation of the City's stormwater utility there will now be a revenue source dedicated solely to the stormwater program.

Maintain infrastructure in accordance with NPDES CSO and Stormwater permits

#### Maintain capacity of sanitary sewer and stormwater drainage systems

■ Limit peak flow rates to prevent surcharging or flooding of downstream storm drains, basements, CSO regulators, or surface waters

The City has eliminated a large number of known CSOs to the Mississippi River. It continues to work in a systematic manner through a special program designed to eliminate all known CSOs in the City. The City has written ordinances to support the elimination of CSOs (Chapter 56 of the City of Minneapolis Ordinances) and to eliminate rainwater leader connection to the City's sewage system (Chapter 511.10 of the City of Minneapolis Ordinances). The City has also committed \$10 million over the next five years toward CSO elimination.

For new construction and other activities associated with new development or redevelopment, computed post-development peak flow rates will not exceed computed existing peak flow rates. Computations will be based on accepted engineering practice and/or modeling assumptions for the 2-year (2.8 inches in 24 hours) event, 10-year (4.2 inches in 24 hours), or 100-year (5.9 inches in 24 hours) storm events.

As opportunities for new development and redevelopment arise, the City will continue to use plan review, and modeling techniques to identify existing deficiencies and potential flooding problems. If plan review and modeling indicate increased flooding potential for downstream areas, the City will require the developer to incorporate such practices as are necessary to resolve a proportionate share of the problems to mitigate the downstream impact of such development. These standards are intended to preserve the integrity of downstream conveyance facilities and detention areas.

 Limit Volume of stormwater runoff where feasible to meet goals of City's sustainability plan

Where soil conditions permit, and it is feasible, infiltration is strongly encouraged in new development and redevelopment in sites. See Appendix O. Where infiltration is not possible, the City encourages the use of alternative BMPs, particularly reduction of impervious area, conducive with existing site conditions and in compliance with the design and performance standards for Best Management Practices (BMPs) as outlined in the <a href="2005 Minnesota Stormwater">2005 Minnesota Stormwater</a> Manual. This infiltration policy is consistent with the City's Stormwater Management Ordinance and the 2005 Minnesota Stormwater Manual. When infiltration is considered and rejected by a project proposer the reasons for rejecting the infiltration shall be part of the project submittal.

The City encourages reduction of, or minimizing increases in, the amount of impervious surface created as a result of land development or redevelopment activities through the following:

- 1. The development plan review process and engagement by developers with staff on designing with less impervious surface.
- 2. Review and consideration of modifications to City code so that less parking is required of development and redevelopment sites.
- 3. Determining future stormwater utility fees, in part, on a given parcel's percent impervious area.
- Maximize stormwater storage in existing and future stormwater quality controls

Freeboard requirements will be implemented to provide new structures flood protection from any immediately adjacent surface waterbody, wetland or stormwater basin. Additional protection may be required for new structures adjacent to landlocked basins with no identifiable overflow route.

The City will maintain a policy of "no net loss of storage capacity" in designated stormwater basin ponding areas, and of at least maintaining the existing level of flood protection for all areas within a given watershed.

Compensatory storage will be required to mitigate fill within wetlands, ponds, and other similar runoff storage sites. Compensatory storage will be provided for flood storage lost below the City's calculated high water level plus free board. This requirement applies to all development and redevelopment activities, regardless of size. It should be emphasized that this policy applies to storage areas that serve sites and not to the large contiguous flood plain attached to the City's lakes, creeks, and the Mississippi River. The floodplains are regulated in the City's floodplain ordinance (Chapter 551 Articles VI and VII). Chapter 12, Article 1 of MPRB ordinances provides for shoreland and floodplain preservation over MPRB lands.

The City will attempt to establish and maintain overflow routes, including pond overflows where feasible to provide relief from storms which exceed design conditions, provided that downstream areas would not flood due to the overflow operation.

■ Line sanitary sewers to seal out extraneous groundwater infiltration

The City conducts visual inspections of sanitary sewers each year to determine if the sewers have structural problems, root intrusion and/or excessive groundwater infiltration. Areas determined to have one or more of these problems are lined.

Investigate source of inflow connections from public and private buildings

The Regulatory Services Department began a building by building inspection for sources of rooftop connections to the sanitary sewer. Inspections are scheduled to be complete in 2007.

# 3. Provide cost-effective services in a sustainable manner Optimize enhancements to sanitary sewer and stormwater drainage systems

■ Life cycle costs are analyzed for all capital improvement projects

Understanding that portions of the City's stormwater system have historically been designed according to different standards, newly constructed conveyance facilities will be designed to convey the 10-year storm event (based on standard engineering practices) without surcharging. This will be true except in designated flood areas where the goal will be to design new storm sewer and other conveyance to prevent boulevard flooding for the critical 100-year storm:

- 1. The 100-year, 24-hour storm event (5.9 inches in 24 hours) Source: SCS NEH
- 2. The 100-year, 1-hour storm event (3.0 inches in 1 hour) Source: U.S. Weather Service T.P. 40
- Inspect stormwater management facilities during construction and periodically after construction to determine that facilities are functioning properly.
- Priority is given to projects which are multi-functional or which solve multiple problems
- Priority is given to cooperative projects with multiple funding partners

## 4. Meet or surpass regulatory requirements

Operate and maintain public lands consistent with best current practices and City's NPDES permits

■ Maintain system in accordance with NPDES permits

The City will continue to be actively engaged in stormwater inspection, operation and maintenance, and repair of the stormwater system on a day-to-day basis. The City will follow a formal inspection, cleaning, and repair schedule. Frequency of maintenance is event-based and driven by experience and inspection history. Practice good housekeeping on City-owned land

- The City will follow best management practices and environmental friendly approaches in managing and maintaining City-owned land and property in accordance with NPDES permit requirements.
- The City has dedicated one full time inspector to inspect street construction sites and to ensure the projects are in compliance with erosion and sediment control

requirements. The City will continue to prevent erosion and sedimentation from all City-owned construction projects.

 Roadways are maintained in a manner that prevents wash-off of pollutants during rainfall and snowmelt

Every year, in the spring and the fall, there is a city-wide comprehensive street sweeping program, in which parking restrictions are put into place and the entire city is swept, curb to curb, over a 3-4 week period. The Fall Sweep this year will be starting on October 25th. Various watersheds in the City (examples being around the Chain of Lakes, Minnehaha Creek, Shingle Creek, Bassett Creek, Mississippi River, etc.) are on a more frequent sweeping cycles, since debris in the street has a direct route to these water bodies. Averaged throughout the "sweeping" year, these areas are swept at an average frequency of approximately every 20 - 30 days. Each street maintenance district has on average 1 sweeper operating in their district throughout the "sweeping" year. These sweepers are assigned to sweep areas on an "as-need" basis. There are many other sweeping schedules that exist throughout the city. Examples being major commercial nodes, the Downtown Central Business District, Warehouse District, day sweepers, night sweepers, State Trunk Highway Routes, etc.

Minneapolis implemented Best Management Practices (BMPs) and advanced technology for snow and ice control such as introducing "smart spreaders", and a pilot anti-icing and alternative de-icing program to more effectively treat streets and reduce chloride release/salt release to the water bodies. When applying sand and salt to City roadways, efficient application methods will be used. Maintenance supervisors will continue to receive training at the Local Road Research Board on application rates, techniques, and spreader calibration. Reasonable precautions will be taken to minimize salt and sand runoff in storage areas.

 Maintain emergency preparedness, including spill response and flood response capabilities

The City will continue to have a hierarchical spill response capability based on size and hazardous/non-hazardous category of the spill. Spills meeting the specified volumetric criteria will be reported to both the Duty Officer at the Minnesota Department of Public Safety and the MPCA.

The response program will focus on containing, neutralizing, and properly disposing of spilled material. It will extend to include preventing the discharge of spilled toxic or hazardous materials into the storm drainage system. Appropriate spill kits will be available to prevent spills from entering the storm drain system.

A number of City departments will coordinate the work, including Emergency Communications, Regulatory Services, Environmental Management, Fire Department, Sewer Maintenance and Street Maintenance Departments.

Procedures will continue to be documented, and response guidelines strictly followed. City staff will have a readily available supply of response materials, including containment booms, absorbent pads, and buckets of sand for immediate response to small spills. A proper procedure for disposal of containment material will continue to be used.

■ Eliminate inflow sources from public properties

The City has designated funds in the Capital Improvement Program to pay for removal of inflow sources from City-owned properties.

Use Integrated Pest Management practice on Park properties

The MPRB has an Integrated Pest Management (IPM) Policy as part of its General Operating Procedures that guides a logical and stepwise method of solving pest infestations. The MPRB uses these procedures on their land. MPRB staff is involved in seeking better and more innovative solutions to solving vegetation management problems through education, training and pilot projects.

## Provide on-going assessments of sanitary sewer and storm drainage systems

 Monitor stormwater runoff and BMP effectiveness in accordance with NPDES Stormwater Permit

Monitoring set up as part of the NPDES Phase I Permit will continue as per Permit requirements. The data will be used to evaluate changes in the runoff quality over time.

- Monitor sanitary sewers in accordance with NPDES CSO permit
- Monitor lakes and beaches
- Coordinate monitoring efforts with public agencies

The City will continue stormwater monitoring. In particular, the City of Minneapolis will continue to assist other agencies, especially the watersheds, in their monitoring efforts and work together to avoid duplication.

■ Cooperate with TMDL studies on Minneapolis surface waters.

# 5. Educate, engage the public and stakeholders and improve compliance and use of BMPs

# Enhance quality of runoff from redevelopment

- Inspect redevelopment projects for sources of inflow
- Maintain stormwater management requirements

The City has implemented stormwater ordinances (<u>Chapter 54 of the City</u> <u>Ordinances</u>) to guide stormwater management in the City. The City will continue its efforts to implement these ordinances to the best of its ability. Stormwater quantity and quality design standards will continue to be enforced for redevelopment of existing sites that have substandard or no on-site stormwater facilities. The City will encourage and promote stormwater management in redevelopment and new developments to include:

- 1. A reduction in impervious area; or
- 2. The implementation of stormwater best management practices; or
- 3. A combination of both (1.) and (2.); and
- 4. Total load reductions and discharge requirements.

The City will limit phosphorus levels in runoff by regulating all new developments and redevelopment over one acre in accordance with Minneapolis Code of Ordinances, Chapter 54, developed by the City for all receiving waterbodies within its jurisdiction. The City has developed these targets based upon the destination water resource. Wherever feasible, the City will implement these reductions as land comes up for development or redevelopment. The standards are determined in relation to percent reductions over the benchmark of existing conditions. Once a property has redeveloped under this standard this is memorialized in their permit so that if the property were to redevelop again the current treatment level, if preserved, would be a credit toward the load reduction.

Maintain erosion and sediment control requirements

The City has an erosion and sediment control ordinance, Chapter 52, <u>Erosion and Sediment Control for Land Disturbance</u>, that is supported by a site inspection program as well as enforcement capability. Best management practices to be used on-site are outlined in this ordinance. Information is detailed in the City's <u>Storm and Surface Water Management</u> web page.

Additional guidance should be obtained from the MPCA (October 1989) publication entitled <u>Protecting Water Quality in Urban Areas: Best Management Practices and the Met Council's Minnesota Urban Small Sites BMP Manual.</u>

■ Educate developers and contractors

The City has a pesticide control ordinance (Chapter 230 of the City of Minneapolis Ordinances) that outlines licensing and signage requirements.

Encourage use of natural site characteristics

 Provide financial credits in stormwater utility for projects that incorporate quality and quantity controls

# Maintain or enhance quality of runoff from existing private properties

- Inspect private properties for sources of inflow
- Educate homeowners about organic waste in gutters and other practices
- Provide financial credits in stormwater utility fee for projects that incorporate quality and quantity controls
- Encourage retrofit of stormwater quality and quantity controls on private properties
- Engage the public in advising on aspects of water resource programs and projects
- Inspect and enforce illicit discharge ordinance
  - In keeping with NPDES requirements, the City prohibits by ordinance (Chapters 511 and 53 of the Minneapolis Ordinances) the dumping of foreign material into the stormwater management system, including petroleum based products, antifreeze, paint, solvents, herbicides/pesticides, yard debris, animal waste and other material that may be harmful to the environment. The City will continue to inspect and investigate on a complaint basis.
- Inspect and enforce mercury ordinance

# 6. Enhance Livability and Safety

### Preserve, maintain and enhance the City's natural and recreational resources

- Maintain shoreline buffers
- Preserve or create riparian corridor connections
  - The City will make river/stream corridor connectivity a priority through land use and planning. Wherever possible, the City will attempt to preserve, maintain and create green space along riparian corridors for the benefit and enjoyment of both wildlife and people. This will promote habitat connectivity for wildlife as well as present opportunities for introduction of linear sports such as biking, hiking, inline skating, and cross-country skiing. The City will work with various watershed management organizations that have land acquisition programs to achieve this goal.
- Protect floodplains in accordance with Floodplain Overlay District requirements of the Minneapolis Zoning Code

■ Protect shoreland zones in accordance with Shoreland Overlay District requirements of the Minneapolis Zoning Code.

The City and MPRB will continue to protect shoreland and floodplain (in accordance with FEMA floodplain and shoreland management rules, Minnesota Rule Chapter 6120) through the use of structural and vegetative techniques as well as regulatory measures, as stated in Chapter 551 of the City Ordinances and Park Board Chapters 12 and 13 (PB12 and PB13). The City and MPRB will introduce native vegetation wherever feasible.

Administer requirements of the Minnesota Wetland Conservation Act

The City acts as the local government unit for protection of wetlands and administration and enforcement of WCA within the City's limits.

 Conserve and stabilize shorelines, streambanks and steep slopes from damaging erosion

The City and MPRB will continue to engage in bank and slope stabilization for priority waterbodies through their respective Capital Improvement Programs. Wherever possible, natural appearance of a shoreline will be preserved. And where repairs are necessary, the City will encourage the use of bioengineering, landscaping and preservation of natural vegetation as a means of stabilizing the shoreline.

- 1. The City will continue to participate in bank and slope stabilization.
- 2. Funding mechanisms may vary by project and partners.
- 3. Responsibilities may vary based on cooperative agreements with watersheds for maintaining slopes and banks.
- Examine opportunities to optimize buffers as component of Park planning efforts

# Maintain and/or improve the quality of the City's surface waters

- Use innovative lake management approaches (e.g., barley straw, in-lake wetland planting of deltas)
- Inspect stormwater outfalls for erosion and repair in accordance with NPDES Stormwater Permit
- Inspect bridges for scour
- Cooperative with other water resource public agencies

# Appendix D Environmental Pool Plans for the Mississippi River

The Environmental Pool Plans are a result of cooperative efforts among state and federal agencies and the public to help develop common habitat goals and objectives for the Upper Mississippi River. They are intended to serve as a guide to habitat management sequencing in the St. Paul District of the Corps of Engineers and a way to reverse negative trends in habitat quality toward a sustainable ecosystem.

Though Pool Plans are available for Pools 1-10 from Minneapolis to Guttenberg Iowa, only Pool 1 and 2 are discussed here due to their relevance to the City of Minneapolis. Included in this discussion is a summary of the descriptions of Pool Areas 1 and 2 and actions proposed to meet desired future goals.

# **Opportunities and Visions**

Just as awareness of the recreational, aesthetic and habitat potential of the Upper Mississippi is on the rise, extensive redevelopment opportunities in Minneapolis seem to be increasing. Stormwater treatment, improved water quality and habitat restoration and protection are some of the priorities that are emerging.

Regional parks as well as private ownership are recognizing the importance of natural shoreline and native vegetation. As a result, a number of strategies, including short-term drawdown to expose the buried rapids or construction of a parallel channel to mimic the once existing rapids, are being considered.

Existing commercial navigation is a constraint around which a number of possible management strategies are being considered. Elimination of commercial navigation would allow for permanent drawdown and increase opportunities for the establishment of fringe flora and fauna communities. However, this would be unlikely in the foreseeable future due to additional impacts on hydroelectric power generation as well as concerns about the fate of the large amounts of exposed sediment.

### Pool 1

Pool 1 results from an impoundment of the Mississippi River about 2 miles upstream of Fort Snelling, at river mile 847.6. Lock and Dam 1, also known as the Ford Dam and originally as the Twin Cities Dam, includes the reach of river from Coon Rapids, at river mile 866.2, to Lock and Dam 1. The reach includes two other locks and dams, the Upper and Lower St. Anthony Falls at river miles 854 and 853.9, respectively. The drainage area to Pool 1 includes about 1,500 acres, of which Minneapolis occupies a large part.

Pool 1 is entirely within Minneapolis/St. Paul and has a large corridor of open space and habitat for both aquatic and terrestrial plant and animal communities. A large portion of the corridor is publicly owned and forms a large north-south wildlife corridor. Much of the area is parkland and managed by the respective park boards of the two cities.

Two of the three distinct areas defined within Pool 1 are located within City boundaries:

- I-694 Bridge to Upper St. Anthony Falls Lock and Dam upstream portion is characterized by a wooded shoreline, lawns and high banks. Land use downstream is mostly industrial, commercial and residential with significantly more impervious surface than the upstream segment. Shingle Creek is the significant tributary entering the river in this segment. The City of Minneapolis water intake structure and treatment plant are located here and serve about 500,000 people.
- Mississippi Gorge extends from Upper St. Anthony Falls to Lock and Dam 1. Along this stretch, the river drops 73.6 feet, the steepest drop found on the entire length of the Mississippi. Originally, rapids that provided critical spawning grounds for fish dominated this segment of the river. These rapids are now submerged and covered by sand deposition upstream of the Ford Dam. Bassett Creek enters the Mississippi just below the Upper St. Anthony Falls via an underground tunnel. The gorge area is bordered on either side by steep, wooded slopes and rock cliffs. Water extends from shore to shore with very little room on either side for wildlife species or human recreation.

### Pool 2

Pool 2 results from the impoundment of the river by Lock and Dam 2 at Hastings. This is the most engineered section of the river in the St. Paul District. Pool 2 extends from Lock and Dam 1 at river mile 847.6 to Lock and Dam 2 at river mile 815.2. A large number of communities are located along this stretch of river, including Minneapolis. The Pool 2 drainage area encompasses about 9,652 acres.

Pool 2 represents a significant corridor of open space, aquatic areas and floodplain forests that offer unique habitat for both plants and animals. The Minnesota River is the only significant tributary to the Mississippi within the Pool 2 area that has a strong influence on the size and water quality of the Mississippi. Smaller tributary creeks that contribute are: Minnehaha, Phalen, Fish and Battle Creeks.

Significant floodplain lakes exist along the Minnesota and Mississippi Rivers in this segment.

Two of the five distinct areas defined within Pool 2 are partially located within Minneapolis:

- The first sub-area known as the **Minnesota River Valley** includes the Minnesota River upstream from Savage to its confluence with the Mississippi River. The segment includes the Black Dog Power Plant, Fort Snelling State Park and the Minnesota Valley National Wildlife Refuge.
- The second sub-area, known as the **Gorge Area**, begins from Lock and Dam 1 to the confluence of the Minnesota and the Mississippi Rivers. This is a continuation of the Gorge area in Pool 1. The river flows through a steep sided gorge over once existing rapids. A former flowing channel of the Minnesota River now called Snelling Lake enters at the upstream end of Pike Island. Bluffs along the gorge provide habitat for migratory birds.

# **Potential Actions to Achieve Future Goals**

Implementation of the Environmental Pool Plans for Pools 1 and 2 will bring the Mississippi River's ecosystem to a sustainable state by reestablishing the desired flow regime and habitat structure.

**Planning guidelines** to be considered through the process are:

- 1. Locks and dams will exist for the life of this plan
- 2. Public involvement and awareness are critical components for implementation of the plan
- 3. Implementation is dependent on adequate funding and personnel
- 4. The reach and pool plans will continue to be revised and updated
- 5. Social values and issues will affect habitat management decisions

The **goals** identified in the Pool Plans are as follows:

- 1. Improve water quality
- 2. Reduce erosion, sediment and nutrient impacts
- 3. Restore natural floodplain to allow for more habitat diversity
- 4. Provide for seasonal flood pulses and periodic low flow conditions
- 5. Restore backwater channel connectivity
- 6. Manage side channels; create islands, shoals and sandbars
- 7. Manage channel maintenance and dredged material placement
- 8. Sever pathways for exotic species
- 9. Provide native fish passage at dams

In order to meet the nine goals that have been identified in the Pool Plans, five **primary tasks** are required:

- 1. Promote watershed management programs on tributary streams
- 2. Manage for more natural water levels by restoring or mimicking the natural range of variations that would occur seasonally
- 3. Restore native plant communities along the riparian corridor
- 4. Modify or remove non-essential infrastructure
- 5. Further improve the quality of effluents discharged into the river upstream

# **Local Level Action**

The goals listed in the Environmental Pool Plans can be achieved through committed cooperation from the municipalities, watershed management organizations, and neighborhood and non-profit groups interested in working toward a responsible and sustainable riparian urban corridor. Some actions that, if taken at the municipal and watershed level, will help further these goals are:

- Freeing the floodplain of manmade encumbrances and restoring floodplain through acquisition or conservation easements
- Increasing diversity and abundance of floodplain vegetation
- Reducing sediment and nutrient input to the Mississippi River through both structural and non-structural best management practices (BMPs)
- Providing shoreline protection both at the river and tributary/creek level
- Making land use changes where appropriate
- Protecting, managing and developing prairie and wet meadow communities
- Managing floodplain plant communities to eradicate exotic species
- Implementing management recommendations to stop the spread of aquatic exotics

# Appendix E Lake Assessments

# **Bassett Creek Water Management Commission**

In addition to Bassett Creek, the other water bodies in Minneapolis that fall within the Bassett Creek watershed are Spring Lake, Birch Pond and Wirth Lake (see Table 4.21). The City of Minneapolis recently designed, funded and constructed a large flood control pond at 29th and Logan Avenue North that serves both a flood control and water quality purpose.

*Current Status:* TSI for lakes in the Bassett Creek Watershed are presented in Table E-1. Spring Lake is a type 5 wetland affected by highway salt runoff. Limited water quality data is available for Spring Lake. Birch Pond is not included in the MPRB monitoring program.

Table E-1 Trophic State Index Trends for Lakes in the Bassett Creek Watershed

Water Body	1998	1999	2000	2001	2002	2003	2004
Spring Lake	ID	ID	ID	ID	76	68	ID
Birch Pond	NS						
Wirth Lake <sup>1</sup>	61	60	58	57	55	55	56

Note: Wirth Lake is monitored by MPRB (it is not within the City of Minneapolis)

NS = Not sampled
ID = Insufficient Data
(Source: MPRB)

Assessment Methodology and Standards: The BCWMC conducts routine monitoring of its water resources. Due to distinctions between use and expectation for various water bodies, the BCWMC classifies water bodies according to their expected use and corresponding water quality necessary to support that use. Table E-2 outlines the desired uses. Level I water bodies require the highest water quality. Levels II, III and IV require successively lower water quality to support their intended uses.

**Table E-2 Definition of Management Classification According to Desired Uses** 

Level	Definition
Level I	Water-based recreational activities including swimming, scuba diving and snorkeling fully supported
Level II	Appropriate for all recreational uses, such as sailboating, water skiing, canoeing, wind surfing and jet skiing except full body contact activities
Level III	Supports fishing, aesthetic viewing and observing wildlife
Level IV	Generally intended for runoff management and has no significant recreational value

(Source: BCWMC)

Table E-3 - Management Classification of Major Water bodies in the Bassett Creek Watershed.

**Table E-3 Definition of Management Classification According to Desired Uses** 

Waterbody	Management Classification
Birch Pond	Level III
Wirth Lake	Level I
Bassett Creek (Mississippi River to Medicine Lake)	Level III

(Source: BCWMC)

In addition to classifying water bodies according to their intended use, the BCWMC has set specific water quality goals for each lake or stream. In order to meet these goals, the watershed considers development review a major component of its management strategy. The watershed's development review policy is seen as a way of controlling the amount of phosphorus and suspended sediment that may enter a waterbody through runoff.

# Minnehaha Creek Watershed District

With the exception of Lake of the Isles, the rest of the lakes that form the Minneapolis Chain of Lakes (i.e., Cedar, Brownie, Calhoun and Harriet) have maintained good water quality over the last five years. In general the Chain of Lakes shows a general trend of increasing transparency over recent years. Among the lower watershed lakes, Lake Nokomis shows improvement in concentration of total phosphorus and Chlorophyll-a. Included among lakes of poorer water quality is Diamond Lake. The water quality in Diamond Lake results from its shallowness and wetland tendencies. Lake and watershed management and water quality improvements have either improved water quality or arrested further deterioration in most cases.

A summary of diagnostic studies carried out on the Chain of Lakes since the 1980s is the Minneapolis Chain of Lakes Phase I – Diagnostic Report (MPRB, 1991-1993). It provides detailed information on monitoring efforts carried out by the MPRB as well as various consultants over time. According to the report, watershed areas of lakes are typically 40-45% impervious, and 14% of rainfall over a Chain of Lakes watershed ends up as runoff. In the Phase I diagnostic study, loading rates were estimated as shown in Table E-4.

Table E-4 Loading Rates (kg/ha/year) for Chain of Lakes Watershed

Land Use	Total Nitrogen	Total Phosphorus	Ortho- phosphorus	
Residential	2.52	0.54	0.22	
Green Space	1.59	0.13	0.03	
Commercial/Mixed	2.61	0.41	0.15	

(Source: MPRB)

Assessment Methodology and Standards: A number of goals and recommendations have been developed to protect water quality in the Chain of Lakes. They are presented in Table E-5.

**Table E-5 Goals for Chain of Lakes Watershed** 

Goal #	Identified Goal
Goal 1	Increase public awareness of water quality issues
Goal 2	Protect public health and safety
Goal 3	Reduce in-lake pollutants
Goal 4	Reduce pollutant loadings through implementation of best management practices
Goal 5	Improve government management
Goal 6	Monitor lake water quality and management practices effectively

(Source: MPRB)

MPRB calculates trends in average TSI over time for all the lakes. Based on this, the lakes were placed in three categories:

- Lakes showing water quality improvement
- Lakes showing stable water quality
- Lakes showing water quality degradation

The classifications are presented in Table E-6.

Table E-6 Trophic State Index Trends for Lakes in the Minnehaha Creek Watershed

Lakes Showing Water Quality Improvement	Lakes with Stable Water Quality	Lakes Showing Water Quality Degradation
Cedar Lake	Brownie Lake	_
Lake Calhoun	Lake Hiawatha	_
Lake Harriet	Lake of the Isles	_
_	Lake Nokomis	_
_	Powderhorn Lake	_

Note: Brownie Lake has too few data points for long term trend analysis. (Source: MPRB)

As part of the 1993 <u>Minneapolis Chain of Lakes Phase I – Diagnostic Report (MPRB, 1991-1993)</u>, both short term and long term goals were developed for some of the water bodies in the Chain of Lakes (Table E-7):

Table E-7 Short and Long Term Goals for Some of the Water Bodies in the Chain of Lakes

	Mean Sumn	ner TP (ug/L)	Mean Summer Secchi (m) Mean TSI			SI Value
Lake	Short term (3-5 years)	Long term (5-10 years)	Short term (3-5 years)	Long term (5-10 years)	Short term (3-5 years)	Long term (5-10 years)
Brownie	35	35	1.4	1.4	55	55
Cedar	30	25	1.6	1.9	53	51
Isles	45	40	1.1	1.2	59	57
Calhoun	30	25	1.6	1.9	53	51
Harriet	22	20	2.2	2.4	49	47

(Source: MPRB)

Similar to the MPRB system of assigning a TSI to every lake, the MCWD has established a system of assigning lake grades to show how a lake measures compared with other area lakes (see table E-8.) The method was developed by the Met Council, and combines the same three water quality measurements used to estimate the TSI: total phosphorus, chlorophyll-a, and Secchi disk transparency. In addition, the grades consider what is average or normal for lakes in a given area, making lakes within the seven-county metro area comparable in terms of the grades assigned.

**Table E-8 Lake Water Quality Report Card Grade Ranges and Descriptions** 

Grade	Percentile	Description
А	Top 10%	Crystal clear, beautiful. Exceptional and are enjoyed recreationally without hesitation.
В	10-30%	Generally good water quality but algae may limit swimming toward the end of summer.
С	70-90%	Average quality. Swimming, boating and fishing may be undesirable relatively early in the season.
D	Lowest 10%	Severe algae problems. No interest in recreational use.
F		Not enjoyable. Severe limitations to recreational use.

(Source: MCWD)

Lake grades for the Minneapolis Lakes in the MCWD for 2002 are listed in Table E-9.

Table E-9 Water Quality Grades for Lakes in the Minnehaha Creek Watershed

Lake	2002 Grade	2005 Grade
Brownie Lake		
Lake Calhoun	A	A
Cedar Lake	B+	B+
Lake Harriet	A	A
Lake of the Isles	С	B-
Lake Hiawatha	C+	B-
Lake Nokomis	С	C+

(Source: MCWD)

Due to the strong correlation of depth with water quality, the MCWD sorted the lakes into three major groups according to maximum depth. The MCWD then developed generalized goals for the lakes based on lake depth as follows:

Lake Depth	<b>Target Phosphorus</b>
(meters)	Concentrations (ug/L)
>20	30
5-20	50
<5	90

With non-degradation as the goal for lakes that currently have higher water quality than the generalized goals presented above, specific target in-lake phosphorus concentrations have been developed. The MCWD does not have a lake management classification system based on use as some of the other watershed management organizations do. Target in-lake phosphorus concentrations are updated as necessary through a fairly in-depth process of citizen input and waterbody assessment. The most recently updated target phosphorus concentrations are listed in Table E-10.

Table E-10 Target Phosphorus Concentrations for Lakes in the Minnehaha Creek Watershed

Lake	Target phosphorus Long-term mean concentration <sup>2</sup> phosphorus (ug/L) concentration <sup>1</sup> (ug/L)		Meets target phosphorus concentration (Y/N)	
Brownie Lake	35	90	N	
Lake Calhoun	25	30	Y	
Cedar Lake	25	25	Y	
Lake Harriet	20	20	Y	
Lake Hiawatha	50	147	N	
Lake of the Isles	40	57	N	
Lake Nokomis	50	67	N	
Powderhorn Lake	120	150	N	
Diamond Lake	90	174	N	

<sup>1 1980-1990</sup> data from City of Minneapolis NPDES Permit Application for MS4s

MCWD identified Diamond Lake as being of poorer quality than most due to its shallowness and due to the fact that it is a wetland. According to the MNDNR, nearly all basins in the watershed have problems related to urbanization. The MCWD has addressed this concern by setting restrictive water quality standards for development and developing a capital improvement program that emphasizes improving water quality in a number of high priority lakes.

<sup>&</sup>lt;sup>2</sup> Data from MCWD 2003

# Mississippi River Watershed Organization

Loring Pond is a shallow (maximum depth is 4 meters) euthrophic lake that primarily receives overland flow from adjacent park areas. It is composed of two basins, with the northerly originally a wetland. In 1997, a number of water quality improvements were undertaken at Loring Pond. In 1997 the pond was drained and lined with bentonite to reduce the loss of water. The pond shoreline and island were well seeded with native vegetation species. In 1998, a lake aeration system was installed and native shoreline vegetation was restored. The pond has consistently maintained high algal levels over the monitoring period as seen from the TSI shown in Table E-11. The primary stormwater input into Loring Pond is local runoff.

Table E-11 Trophic State Index Trends for Lakes in the Mississippi Watershed

	Water Body	1998	1999	2000	2001	2002	2004
Loring Pond 63 71 73 71 70 6	Loring Pond	63		73		70	65

(Source: MPRB)

Bridal Veil Creek and Kasota Pond are located at the eastern edge of the City within the MWMO. Most of Bridal Veil Creek runs underground through culverts. Kasota Pond and adjacent land are polluted from chemical runoff due to adjacent industrial activities. The site is listed as hazardous and is designated for remediation in the near future.

# **Shingle Creek Watershed Management Commission**

Shingle Creek's July 2004 draft Water Quality Plan includes no changes to the classification system described above. The Plan does state that upon creation of management plans for each lake, that specific BMPs would be revised to that lake's specific management goals.

The SCWMC Watershed Management Plan sets specific numeric goals for Total Phosphorus, Chlorophyll-a, and Secchi depth. For Ryan Lake the goal for TP is 35-45ppb, Chl-a is 10-18 ppb, and Secchi depth is 1.1 to 1.4 meters. Webber Pond is not one of the lakes recognized by the SCWMC.

Table E-12 presents data collected by the MPRB for Webber pond. Webber Pond is a shallow pond (maximum depth is 2 meters) adjacent to Shingle Creek. It receives runoff from surrounding park areas and has achieved stable water quality over time.

Ryan Lake was only recently added to the MPRB monitoring program. Ryan Lake was monitored by the Citizen's Assisted Monitoring Program (CAMP) run by the MCES in 2003.

Table E-12 Trophic State Index Trends for Lakes in the Shingle Creek Watershed, Based on MPRB Monitoring

Water Body	1998	1999	2000	2001	2002	2004
Webber Pond	51	46	56	61	62	67
Ryan Lake	ID	ID	ID	ID	ID	ID

Note ID = insufficient data. Ryan Lake is only partially within Minneapolis (eastern shore). It was included in MPRB monitoring as of 2002. A limited number of water quality parameters were sampled. A TSI is not available for Ryan Lake at this time. (Source: MPRB)

Information on the MPRB monitoring program can be obtained in the annual MPRB Water Resources Report.

The SCWMC's First Generation Management Plan identified the following classification scheme (Table E-13) for water bodies within the City of Minneapolis:

Table E-13 Classification Scheme for Water Bodies in Minneapolis Under the Jurisdiction of SCWMC

Recreational Group	Aesthetic Group	Runoff Management Group
Ryan Lake	DNR Protected Waters	- Judicial ditches
		- County ditches
		- All wetlands including DNR Protected Wetlands and all water bodies other than
		DNR Protected Waters
Webber Pond	DNR Protected Waters	- Judicial ditches
		- County ditches
		- All wetlands including DNR Protected
		Wetlands and all water bodies other than
		DNR Protected Waters

(Source: SCWMC)

The classification scheme was used to designate appropriate BMPs for those water resources. These BMPs include:

- Recreational Group: Inflow treated with BMPs, including removal of fine sands and sediment, skimming of oil and floatable materials, and nutrient removal.
- Aesthetic Group: Same BMPs as above except for nutrient removal. Waters may be used for runoff management as long as state water quality standards are not violated and flow and elevations are controlled.
- Runoff Management Group: Managed as stormwater storage and conveyance components. BMPs implemented where reasonable and prudent.
- Special Purpose Group: Treatment as necessary to maintain the characteristics necessary to support the special purpose. No special purpose areas were designated.

# **Summary Tables**

Table E-14 303(d) List of Impaired Lakes in Minneapolis

Lake	DNR Lake #	Affected Use	Pollutant or Stressor	Target Start// Completion	Category <sup>1</sup>
Powderhorn	27-0014	Aquatic recreation	Excess nutrients	2003//2006	5A
Powderhorn	27-0014	Aquatic consumption	Mercury1FCA	2006//2021	5A
Harriet	27-0016	Aquatic consumption	Mercury1FCA	1999//2011	5C
Hiawatha	27-0018	Aquatic recreation	Excess nutrients		5C
Nokomis	27-0019	Aquatic recreation	Excess nutrients		5A
Nokomis	27-0019	Aquatic consumption	· Mercury1FCΔ		5A
Nokomis	27-0019	Aquatic consumption	PCB FCA		5A
Diamond	27-0022	Aquatic recreation	Excess nutrients	2003//2006	5C
Calhoun	27-0031	Aquatic consumption	Mercury1FCA	1999//2011	5C
Crystal	07-0034	Aquatic Recreation	Excess Nutrient	2006/2007	5C
Wirth	27-0037	Aquatic recreation	Excess nutrients	2011//2016	5A
Wirth	27-0037	Aquatic consumption	Mercury1FCA	1999//2011	5A
Brownie	27-0038	Aquatic recreation	Excess nutrients	2003//2006	5A
Brownie	27-0038	Aquatic consumption	Mercury1FCA	1999//2011	5A
Cedar	27-0039	Aquatic consumption	Mercury1FCA	1999//2011	5C
Lake of the Isles	27-0040	Aquatic recreation	Excess nutrients	2003//2006	5A
Lake of the Isles	27-0040	Aquatic consumption	Mercury1FCA	1999//2011	5A
Ryan	27-0058	Aquatic recreation	Excess nutrients	2003//2005	5C

Note: The absence of a waterbody from the 303d List does not necessarily mean the reach is meeting its designated uses. It may be that the reach has either not been sampled or there are not enough data to make an impairment determination.

Category 2: some uses are meeting water quality standards and there are insufficient data to assess other uses

Category 3: there are insufficient data to assess any uses

<sup>&</sup>lt;sup>1</sup>Category 1: all designated uses are meeting water quality standards

Category 4: at least one use is impaired, but a TMDL is not required

4A: Impaired, but a TMDL study has been approved by EPA

4B: Impaired, but a TMDL study is not required because water quality standards are expected to be met in the near future

4C: Impaired, but a TMDL study is not required because the impairment is not caused by a pollutant

4D: An assessment unit is impaired or threatened but doesn't require a TMDL because the impairment is due to natural conditions with only insignificant anthropogenic influence. To be considered

"insignificant", the elimination of the anthropogenic influence would not lead to the attainment of water quality standards and it would not be included in formal pollution reduction goal-setting activities. A reach-specific water quality standard based on local natural conditions has yet to be determined. Upon determination, the assessment unit will be considered non-impaired for the natural conditions and recategorized to an appropriate category

Category 5: at least one use is impaired and a TMDL is required. These become the List of impaired waters

5A: Impaired by multiple pollutants and no TMDL study plans are approved by EPA

5B: Impaired by multiple pollutants and some TMDL study plans are approved by EPA

5C: Impaired by one pollutant and no TMDL study plan is approved by EPA

FCA: Fish Consumption Advisory

**Table E-15 Trophic State Index Ranges** 

TSI	Trophic State	Description
> 55	Eutrophic	Highly fertile or productive, abundance of algae and high phosphorus levels, low clarity
40-55	Mesotrophic	Less productive due to lower nutrient availability, less algal growth and clearer water
< 40	Oligotrophic	Least productive of the lakes, least algae and clearest water

(Source: MPRB)

Table E-16 Average Carlson Trophic State Index Scores (TSI) for Minneapolis lakes.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	200
Brownie	NS	NS	55	55	55	56	58	ID	ID	ID	ID	58	NS	58
Calhoun	54	59	50	46	48	47	43	48	47	46	46	43	43	40
Cedar	54	54	62	52	58	51	45	43	45	47	48	48	49	47
Diamond	NS	67	59	66	71	60	68	73	67	71	68	60	71	73
Grass	NS	77	80	61										
Harriet	47	50	45	47	51	52	43	47	49	48	45	44	45	43
Hiawatha	NS	58	58	57	59	59	58	58	59	65	58	59	58	60
Isles	55	64	65	58	59	55	52	56	56	53	58	59	62	58
Loring	NS	60	59	61	65	65	NS	63	71	73	71	70	69	65
Nokomis	NS	65	57	60	58	61	60	58	60	61	60	57	57	64
Powderhorn	NS	66	68	66	68	69	75	73	73	75	72	70	63	68
Spring	NS	NS	NS	62	64	67	76	ID	ID	ID	ID	76	69	NS
Webber	NS	58	57	58	58	59	49	51	46	56	61	62	67	67
Wirth	NS	63	63	64	61	57	59	61	60	58	57	55	55	57

ID = insufficient data; NS = not sampled

(Source: MPRB)

# Appendix F Impaired River and Streams

TableF-1 303(d) List of Impaired Rivers and Streams in Minneapolis

Reach	River Assessment ID	Affected Use	Pollutant or Stressor	Target Start// Completion	Category1
Bassett Creek; Medicine Lake to Mississippi River	07010206- 538	Aquatic Life	Fish IBI	20006//2009	50
Minnehaha Creek; Lake Minnetonka to Mississippi River	07010206- 539	Aquatic Life	Fish IBI	2005//2007	50
Mississippi River; Coon Cr to Upper St. Anthony Falls	07010206- 509	Aquatic consumption	Fecal Coliform	2008//2011	5A
Mississippi River; Coon Cr to Upper St. Anthony Falls	07010206- 509	Aquatic consumption	Mercury¹FCA	1999//2011	5A
Mississippi River; Coon Cr to Upper St. Anthony Falls	07010206- 509	Aquatic consumption	PCB FCA	2002//2011	5A
Mississippi River; Upper St. Anthony Falls to Lower St. Anthony Falls	07010206- 513	Aquatic consumption	Mercury¹FCA	1999//2011	5A
Mississippi River; Upper St. Anthony Falls to Lower St. Anthony Falls	07010206- 513	Aquatic consumption	PCB FCA	2002//2015	5A
Mississippi River; Lower St. Anthony Falls to Lock & Dam #1 (RM 853.3 to RM 847.6)	07010206- 503	Aquatic recreation	Fecal coliform	2008//2015	5A
Mississippi River; Lower St. Anthony Falls to Lock & Dam #1 (RM 853.3 to RM 847.6)	07010206- 503	Aquatic consumption	Mercury <sup>1</sup> FCA	1999//2011	5A
Mississippi River; Lock & Dam #1 to Minnesota R	07010206- 514	Aquatic consumption	Mercury¹FCA	1999//2011	5A
Mississippi River; Lock & Dam #1 to Minnesota R	07010206- 514	Aquatic consumption	PCB FCA	2002//2015	5A
Shingle Creek (County Ditch 13); Headwaters to Mississippi R	07010206- 506	Aquatic life	Chloride	2002//2006	5A
Shingle Creek (County Ditch 13); Headwaters to Mississippi R	07010206- 506	Aquatic life	Invertebrate IBI	2013//2015	5A
Shingle Creek; Headwaters to Mississippi R Shingle Creek (County Ditch 13); Headwaters to Mississippi R	07010206- 506	Aquatic life	Low Oxygen <sup>2,5</sup>	2004//2006	5A

Note: The absence of a water body from the 303d List does not necessarily mean the reach is meeting its designated uses. It may be that the reach has either not been sampled or there are not enough data to make an impairment determination.

Source: MPCA Draft List of Impaired Waters, 2006

<sup>1</sup>Category 1: all designated uses are meeting water quality standards

Category 2: some uses are meeting water quality standards and there are insufficient data to assess other uses

Category 3: there are insufficient data to assess any uses

Category 4: at least one use is impaired, but a TMDL is not required

4A: Impaired, but a TMDL study has been approved by EPA

4B: Impaired, but a TMDL study is not required because water quality standards are expected to be met in the near future

4C: Impaired, but a TMDL study is not required because the impairment is not caused by a pollutant

anthropogenic influence. To be considered "insignificant", the elimination of the anthropogenic influence would not lead to the attainment of water quality standards 4D: An assessment unit is impaired or threatened but doesn't require a TMDL because the impairment is due to natural conditions with only insignificant

and it would not be included in formal pollution reduction goal-setting activities. A reach-specific water quality standard based on local natural conditions has yet to be determined. Upon determination, the assessment unit will be considered non-impaired for the natural conditions and re-categorized to an appropriate category

Category 5: at least one use is impaired and a TMDL is required. These become the List of impaired waters

56.1 Impaired by multiple pollutants and no TMDL study plans are approved by EPA

5B: Impaired by multiple pollutants and some TMDL study plans are approved by EPA

5C: Impaired by one pollutant and no TMDL study plan is approved by EPA

FCA: Fish Consumption Advisory

# **Appendix G Monitoring Activities**

Type of Work	Date	Responsible	Description
Monitoring			
Audubon Cooperative Sanctuary (ACS) Golf Course Certification Monitoring	Ongoing	MPRB	Water quality monitoring of select water bodies; vegetation monitoring at Wirth and Meadowbrook golf courses
Wetland Health Evaluation Monitoring (WHEP)	2003- ongoing	MPRB/MPW	Plant and invertebrate species diversity at:  - Theodore Wirth Golf Course Site  - Amelia Pond at Lake Nokomis  - Roberts Bird Sanctuary  - Grass Lake
Stormwater BMP Monitoring	2002- ongoing	MPRB/MPW	Inlet and outlet pipe discharge monitoring for TP, TKN, TDP, TDS, TSS among others
Wetland Health Evaluation Monitoring (WHEP)	2002- ongoing	WHEP/MPRB	Plant and invertebrate species diversity at various sites
NPDES Monitoring	2000- ongoing	MPRB/MPW	Outfall monitoring     Runoff and water quality monitoring for different land uses
Constructed Wetlands Monitoring for Pollutant Removal and Performance Assessment	1999- 2001	MPRB/MCES	- Cedar Meadows - SENA wetland - Lake Harriet subsurface flow wetland
Watershed Outlet Monitoring	1998- ongoing	MPRB/MCES/ MCWD/BCWMC	Flow monitoring and water quality sampling at Minnehaha Creek and Bassett Creek
Mississippi Watershed Management Organization Monitoring Program	ongoing	мwмо	Monitoring at 6 locations along the Mississippi River, 5 stormwater outfalls and Loring Pond. Monitors for fecal coliform, and <i>E. coli</i> at all points. Also monitors various physical and chemical parameters at the stormwater outfalls.
Survey and Assessment			
Macroinvertebrate Surveys on Bassett Creek, Minnehaha Creek, Shingle Creek	ongoing	River Watch/ VSMP/BCWMC/ MCWD/SCWMC	Completed by trained volunteers
Nine Lakes TMDL Study	2006	MCWD	Six of those lakes are within Minneapolis: Brownie Lake, Diamond Lake, Lake of Isles, Lake Hiawatha, Lake Nokomis and Powderhorn Lake; Study includes monitoring information of the lakes, allocation of sources of pollutants, in-lake modeling, and TMDL determination.
Ryan Lake TMDL Study	2005	SCWMC	Monitoring information of the Ryan Lake
Shingle Creek Chloride	2005	SCWMC	Spatial extent, persistence, and severity of chloride exceedances, identification and quantification of the sources of chloride in Shingle creek including point and nonpoint sources, allocation of Shingle Creek's assimilative capacity to both point and nonpoint sources and development of safety margins protective of State water quality standards
Function and Value Assessment of all Wetlands in District	2003	MCWD	Complete assessment of all wetlands within the Minnehaha Creek Watershed
Hydrologic and Hydraulic Study	2000	MCWD	Assessment of loading (water volume as well as nutrient/pollutant loading) to Minnehaha Creek , inadequate definition of floodplain

Type of Work	Date	Responsible	Description
			zones, and the direction of the District's regulatory system
Land Cover Classification and Management Plan for Theodore Wirth Park and Minnehaha Creek Corridor	2000	MPRB/DNR	Inventory of existing land cover at Wirth Park and Minnehaha Creek Corridor
Above the Falls: A Master Plan for the Upper River in Minneapolis	1999	MPRB/Hennepin County/Mpls Planning/MCDA	Master land use plan, includes restoration of natural areas
Powderhorn Park Restoration Project (Diagnostic Study and Implementation Plan)	1999	MPRB/MPW	Assessment of lake and development of a work plan that led to many of the Powderhorn Lake improvements
Minneapolis Chain of Lakes Clean Water Partnership	1994- 2001	MPRB/MCWD/ Minneapolis/St. Louis Park/MPCA	Comprehensive watershed study of the Minneapolis Chain of Lakes
Diamond Lake Vegetation Survey	1994 - recur (2)	MPRB	Documentation of plant species and their area extent to evaluate plant species diversity
Vegetation Management			
Eurasian Milfoil harvesting at Calhoun, Cedar, Harriet and Isles	ongoing	MPRB	Top 2 meters of milfoil plants removed
Purple Loosestrife control in problem areas of the park system: Wirth and Birch (2001) Calhoun, Cedar, Harriet and Isles (2002)	ongoing	MPRB/DNR	Spraying and biological control: Introduction and monitoring of leaf-feeding beetles as a bio-control for purple loosestrife control     Spraying selected problem areas in the park system
Buckthorn, Mulberry, Garlic Mustard, Poison Ivy and Honeysuckle control	1998- ongoing	MPRB	Management through education and removal in park system problem areas of park system
Shingle Creek Natural Area Management Plan	2002	MPRB	Land cover classification priority areas and creek erosion assessment
Improvements			
Powderhorn Lake Barley Straw Treatments	2004- 2006	MPRB	Treatments to improve water clarity
Powderhorn Lake Alum	2003	MPRB	Injection of a specified amount of Al <sub>2</sub> SO <sub>4</sub> in the lake
Powderhorn Lake Restoration	2002	MPRB/MPW	Installation of 5 CDS units     Sluiceways along the sides replaced with storm drains     Shoreline plantings     Replacement and stabilization of walkway on eastern shore
Powderhorn Lake Aeration System Installed	2002	MPRB	Summer aeration in addition to winter aeration for better oxygenation of water and to help control release of phosphorus from bottom sediment
Powderhorn Lake Retaining Wall	2002	MPRB	Retaining wall restored
Inflatable Weir at Lake Nokomis	2002	MCWD	An inflatable weir was installed between Lake Nokomis and Minnehaha Creek to prevent flow from entering the lake from the creek during low flows
Lake Nokomis Wetlands	2001	MPRB	Construction of the wetlands to capture contaminated runoff prior to its entry into Lake Nokomis and downstream waters
Minnehaha Creek Shoreline Restoration	2001	MPRB/MCWD	A stretch of creek was converted to a natural meander with an adjacent wet pond
Lake Nokomis North Shoreline Restoration	2001	MPRB	Tree cover thinned, placement of wave protection barriers in lake, installation of emergent aquatic vegetation in littoral zone, planting of prairie

Type of Work	Date	Responsible	Description
Minnehaha Creek Trail Corridor	2001	MPRB	Shoreline erosion repairs, construction of channel meander and adjacent wetland, placement of vortex treatment structures upstream of wetland at Cedar Avenue
Lake Hiawatha Shoreline and Littoral Area Revegetation	2001	MPRB	Two shoreline and littoral areas at the lake were revegetated, littoral emergent plants and upland wet-to-dry prairie plants introduced
Cedar Meadows Structure Maintenance	2001	MCWD	Structure maintenance
Wirth Lake Aerator	2001	MPRB/DNR	Temporary baffle aerator replaced with permanent pump and baffle aerator
Lake Harriet and Lake Calhoun Alum Treatment	2001	MPRB/U of M/ MCWD/ MPCA	381 tons of Al <sub>2</sub> SO <sub>4</sub> placed in Lake Harriet and 1575 tons of alum placed in Lake Calhoun to limit algae growth by reducing available phosphorus
Lake Nokomis Carp Removal	2001	MCWD	Removal of carp to limit phosphorus
Lake Nokomis/Hiawatha Blue Water Partnership	2000- 2001	MPRB/MPW/ MCWD	Construction and planting of three wetlands/ponds at Lake Nokomis, installation of new lake outlet structure, and placement of two vortex treatment units in watershed     Construction of detention basins/wetlands within the major subwatersheds to Lake Hiawatha
Lake Calhoun and Lake of the Isles Grit Chambers	1999	MPRB/MPW	Grit chambers have been installed and will continue being installed until 2004
Lake Harriet Delta Shoreline Improvement	1999	MPRB	Sediment reworked to create a delta and 3 small islands that act as a micropool that slows down stormwater runoff entering the lake and provides habitat for birds
Southwest Calhoun Wetlands	1999	MPRB/MCWD	Construction of wet detention basins/wetlands within the major subwatersheds of the lake
Cedar Lake and Lake of the Isles Goose Removal	1998- ongoing	MPRB/U of M	Goose removal program to limit phosphorus started with Clean Water Partnership project
Lake of the Isles and Lake Calhoun Shoreline Repair	1998- 1999	MPRB	Shoreline repairs to prevent erosion; native plantings
Minnehaha Creek Channel Modifications/Erosion Management	1998	MCWD	Hydrologic modeling of creek flows in the lower basin of MCWD under severe runoff conditions. Identification of reaches of creek with severe erosion problems. Channel modification plan
Regional Wetland Restoration	1998	MCWD	Restoration of significant acres of drained wetlands on multiple sites
SENA Wetland	1997	MPRB	Wetlands constructed to remove nutrients and debris from runoff entering Minnehaha Creek
Lake Harriet Subsurface Flow Wetland	1997	MPRB	Wetland constructed to treat stormwater runoff before it enters Lake Harriet
Regional Water Quality Detention Storage	1997- 2000	MCWD	Construction of regional wet detention basins/wetlands, expansion of existing storage areas to remove sediment, phosphorus, and other pollutants
Cedar Lake and Lake of the Isles Alum Treatment	1996- 1997	MPRB	Alum treatment to limit algae growth by reducing available phosphorus
Cedar Meadows Wetland	1995	MCWD	Wetlands constructed to improve water quality in Cedar Lake

# **Appendix H Studies and Reports Inventory**

Over 100 plans and studies have been written that inventory, monitor, analyze, and/or set policy that affect water resources in Minneapolis. Table H-1 is an index to the reports that are listed in the remainder of this Appendix.

**Table H-1 Index to Minneapolis Water Resource Studies and Reports** 

Report	Page	Responsible Organization
Management Plans		
Water Resources Management Policy Plan	H-5	Metropolitan Council
Regional Recreation Open Space Policy Plan	H-5	Metropolitan Council
Metropolitan Council Blueprint 2030 (2002)	H-6	Metropolitan Council
MCWD Water Resources Management Plan (509 Plan, 1997)	H-6	Minnehaha Creek Watershed District
SCWMC Annual Report	H-6	Shingle Creek Watershed Management Commission
SCWMC Second Generation Management Plan Draft (2003)	H-6	Shingle Creek Watershed Management Commission
BCWMC Annual Report	H-7	Bassett Creek Watershed Management Commission
BCWMC Second Generation Management Plan Draft (2004)	H-7	Bassett Creek Watershed Management Commission
Wirth Lake Watershed and Lake Management Plan (1996)	H-7	Bassett Creek Watershed Management Commission
Bassett Creek Main Stem Watershed Management Plan (2004)	H-7	Bassett Creek Watershed Management Commission
Bassett Creek Park Pond Watershed Management Plan (2004)	H-7	Bassett Creek Watershed Management Commission
MWMO Watershed Management Plan (2000)	H-8	Mississippi Watershed Management Organization
Shingle Creek Natural Area Management Plan	H-8	Minneapolis Park and Recreation Board
Minneapolis Chain of Lakes Implementation Plan: Clean Water Partnership Phase I Project (1993)	H-8	Minneapolis Park and Recreation Board
Water Quality Management Citizens Advisory Committee Report and Recommendations (1993)	H-8	Citizens Advisory Committee
Monitoring and Assessment Reports		
MCES Aquatic Resource Assessment (2003)	H-9	Metropolitan Council
Watershed Outlet Monitoring Program (WOMP2)	H-9	Metropolitan Council
MCES 2001 Stream Monitoring Report	H-9	Metropolitan Council
Bassett Creek Monitoring (2001)	H-10	Metropolitan Council
Minnehaha Creek Monitoring Information (2001)	H-10	Metropolitan Council
Study of Lake Water Quality of the 145 Metropolitan Lakes (1980-present)	H-10	Metropolitan Council
Upper Mississippi (1994 – present)	H-11	United States Geographical Survey
Shingle Creek TMDL (1996)	H-11	United States Geographical Survey

Report	Page	Responsible Organization
Environmental Pool Plans – Mississippi River Pools 1 – 10 (2004)	H-11	US Army Corps of Engineers (USACE)
Diamond Lake Watershed Monitoring and Modeling Projects: 2005	H-11	Minnesota Department of Transportation
Citizens Lake Monitoring Program (1996-present)	H-12	Minnesota Pollution Control Agency
Citizen Stream – Monitoring Program (1998-2003)	H-12	Minnesota Pollution Control Agency
Environmental Data Access	H-12	Minnesota Pollution Control Agency
305b Assessments of Stream Conditions in Minnesota's Major River Basins (1998-2001)	H-13	Minnesota Pollution Control Agency
305b Lake Listings (2000-2002)	H-13	Minnesota Pollution Control Agency
Water Quality Reconstruction from Fossil Diatonics Applications for Trend Assessment, Model Verification and Development of the Nutrient Criteria for Lakes in Minnesota, USA	H-13	Minnesota Pollution Control Agency
Regionally Significant Ecological Areas (RSEA) (2003)	H-13	Department of Natural Resources
Functional Assessment of Wetlands (FAW) (2003)	H-14	Minnehaha Creek Watershed District
Calhoun Wetland Pond 1999 Performance Report	H-14	Minnehaha Creek Watershed District
Stream Monitoring Program	H-14	Shingle Creek Watershed Management Commission
Macroinvertebrate Monitoring	H-15	Shingle Creek Watershed Management Commission
Rapid Bioassessment Sampling	H-15	Shingle Creek Watershed Management Commission
Shingle Creek Channel Profile Survey (1998)	H-15	Shingle Creek Watershed Management Commission
Bassett 1992 Storm Monitoring Study	H-16	Bassett Creek Water Management Commission
A Biotic Index Evaluation of Bassett and Plymouth Creek: 1995	H-16	Bassett Creek Water Management Commission
2005 Lake Water Quality Study	H-16	Bassett Creek Water Management Commission
A Biotic Index Evaluation of Bassett Creek and Plymouth Creek: 2000	H-16	Bassett Creek Water Management Commission
Wirth Lake Watershed and Lake Management Plan: 1996	H-16	Bassett Creek Water Management Commission
2003 and 2004 Water Quality Study of Wirth Lake (MPRB) and Bassett Creek	H-16	Bassett Creek Water Management Commission
Powderhorn Park Restoration Plan: 1999	H-16	Minneapolis Park and Recreation Board
Theodore Wirth Park and Minnehaha Creek Corridor Land Cover Classification and Management Plan: 2000	H-16	Minneapolis Park and Recreation Board
2003 and 2004 Lake Water Quality (1991-present)	H-16	Minneapolis Park and Recreation Board
Minneapolis Chain of Lakes Project. Minnesota Clean Water Partnership Program Project Implementation Grant 941-2-059-27 (1997-2000)	H-17	Minneapolis Park and Recreation Board
Minneapolis Storm Water Wetlands Monitoring Report Twin Cities Water Quality Initiative (1991-2001)	H-17	Minneapolis Park and Recreation Board
2003 and 2004 Water Quality Projects (Annual Report)	H-18	Minneapolis Park and Recreation Board
2003 and 2004 Lake Trophic State Report (Annual Report)	H-18	Minneapolis Park and Recreation Board

2003 and 2004 Phytoplankton – Zooplankton Monitoring (Annual Report)	H-18	
		Minneapolis Park and Recreation Board
2003 and 2004 Beach Monitoring (Annual Report)	H-19	Minneapolis Park and Recreation Board
2003 and 2004 Lake Levels (Annual Report)	H-19	Minneapolis Park and Recreation Board
2003 and 2004 Ice Out - Ice on Dates (Annual Report)	H-19	Minneapolis Park and Recreation Board
2003 and 2004 Summary of NPDES Monitoring	H-20	Minneapolis Park and Recreation Board
2003 and 2004 Grit Chamber Monitoring	H-20	Minneapolis Park and Recreation Board
2003 and 2004 Weather Summary (Annual Report)	H-20	Minneapolis Park and Recreation Board
2003 and 2004 Fish Stocking Information (Annual Report)	H-21	Minneapolis Park and Recreation Board
2004 Wetland Health Evaluation Project (WHEP)	H-21	Minneapolis Park and Recreation Board
Shingle Creek Natural Area Management Plan (2002)	H-21	Minneapolis Park and Recreation Board
Minneapolis Chain of Lakes – Phase I Diagnostic Study	H-21	Minneapolis Park and Recreation Board
Chain of Lakes Alum-Macrophyte Interaction Assessment	H-22	Minneapolis Park and Recreation Board
Pesticide Study: Lake Harriet Watershed Site 1 (1992 – 1995)	H-22	Minneapolis Park and Recreation Board
Flood Report	H-22	City of Minneapolis
Standards		
Urban Small Sites Best Management Practice Manual	H-22	Metropolitan Council
Protecting Water Quality in Urban Areas	H-22	Minnesota Pollution Control Agency
Minnesota Lake Water Quality Assessment Data	H-22	Minnesota Pollution Control Agency
Water Quality Standards	H-22	Minnesota Pollution Control Agency
Minnesota Stormwater Manual	H-23	Minnesota Pollution Control Agency
Minnehaha Creek WD Rules A-N	H-23	Minnehaha Creek Watershed District
Suggested Guidelines for Stormwater Treatment Pond Design Management	H-23	Shingle Creek Watershed Management Commission
Standards for New Development, Redevelopments, or additions to Existing Developments	H-23	Shingle Creek Watershed Management Commission
Requirements for Improvements and Development	H-23	Bassett Creek Watershed Management Commission
TP 111	H-23	Bassett Creek Watershed Management Commission
Capital Improvements Programs		
Regional Parks Capital Improvement Program Proposed Projects	H-23	Metropolitan Council
Parks and Open Spaces CIP	H-24	Metropolitan Council
Capital Plan 2003-07 Projects	H-24	Minnehaha Creek Watershed District
Capital Programs	H-24	City of Minneapolis

Report	Page	Responsible Organization
Current Projects and Funding	H-24	Minneapolis Park and Recreation Board
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2003-2012 Budget (in process)	H-24	Shingle Creek Watershed Management Commission
CIP Program (in process)	H-24	Bassett Creek Watershed Management Commission
Minnehaha Creek Southwest Calhoun Pond Project: A Model Solution	H-24	Minnehaha Creek Watershed District
Lake Nokomis Wetland Settling Ponds	H-24	Minnehaha Creek Watershed District
MCWD H/H Progress	H-25	Minnehaha Creek Watershed District
The Blue Water Partnership – History Lakes Cleanup Project History: The Blue Lake Commission: Grass Roots Neighborhood Approach	H-25	Minnehaha Creek Watershed District
Chain of Lakes Project	H-25	Minnehaha Creek Watershed District
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Data		
2001 Minneapolis Lakes Data	H-25	Minneapolis Park and Recreation Board
Miscellaneous		
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CSO Separation Evaluation Report (2002)	H-25	Metropolitan Council
Water Resources Data	H-26	Department of Natural Resources
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Shoreland and Floodplain Ordinances	H-26	Department of Natural Resources
Report on Minneapolis Industrial Park Storm Sewer System for Plymouth, MN	H-27	Shingle Creek Watershed Management Commission
Shingle Creek Inspection Report	H-27	Shingle Creek Watershed Management Commission
Regional Pond Investigation	H-27	Shingle Creek Watershed Management Commission
Shingle Creek Flow and Water Quality Data (NAWQA, 1996-2001)	H-27	United States Geological Survey
Shingle Creek Water Quality Data (NAWQA, 1995)	H-27	United States Geological Survey
Minnesota Wetland Conservation Manual (2003)	H-27	Minnesota Board of Water and Soil Resources (BWSR)

Report	Page	Responsible Organization
NPDES Phase I Annual Report (2002)	H-27	City of Minneapolis
NPDES Phase I Annual Report (2003)	H-28	City of Minneapolis
2003 Draft Sanitary Sewer Infrastructure Report	H-28	City of Minneapolis
2003 Draft Storm Water Sewer Infrastructure Report	H-28	City of Minneapolis
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CSO Tier II Sewer Plan Update (2002)	H-28	City of Minneapolis
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Minneapolis Lakes and Parks: Proceedings of a Special Session	H-29	Minneapolis Park and Recreation Board

# **Management Plans**

# **Metropolitan Council (Met Council)**

# Water Resources Management Policy Plan (2005, periodically updated)

Coverage: Twin Cities Metro Area

http://www.metrocouncil.org/planning/environment/WRMPP/WRMPP2005.htm

The Plan presents the Met Council's water resources strategy with regard to issues of water quality, wastewater service and water supply. It outlines the Met Council's reliance on a watershed focus to control pollution from point (specific) and non-point (diffuse) sources, bringing together agencies and organizations in partnerships for collaborative planning and implementation. This document outlines the Met Council's intent to develop a program of baseline data and measures to mark the progress in meeting water quality objectives. It lists collaborative goal-setting, joint action and coordination as the strategy to achieve water quality efforts through region-wide partnerships.

# Regional Recreation Open Space Policy Plan (2001, periodically updated)

Coverage: Twin Cities Metro Area

http://www.metrocouncil.org/planning/parks/2005/2030RegionalParksPolicyPlan.pdf

The Open Space Policy Plan discusses existing issues facing the regional system and others that may come up in the future if preventive actions are not taken now. The policies and directives it contains are specific actions that should be taken as a response to the issues. Taken as a group, the policies express the Met Council's most basic views as to what the regional recreation open space system should be, now and in the future. Significant policy changes and additions are: siting and acquisition; finance; recreation activities and facilities; planning and system protection. A five-year capital improvement program (CIP) is included as an integral part of an adopted Regional Recreation Open Space Policy Plan.

# Metropolitan Council Blueprint 2030 (2002)

**Coverage:** Twin Cities Metropolitan Area

http://www.metrocouncil.org/planning/blueprint2030/documents.htm

The Blueprint lays out a framework for growth that reduces stress on the natural environment, improves commutes and strengthens communities in addition to saving tax dollars. Blueprint 2030 emphasizes on growth near transit corridors, mixed land uses, population responsive housing stock, protection of natural areas, reinvesting in the urban core, preservation of rural character and collaboration to achieve these goals.

# Minnehaha Creek Watershed District (MCWD)

# MCWD Water Resources Management Plan (509 Plan, 1997)

Coverage: Minnehaha Creek WD Water Resources Management Plan (509 Plan)

The Water Resources Management Plan, also known as the 509 plan was developed as required by rules and policies promulgated by the Board of Water and Soil Resources (Minnesota Rules Chapter 8410). It includes an inventory of land and water and biological resources and land use patterns within the District. The Plan looks at surface water systems and ground water in general, and at lakes within the District and associated water quality issues. Also discussed are the results of modeling done by the District on two distinct hydrologic basins within the watershed. The first, or "Upper Basin", consists of that part of the watershed from Gray's Bay dam on Lake Minnetonka to the western boundary of the District. The second, or "Lower Basin", includes the area east of Gray's Bay dam that is drained by Minnehaha Creek to the Mississippi River. Each basin was analyzed to define overall watershed response to individual storms and help quantify runoff rates and volumes on a District-wide basis. The Plan discusses flooding issues as well as stormwater quantity and quality issues faced within the District. In the implementation part of the Plan, solutions, standards, controls and priorities are considered. The District also outlines its goals and policies and lays out the regulatory authority structure of the District and the Municipalities. A Capital Improvement Program is included at the end with projects following a prioritization ranking.

# Shingle Creek Watershed Management Commission (SCWMC)

Annual report (Published annually, synopsis not available)

<u>Coverage:</u> SCWMWMC area of jurisdiction <u>http://www.shinglecreek.org/waterquality.pdf</u>

# Second Generation Management Plan Draft (2003)

<u>Coverage:</u> Shingle Creek WMO area of jurisdiction http://www.shinglecreek.org/mgmtplan.shtml

The Plan, adopted in May 2004, describes how the Shingle Creek and the West Mississippi Watershed Management Commissions will address activities in the two

watersheds during a 10-year period from 2003-2012. It includes an updated land and water resources inventory, a detailed description of the hydrologic system for Districts, as well as water quantity and quality modeling results. Management issues, and goals for the period from 2003-2012 are identified for both Districts, as well as priorities and strategies are outlined. An estimated budget and Capital Improvement Plan are included at the end.

# Bassett Creek Watershed Management Commission (BCWMC) Annual Report (Published annually)

<u>Coverage:</u> Bassett Creek WMO area of jurisdiction <a href="http://www.bassettcreekwmo.org/2004%20Annual%20Report/2004%20cover%20page.htm">http://www.bassettcreekwmo.org/2004%20Annual%20Report/2004%20cover%20page.htm</a>

The report is in accordance with the Annual Reporting Requirements as set forth in the Minnesota Rules Chapter 8410.0150. The report consists of a description of goals and activities in 2004 and work plan for 2005. Water quality monitoring data and information on capital improvements is included in the appendix.

## Second Generation Management Plan (2004)

Coverage: Bassett Creek WMO area of jurisdiction

http://www.bassettcreekwmo.org/2nd%20Generation%20Plan/bcwmc%202nd%20generation%20plan/Contents.htm

The Bassett Creek Water Management Commission (BCWMC) Watershed Management Plan (Plan) sets the vision and guidelines for managing surface water within the boundaries of the BCWMC. It covers the location, history, goals, policies and implementation tasks of the BCWMC.

# Wirth Lake Watershed and Lake Management Plan (1996, synopsis not available)

Coverage: Wirth Lake

http://www.bassettcreekwmo.org/Wirth%20Lake%20Feasibility%20report.pdf

# Bassett Creek Main Stem Watershed Management Plan (2004, synopsis not available)

Coverage: Bassett Creek

http://www.bassettcreekwmo.org/2nd%20Generation%20Plan/Final%20Plan%20September%202004/TOC.htm

# Bassett Creek Park Pond Watershed Management Plan (2004, synopsis not available)

<u>Coverage:</u> Bassett Creek Not online at this time

# Mississippi Watershed Management Organization (MWMO)

Watershed Management Plan (2000)
Coverage: MRWO area of jurisdiction
http://www.mwmo.org/plan.pdf

The MWMO (the Plan) is intended to meet and, whenever possible, exceed the water resource protection requirements under 33 Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420. The document includes a land and water resources inventory with description of important lakes, ponds and wetlands. This is followed by assessment of water quality, water quantity and erosion and sedimentation problems. The plan elaborates on the mission of the MWMO and its goals. The implementation plan focuses on three approaches: policies and standards, projects, and programs. Included at the end is a 10-yr capital plan for proposed improvements.

# Minneapolis Park and Recreation Board (MPRB)

Shingle Creek Natural Area Management Plan (July, 2002)

Coverage: Shingle Creek Corridor

The Minneapolis Park and Recreation Board completed an ecological inventory, stream analysis and trails and interpretive opportunities assessment for the Shingle Creek Corridor, Humboldt Greenway and parts of the North Mississippi Regional Park. Potential areas for recreation and management strategies were identified and recommendations made for stream and trail improvements.

# Minneapolis Chain of Lakes Implementation Plan: Clean Water Partnership Phase I Project (1993)

<u>Coverage:</u> Minneapolis Not Available Online

The Phase I project had three goals. The first goal was to investigate the impact of surface water runoff on the Chain of Lakes. Next, the project analyzed the storm water loads of fifteen sub watersheds that contribute to Lake Harrier. Finally, the plan assessed the impact of storm water on the Chain of Lakes water quality. The study found that the quality of the lakes degraded form 1950 to 1960 but has remained stable since the 1960's.

# Citizen's Advisory Committee

# Water Quality Management Citizens Advisory Committee Report and Recommendations (1993)

<u>Coverage:</u> Minneapolis Not Available Online

The Citizen's Advisory Committee made recommendations on how the City of Minneapolis could improve water quality. The recommendations included public education suggestions, and a monitoring and action program. The report set water quality goals for lakes. The goals were intended to be obtainable and would also restore lake quality to pre-build conditions.

# Monitoring and Assessment Reports Metropolitan Council (Met Council)

Metropolitan Council Aquatic Resource Assessment (2003)

Coverage: Twin Cities Metro Area

http://www.metrocouncil.org/planning/environment/ara\_report.pdf

The report consists of a GIS-based assessment used to evaluate selected physical, biological, and cultural indicators for surface water resources in the Twin Cities Metropolitan Area (TCMA). The results from this assessment are relative rankings of the regional importance of the region's surface water resources for various purposes (i.e. water supply, recreation, ecological). This represents an important platform from which policy and management issues can be discussed.

# Watershed Outlet Monitoring Program (WOMP 2)

<u>Coverage:</u> Minnehaha Creek and Bassett Creek and Shingle Creek <a href="http://www.metrocouncil.org/environment/RiversLakes/Streams/StreamResults.h">http://www.metrocouncil.org/environment/RiversLakes/Streams/StreamResults.h</a> tm

The Metropolitan Area Watershed Outlet Monitoring Program (WOMP) was implemented in early 1998. The new WOMP program expanded the existing MCES stream-monitoring network in the metro area. Seven new watershed outlet monitoring sites were established in seven watersheds. These included both the Minnehaha Creek monitoring station, (located at 32nd Avenue South and Minnehaha Parkway) and the Bassett's Creek monitoring station, (located at 100 Irving Avenue North, near the Minneapolis Impound Lot). The Minnehaha Creek and Bassett's Creek WOMP stations are used to continually monitor the discharge level and water chemistry of the creeks over time. This data can be used to assess the effects of stormwater runoff from the surrounding watershed. It also allows natural resource managers to track changes in each creek through long term data collection, as well as document differences between creeks in the metro area with varying watershed characteristics. Details of the 2001 monitoring can be found in this report.

# Metropolitan Council Environmental Services (MCES) 2001 Stream Monitoring Report

Coverage: Twin Cities Metropolitan Area

http://www.metrocouncil.org/environment/RiversLakes/Streams/Reports/CoverIntroFormat.pdf

This report presents results from monitoring conducted by the MCES and its partners at 28 stations on 26 streams in the Twin Cities Metro Area (TCMA) and in the vicinity of Mankato. The purpose of the monitoring is to determine the extent of non-point source pollutant loading from tributaries to the Mississippi, Minnesota, and St. Croix

Rivers. This would provide the information necessary for the development of target pollutant loads for these tributary watersheds, and to evaluate the effectiveness of watershed best management practices for reducing non-point source pollution and improving water quality in streams and rivers. The streams are monitored during significant runoff events, such as snowmelt and heavy rainfalls, and during base flow conditions, to help determine the sources and extent of non-point sources of pollution.

## **Bassett Creek Monitoring (2001)**

Coverage: Bassett Creek in Minneapolis

http://www.metrocouncil.org/environment/RiversLakes/Streams/Reports/Bassett.pdf

The report is the result of a partnership between MCES, the Minneapolis Park and Recreation Board and the Bassett Creek Watershed Management Commission. Stream flow and precipitation on the site were monitored, and water samples collected and analyzed for a number of variables including nitrate, total phosphorus (TP), zinc, cadmium, total dissolved solids (TDS), total suspended solids (TSS) and volatile suspended solids (VSS). Loadings and flow weighted mean concentrations for TSS, TP, dissolved phosphorus and nitrate are included in the report.

## Minnehaha Creek Monitoring Information (2001)

<u>Coverage:</u> Minnehaha Creek in Minneapolis

http://www.metrocouncil.org/environment/RiversLakes/Streams/Reports/Minne haha.pdf

MCES supported water quality monitoring at Minnehaha Creek has been taking place since 1999. The monitoring station is located in Minneapolis, 1.7 miles upstream from the creek confluence with the Mississippi River near Fort Snelling. Stream flow and macro-invertebrate populations were monitored. Water samples were collected and analyzed for a number of variables including nitrate, total phosphorus (TP), zinc, cadmium, total dissolved solids (TDS), total suspended solids (TSS) and volatile suspended solids (VSS). Loadings and flow weighted mean concentrations for TSS, TP, dissolved phosphorus and nitrate are included in the report.

# Study of Lake Water Quality of the 145 Metropolitan Lakes (1980- present)

Coverage: Twin Cities Metro Area

http://www.metrocouncil.org/environment/RiversLakes/Lakes/04FullREPORT.pd f

http://www.metrocouncil.org/environment/RiversLakes/Lakes/04ExecSum.pdf

This report is the latest in a continuing series of reports summarizing results of the Metropolitan Council's "Citizen-Assisted Monitoring Program" (CAMP). Since 1980, volunteers have collected surface water samples from area lakes on a biweekly basis from mid-April to mid-October. The samples are analyzed for total phosphorus, total kjeldahl nitrogen, and chlorophyll-a. Lakes are assigned water quality grades based on the results of the sampling (List of lake samples may change every year, list for

2004 is available, Ryan Lake which is partially in Minneapolis has been monitored in 1996, 1998 and 2000 through this program).

# **United States Geological Survey (USGS)**

Upper Mississippi (1994-present)

Coverage: Upper Mississippi River from Itasca to Lake Pepin

http://mn.usgs.gov/umis/index.html

Studies have been conducted by the USGS since 1994 in the Upper Mississippi River Basin from Itasca to the outlet at Lake Pepin. Nutrients, sediment, major ions, organic carbon, pesticides, trace metals, semi-volatile organic compounds, and volatile organic compounds are routinely monitored. The goal is to describe the status of, and trends in, the quality of the nation's streams and rivers. Surface water, ground water and aquatic biology studies are included under this program. Special studies, data, publications and maps are available at the web site.

# Shingle Creek TMDL (1996)

Coverage: Shingle Creek

http://water.usgs.gov/nawqa/informing/tmdls.html

USGS collected chemical and biological samples in Shingle Creek as part of the national Water-Quality Assessment (NAWQA) Program. The assessment surfaced a chloride problem that led to the inclusion of Shingle Creek in the state list of impaired waters.

# **United State Army Corps of Engineers (USACE)**

Environmental Pool Plans - Mississippi River Pools 1-10(2004)

http://www.mvp.usace.army.mil/rrf/eppfinal.pdf

The Environmental Pool Plans are a result of cooperative efforts among state and federal agencies and the public to help develop common habitat goals and objectives for the Upper Mississippi River. They are intended to serve as a guide to habitat management sequencing in the St. Paul District of the Corps of Engineers and a way to reverse negative trends in habitat quality toward a sustainable ecosystem. The project area includes 11 pools (Pools 1 through 10, and 5A) within the Upper Mississippi River System from Minneapolis, Minnesota, to just south of Guttenberg, Iowa; the lower 14.7 miles of the Minnesota River; and the St. Croix River upstream to Stillwater, Minnesota.

# Minnesota Department of Transportation

Diamond Lake Watershed Monitoring and Modeling Projects: 2005

<u>Coverage:</u> Diamond Lake Not available Online The MNDOT is planning on constructing I-35W/Crosstown Commons Improvements. This goal of the Diamond Lake Report was to evaluate the pollutant loading to Diamond Lake from current land users in the watershed. Then, a water quality model of the area was developed. Finally, the report evaluated lake protection scenarios that may be implemented during the MNDOT project. The lake protection scenarios include diverting some flows from Diamond Lake to a new treatment pond, installing a series of treatment manhole structures, and routing flow to Lake Mead for treatment.

# Minnesota Pollution Control Pollution Control Agency (MPCA)

# Citizens Lake Monitoring Program (1996 - present)

<u>Coverage:</u> Twin Cities Metro and surrounding area <a href="http://www.pca.state.mn.us/water/clmp-publications.html">http://www.pca.state.mn.us/water/clmp-publications.html</a>

The MPCA's Citizen Lake-Monitoring Program (CLMP) is ongoing since 1973. Lakes are monitored through voluntary participation of citizens residing on or near lakes or those who are frequent lake users. Weekly transparency measurements are recorded and archived in a STORET database. This information is used to deduce water quality of a lake and to estimate the amount of algae (chlorophyll a) and nutrient (phosphorus) status of a lake. Reports from all years can be found at the website.

# Citizen Stream-Monitoring Program (1998-2003)

<u>Coverage:</u> Twin Cities Metro and surrounding area <a href="http://www.pca.state.mn.us/water/csmp-reports.html">http://www.pca.state.mn.us/water/csmp-reports.html</a>

The MPCA's Citizen Stream-Monitoring Program (CSMP) began in 1998. Reports from all years are available at the website and include transparency readings as well as recreational suitability rankings.

### **Environmental Data Access**

http://www.pca.state.mn.us/data/eda

The EDA initiative was created by the Minnesota Legislature in 2001 to address those deficiencies in the availability of surface water quality data from MPCA and others. In 2003, EDA went online providing access to water quality data through a map-based system. Air quality data becomes available in 2004. Ground water data will also be available through the EDA system in 2005.

# 305b Assessments of Stream Conditions in Minnesota's Major River Basins (1998–2001)

Coverage: All of Minnesota

http://www.pca.state.mn.us/water/basins/305briver.html

Stream assessments were prepared, by the Minnesota Pollution Control Agency (MPCA) under Section 305b of the Clean Water Act to estimate the extent to which Minnesota waterbodies meet the goals of the Clean Water Act (CWA) and attain state

water quality standards, and share this information with planners, citizens and other partners in basin planning and watershed management activities. Under each river/stream, information is available on the uses, indicators of impairment and suspected pollutant sources.

## 305b lake listings (2000-2002)

Coverage: All of Minnesota

http://www.pca.state.mn.us/water/basins/305blake.html

Lake assessments are prepared under Section 305b of the Clean Water Act to estimate the extent to which Minnesota waterbodies meet the goals of the CWA and attain state water quality standards, and share this information with planners, citizens and other partners in basin planning and watershed management activities. Under each lake, information is available on the uses, indicators of impairment and suspected pollutant sources. Lakes are also assessed for the swimmable goal of the CWA.

# Water Quality Reconstruction from Fossil Diatonics Applications for Trend Assessment, Model Verification and Development of the Nutrient Criteria for Lakes in Minnesota (September 2002)

Coverage: All of Minnesota

http://www.pca.state.mn.us/publications/reports/lakes-wqdiatoms.pdf

This study conducted a diatom reconstruction of historical phosphorous and chloride concentrations and sediment accumulation rate, based on sediment cores from 55 lakes in MN. The historical data used sediment cores from 1995 – 1998 and section data from as early as 1750. The data provides an opportunity for examining temporal and spatial trends in eutrophication, validating eutrophication models, and providing historical perspective for developing nutrient criteria.

# **Department of Natural Resources (DNR)**

# Regionally Significant Ecological Areas (RSEA) (2003)

Coverage: Seven county metro area

http://www.dnr.state.mn.us/rsea/metro assessment.html

The DNR Central Region conducted a landscape-scale assessment of the seven-county metro area to identify ecologically significant terrestrial and wetland areas

### Minnehaha Creek Watershed District

# Functional Assessment of Wetlands (FAW) (2003)

Coverage: Minnehaha Creek Watershed District

Not available online at this time

Functional Assessment of Wetlands within the MCWD was developed to provide a comprehensive inventory and assessment of existing wetland functions within the MCWD. The project also provides comprehensive wetland resource data to improve wetland management throughout the District. The plan includes:

- A field inventory of all wetlands greater than 0.25 acres in size
- A functional assessment of all wetlands greater than 0.25 acres in size
- A digital photograph of each wetland greater than 0.25 acres in size
- The establishment of reference wetlands within the entire watershed, each major subwatershed, and each municipality
- Identification and evaluation of potential wetland restoration opportunities
- Identification of critical wetland resources
- Management of all wetland functional assessment data in a Microsoft Access© database
- Development of a GIS wetland data management system
- Recommendations for classifying wetland management standards and criteria

# Calhoun Wetland Pond: 1999 Performance Report

<u>Coverage:</u> Calhoun Wetland Pond Not available online at this time

The Calhoun Wetland Pond Performance Report monitored flow in Lake Calhoun and three tributary ponds. The report was intended to document the success of pollutant removal from Lake Calhoun. The report compared modeled removal results against actual measured impact and concluded that the actual impact exceeded the modeled report results by 66%.

# Shingle Creek Watershed Management Commission Stream monitoring program (Conducted annually)

Coverage: Shingle Creek

http://www.shinglecreek.org/waterquality.pdf

Monitoring has been taking place on Shingle Creek since 1996. The program comprises of monitoring at the upper watershed and the outlet. The outlet monitoring site is located at 45th Ave. and Shingle Creek. Stream stage is recorded and samples are collected at regular intervals from March to November. Samples are analyzed for: TP, DP, VSS, COD and chloride. Estimates for pollutant loading are available for the period sampled.

# Macroinvertebrate Monitoring (conducted annually since 1996)

Coverage: Shingle Creek

http://www.minneapolisparks.org/documents/caring/WQ\_Annual\_2002/2002WR\_8.pdf

A macroinvertebrate survey was chosen to assess the health of Shingle Creek. The study is important to understand the effects of changes in the urban environment both on Shingle Creek and the Mississippi River. Three sites are currently monitored on Shingle Creek, with one in Minneapolis. The macroinvertebrate sampling was done twice on Shingle Creek in 2002; results of this monitoring are reported on the MPRB website.

# Rapid Bioassessment Sampling (1996, updated in 1997 {fish sampling not included})

<u>Coverage:</u> Two reaches of Shingle Creek

http://www.shinglecreek.org/waterquality.pdf

Biological sampling and habitat assessment was conducted in the Shingle Creek to analyze invertebrate (i.e., insects, mollusks, and crustaceans) community composition and diversity. The information obtained has been used to compare existing conditions to historical conditions within the creek and the watershed, and for documenting potential water quality and biological problems. Three sites were sampled including Queen Ave. (in Minneapolis) for abundance and diversity of invertebrate and fish species. Stream habitat and biologic diversity were also evaluated.

# Shingle Creek Channel Profile Survey (1998, synopsis not available)

Coverage: Shingle Creek

http://www.shinglecreek.org/waterquality.pdf

A profile survey and an inspection of Shingle Creek was performed, noting erosion, blockages, bank failures, and the need for repairs as well as the conveyance capacity of the channel. Local communities constructed improvements where necessary

# **Bassett Creek Water Management Commission**

Bassett 1992 Stormwater Monitoring Study (Synopsis not available)

A Biotic Index Evaluation of Bassett and Plymouth Creeks: 1995 (Synopsis not available)

2005 Lake Water Quality Study (Synopsis not available)

http://www.bassettcreekwmo.org/2005%20Bassett's%20Lakes%20Report.pdf

A Biotic Index Evaluation of Bassett Creek and Plymouth Creek: 2000 (Synopsis not available)

http://www.bassettcreekwmo.org/2000%20Biotic%20Index%20Figure.pdf

Wirth Lake Watershed and Lake Management Plan: 1996

(not available on-line)

### 2003 and 2004 Water Quality Study of Wirth Lake (MPRB) and Bassett Creek

http://www.bassettcreekwmo.org/Wirth%20Lake%20Feasibility%20report.pdf

# Minneapolis Park and Recreation Board

Powderhorn Park Restoration Plan: 1999

(not available on-line)

# Theodore Wirth Park and Minnehaha Creek Corridor Land Cover Classification and Management Plan: 2000

(not available on-line)

# 2003 and 2004 Lake Water Quality (1991-present)

Coverage: City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=922

The report contains data and results resulting from lake monitoring undertaken by Minneapolis Park and Recreation, wherein, scientists monitored 13 of the city's lakes. The data collected were used to estimate the fertility, or trophic state, of the lakes. Trophic State Index (TSI) numbers are calculated using lake water transparency, chlorophyll-a levels and phosphorus levels. Using this information, changes in lake water quality can be tracked as well as used by lake managers to assess improvement or degradation in water quality. Data from the studies can be used to predict problems likely to occur and decide management strategies most effective for improving the recreational quality and ecological health of the lakes. Lakes monitored include: Brownie, Calhoun, Cedar, Diamond, Harriet, Hiawatha, Isles, Loring, Nokomis, Powderhorn, Spring, Webber, Wirth.

According to recent reports, Calhoun, Cedar and Wirth Lakes showed strong water quality improvement trends, Lake of the Isles and Webber Pond also showed an improvement in water quality over the last 11 years, but it was a weaker trend; Hiawatha showed a decline in water quality, but it was a weak trend; Powderhorn Lake showed a strong decline in water quality. Due to insufficient data, trend in water quality for Spring Lake and Brownie Lake could not be determined

# Minneapolis Chain of Lakes Project. Minnesota Clean Water Partnership Program Project Implementation Grant 941-2-059-27 (1997-2000)

Coverage: City of Minneapolis

http://www.minneapolisparks.org/documents/caring/Chain\_Water\_Pro.pdf

The report is a culmination of multi-lateral effort involving the City, watersheds, neighboring cities, and agencies known as The Minneapolis Chain of Lakes Clean Water Partnership project. The project is focused on developing a plan for improving and preserving four lakes: Cedar Lake, Lake of the Isles, Lake Calhoun, and Lake

Harriet. Water quality, especially nutrient loading and algal blooms, is a concern due to the extensive use of these lakes for recreation.

The report describes the process used to assess lake water quality through monitoring, diagnostic studies, as well as user perception. A large part of the report is dedicated to results from the monitoring done by the Minneapolis Parks and Recreation Board. Overall goals and objectives are described in detail along with a description of the implementation plan and recommended BMPs to improve water quality. The report list a chronological summary of project activities by program element at the end.

# Minneapolis Storm Water Wetlands Monitoring Report Twin Cities Water Quality Initiative (1991-2001)

**Coverage:** City of Minneapolis

http://www.minneapolisparks.org/documents/caring/WQ\_Annual\_2001/7%20Wetlands%20Monitoring%20Report.pdf

The Minneapolis Park & Recreation Board received a grant from the Metropolitan Council of the Twin Cities to monitor the effectiveness of constructed wetlands (1991-2002).

This report is the culmination of that work, providing an overview of the project and results. This study documents the effectiveness of three wetland systems, namely Cedar Meadows, SENA and the Lake Harriet Subsurface Flow (SSF) wetland for treating storm water runoff in Minneapolis.

These constructed systems were monitored to determine their treatment efficiencies and flow characteristics. Sections in the document are segmented into annual work product results and project summarization.

# 2003 and 2004 Water Quality Projects (annual report)

Coverage: City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

The report provides a description of water quality projects completed by the City of Minneapolis and the Minneapolis Park and Recreation Board. Some of the projects listed are: shoreline restoration at Lake Nokomis and Bassett Creek near Fruen's Mill; shoreline and littoral vegetative restoration at Lake Hiawatha; installation of an aerator and baffle at Lake Wirth; the Chain of Lakes Clean Water Partnership Project which included alum treatments at Lakes Harriet and Calhoun; installation of grit chambers at Powderhorn Lake; construction of wetland at Lake Nokomis and installation of the new lake outlet structure, placement of two vortex treatment manholes in the watershed and removal of unwanted species of fish; biological control of purple loosestrife at selected sites in the City and milfoil harvesting on Calhoun, Cedar, Harriet and Isles in 2001.

### 2003 and 2004 Lake Trophic State Report (annual report)

**Coverage:** City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

From 1999-2004 the Minneapolis Park and Recreation Board monitored 13 City's lakes. Transparency, chlorophyll-a and phosphorus data was collected and used along with a mathematical formula to estimate the trophic state of the lake. It was found that all the lakes in the City fell into either the mesotrophic or eutrophic category as is expected of lakes in fully developed areas. Calhoun, Cedar and Harriet are `mesotrophic whereas Isles, Weber, Wirth, Hiawatha, Nokomis, Powderhorn and Loring are eutrophic and have higher levels of algae.

# 2003 and 2004 Phytoplankton-Zooplankton Monitoring (annual report)

**Coverage:** City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

As part of the Chain of Lakes study covering Brownie, Cedar, Isles, Calhoun, Harriet, Hiawatha, Nokomis, Diamond, Powderhorn, Loring, Webber and Wirth, biological parameters were routinely measured. Phytoplankton and zooplankton are the two most common biological parameters collected because they form the base of aquatic food web and influence lake clarity and fish production. The study gives insight into the occurrence of algal blooms of late summer and early autumn that impedes recreational uses. Powderhorn was found to have the greatest chlorophyll-a concentrations over the 2001 growing season, Loring and Spring Lake followed in second and third position. Brownie, Calhoun, Cedar, Harriet and the Isles typically had the least.

#### 2003 and 2004 Beach Monitoring (annual report)

Coverage: City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

The Division of Environmental Health Services at the City of Minneapolis collects samples twice a week from public beaches in the City from June through mid-September. The samples are analyzed for non-pathogenic indicator bacteria to determine if a health risk was present for swimmers. Total coliform bacteria, fecal coliform and fecal streptococcus levels are monitored. Decisions on beach closures are made based on the monitoring results and EPA recommendations. The majority of Minneapolis public beaches were within acceptable limits for body-contact recreation for most of the time the beaches were open.

#### 2003 and 2004 Lake Levels (annual report)

Coverage: City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

### http://www.minneapolisparks.org/default.asp?PageID=922

Lake levels are recorded weekly for Calhoun, Cedar, Brownie, Harriet, Hiawatha, Nokomis, Loring, Powderhorn and Wirth lakes from ice out to ice in. The lake level for the Upper Chain of Lakes is taken at Lake Calhoun. Since the lakes are connected, this gives the lake level for Brownie, Cedar, Isles and Calhoun. Lake levels can vary from year to year depending on the amount of rainfall received in spring.

# 2003 and 2004 Ice out - Ice on dates (annual report)

**Coverage:** City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

Ice in, ice out data tracks the date a lake freezes up in the fall and the date it thaws in spring. Ice freezing and thawing affects migration and breeding patterns of birds, food supply of fish and animals and water chemistry. The historical records are not complete and the coverage varies by lake, Lake Calhoun with the most data and Diamond Lake with the least.

## 2003 and 2004 Summary of NPDES Monitoring

<u>Coverage</u>: City of Minneapolis (some sites in St. Paul)

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

Five sites in Minneapolis and St. Paul were monitored for runoff and water quality between March and November as part of the NPDES Phase I requirements. Samples were analyzed for a large number of parameters including: TSS, TDS, TKN, TN and trace metals. Event mean concentrations were calculated using FLUX and P8. Sampled data, compared with NURP standards as well from the literature, was found to be fairly typical of urban storm water data.

# 2003 and 2004 Grit Chamber Monitoring

Coverage: City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

As of 2003, the City of Minneapolis had installed 96 grit chambers to improve water quality of downstream waterbodies. In order to determine the effectiveness of grit chambers, the City monitored the grit chamber that drains to Bassett Creek in Wirth Park in 1998 and 2001. Chemical parameters analyzed were total phosphorus (TP), soluble reactive phosphorus (SRP), total nitrogen (TN), total kjeldahl nitrogen (TKN, total suspended solids (TSS), total dissolved solids (TDS) as well as trace metals.

The study indicated concentrations leaving the chamber were higher than those coming in. These results suggest that more frequent cleaning of the chamber might be

needed to prevent solubilization of pollutants from the sediments trapped in the chamber.

### 2003 and 2004 Weather Summary (annual report)

**Coverage:** City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

The Minneapolis Parks and Recreation Board (MPRB) records data from 3 tipping buckets rain gages in Minneapolis. In 2001, the MPRB used four of the Ramsey County Soil and Water Conservation District (RCSWCD) manual rain gages and recorded rainfall data with the help of volunteers. Precipitation amounts can vary greatly within a city and recording rainfall data at various sites helps better understand the pattern of rainfall.

## 2003 and 2004 Fish Stocking Information (annual report)

Coverage: State of Minnesota

http://www.minneapolisparks.org/default.asp?PageID=891

http://www.minneapolisparks.org/default.asp?PageID=922

Fish stocking information for Minneapolis lakes is maintained by the Department of Natural Resources on their website

http:/www.dnr.state.mn.us/lakefind/stocking.html

#### 2004 Wetland Health Evaluation Project (WHEP)

Coverage: Wirth, Diamond and Legion

http://www.minneapolisparks.org/default.asp?PageID=922

http://www.hennepin.us/vgn/portal/internet/hcdetailmaster/0,2300,1273\_83222\_1 00256784,00.html

WHEP is a wetland monitoring program coordinated by the Hennepin Conservation District. The program was designed by the MPCA to evaluate wetland health. In 2002, the Minneapolis team (including one MPRB staff member) monitored three wetlands in Minneapolis. The study included vegetation and invertebrate sampling.

### Shingle Creek Natural Area Management Plan (2002)

<u>Coverage:</u> Shingle Creek Not online at this time

The Natural Area management Plan (NAMP) is a collaborative effort involving the MPRB, SCWMC, Hennepin County and City of Minneapolis. The plan presents the results of a natural resource inventory for Shingle Creek corridor and the Humboldt Greenway in Minneapolis. Based on the area assessment recommendations, priority areas for restoration are listed along with management goals.

# Minneapolis Chain of Lakes - Phase I Diagnostic Study

<u>Coverage:</u> City of Minneapolis

http://www.minneapolisparks.org/documents/caring/WQ\_Annual\_2001/1A%20M onitoring%20Program%20Overview.pdf

This study is the largest and most comprehensive attempt to quantify the status of lake water quality and document the impacts of storm water runoff. The ultimate goal of the study was to develop a water quality management plan for the Chain of Lakes that could then be applied to all the surface waters of Minneapolis.

## Chain of Lakes Alum-Macrophyte Interaction Assessment

Coverage: City of Minneapolis

Not online at this time

The Chain of Lakes Alum-Macrophyte Interaction Assessment was conducted to investigate and document the efficiency of alum treatment in Lake Calhoun, Lake Harriet, Cedar Lake and the Lake of the Isles. Additional goals of this study were to determine the response of plant community to changes in water quality, determine if any changes affect the internal nutrient loading of the lakes, and to determine if any improvements in clarity will change effectiveness of the watermilfoil biocontrol agent Euhrychiopsis leconetei.

## Pesticide Study: Lake Harriet Watershed Site 1 (1992 - 1995)

**Coverage:** City of Minneapolis

Not online at this time

The Pesticide Study Reports are a collection of data measured at the Lake Harriet Watershed Site 1 from 1992 – 1995. Water and street sweeping samples were taken and analyzed for pesticides. The study also contains hyetographs at Lake Harriet.

# City of Minneapolis

# **Flood Report**

**Coverage:** City of Minneapolis

http://www.ci.minneapolis.mn.us/stormwater/flood-information/index.asp

In response to numerous severe storms experienced by the City of Minneapolis in the summer of 1997, the Department of Public Works studied the resulting flooding and developed a mitigation program. This report presents findings and recommendations of the Minneapolis Public Works, Sewer Design Division for flood mitigation in 39 discrete problem areas of the City.

# **Standards**

# **Metropolitan Council (Met Council)**

**Urban Small Sites Best Management Practice Manual** 

http://www.metrocouncil.org/environment/Watershed/BMP/manual.htm

# **Minnesota Pollution Control Agency**

# **Protecting Water Quality in Urban Areas**

http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html

# Minnesota Lake Water Quality Assessment Data

http://www.pca.state.mn.us/water/lakereport.html

# Water Quality Standards

http://www.pca.state.mn.us/water/standards/index.html

#### Minnesota Stormwater Manual

http://www.pca.state.mn.us/water/stormwater/stormwater-manual.html

### Minnehaha Creek Watershed District

#### Minnehaha Creek WD Rules A-N

Coverage: MCWD

http://www.minnehahacreek.org/rules.php

Any person(s) undertaking any activity for which a permit is required must comply with the District Rules as described on the website.

# **Shingle Creek Watershed Management Commission**

# Suggested Guidelines for Stormwater Treatment Pond Design Management

<u>Coverage</u>: Shingle Creek WMO area of jurisdiction http://www.shinglecreek.org/appendixb.pdf

# Standards for New Development, Redevelopments, or additions to Existing Developments

<u>Coverage:</u> Shingle Creek WMO area of jurisdiction <a href="http://www.shinglecreek.org/appendixb.pdf">http://www.shinglecreek.org/appendixb.pdf</a>

# **Bassett Creek Watershed Management Commission**

# Requirements for Improvements and Development Proposals

<u>Coverage:</u> Bassett Creek Water Management Commission http://www.bassettcreekwmo.org/require/97reptab.htm

# Water Quality Management Policy

<u>Coverage:</u> Bassett Creek Water Management Commission <a href="http://www.bassettcreekwmo.org/require/98policytab.htm">http://www.bassettcreekwmo.org/require/98policytab.htm</a>

The document sets forth the Water Quality Management Policy of the Commission. Part I explains the rationale and strategy of the Bassett Creek Water Management Commission in establishing its Water Quality Management Policy. Management Levels for various waterbodies are identified, and management requirements for each

classification listed. Part II describes the Commission's review process and its specific standards and requirements for construction activities within the watershed.

# **Capital Improvements Programs**

# **Metropolitan Council (Met Council)**

# Regional Parks Capital Improvement Program Proposed Projects

Coverage: Twin Cities Metro Area

http://www.metrocouncil.org/directions/parks/parks\_projects.htm

# Parks and Open Spaces CIP

Coverage: Twin Cities Metro Area

http://www.metrocouncil.org/directions/parks/ParksCIP\_2004\_2009.pdf

#### Minnehaha Creek Watershed District

### Capital Plan 2003-07 - Projects (only summary available online)

Coverage: MCWD area of jurisdiction

no longer available

# City of Minneapolis

# **Capital Programs**

Coverage: City of Minneapolis

http://www.ci.minneapolis.mn.us/city-budget/2005adopted/index.asp#P55\_2603

# Minneapolis Park and Recreation Board

# **Current Projects and Funding**

**Coverage:** City of Minneapolis

http://www.minneapolisparks.org/default.asp?PageID=33

# Mississippi Watershed Management Organization

# **Capital Programs**

Coverage: MWMO

http://www.mwmo.org/projects&programs.html

# **Shingle Creek Watershed Management Commission**

2003-2012 Budget (in process)

Coverage: SCWMWMC

http://www.shinglecreek.org/appendixg.pdf

# **Bassett Creek Watershed Management Commission**

**CIP Program (in process)** 

Coverage: BCWMC

http://www.bassettcreekwmo.org/2006\_Budget\_BCWMC.pdf

#### Minnehaha Creek Watershed District

# Minnehaha Creek Southwest Calhoun Pond Project: A Model Solution

<u>Coverage:</u> Minnehaha Creek area of jurisdiction http://www.minnehahacreek.org/lake\_calhoun.php

### **Lake Nokomis Wetland Settling Ponds**

Coverage: Minnehaha Creek area of jurisdiction

http://www.minnehahacreek.org/lake\_nokomis\_ponds.php

### MCWD H/H Progress

<u>Coverage:</u> Minnehaha Creek area of jurisdiction http://www.minnehahacreek.org/hh\_updates.php

# The Blue Water Partnership – History Lakes Cleanup Project History: The Blue Water Commission: Grass Roots Neighborhood Approach

Coverage: Minnehaha Creek area of jurisdiction

http://www.minnehahacreek.org/lake\_nokomis\_bluewater.php

#### **Chain of Lakes Project**

Coverage: Minnehaha Creek area of jurisdiction

http://www.minnehahacreek.org/chain\_of\_lakes.php

# Lake Water Quality

<u>Coverage:</u> Minnehaha Creek area of jurisdiction http://www.minnehahacreek.org/wq.php

#### Data

# Minneapolis Park and Recreations Board

# 2001 Minneapolis Lakes Data

Coverage: City of Minneapolis

http://www.minneapolisparks.org/documents/caring/WQ\_Annual\_2001/Lakes%20Data%20-%202001.pdf

# Miscellaneous

# **Metropolitan Council (Met Council)**

# Infiltration/Inflow Surcharge

Coverage: Regional

http://www.metrocouncil.org/Environment/ProjectTeams/I-I-Home.htm

#### **CSO Separation Evaluation Report (2002)**

**Coverage:** City of Minneapolis

The purpose for the Combined Sewer Overflow (CSO) Separation Evaluation project was to address concerns of the Metropolitan Council Environmental Services Division

(MCES) and the City of Minneapolis (City): an expiring National Pollution Discharge Elimination System (NPDES) permit for CSOs, an existing national policy for CSOs, pending new regulations for Sanitary Sewer Overflows (SSOs), and the persistence of overflows despite previous efforts to eliminate them.

This project has gathered information relating to the amount of wet weather flow in the sewer system and how the system operates under a variety of wet weather conditions. An intensive study of the flow patterns in the City and the hydraulics of the system completed the investigation. Corrective actions have been developed to reduce overflows at each of the permitted locations based on the findings of this study. The executive summary provides a brief description of the project setting and background, data collection and analysis, objectives and results, and recommendations.

# **Department of Natural Resources**

#### **Water Resources Data**

Coverage: State of Minnesota

http://www.dnr.state.mn.us/waters/data/index.html

#### Water Statutes and Rules

Coverage: State of Minnesota

http://www.dnr.state.mn.us/waters/law.html

#### **Division of Waters Publications**

Coverage: State of Minnesota

http://www.dnr.state.mn.us/publications/waters/index.html

#### Lakes

Coverage: State of Minnesota

http://www.dnr.state.mn.us/ecological\_services/lakes.html

#### Wetlands

Coverage: State of Minnesota

http://www.dnr.state.mn.us/ecological\_services/wetlands.html

#### **Rivers and Streams**

Coverage: State of Minnesota

http://www.dnr.state.mn.us/ecological\_services/rivers.html

#### **Ecological Services Publications**

Coverage: State of Minnesota

http://www.dnr.state.mn.us/ecological services/pubs.html

#### Shoreland and Floodplain Ordinances

http://www.revisor.leg.state.mn.us/arule/6120/

# **Shingle Creek Watershed Management Commission**

Report on Minneapolis Industrial Park Storm Sewer System for Plymouth, MN (Not dated, synopsis not available)

# Shingle Creek Inspection Report Coverage: Shingle Creek

Inspection to identify blockages, bank erosion or other conditions that could potentially cause flooding or water quality problems.

# **Regional Pond Investigation**

Coverage: Shingle Creek Watershed

Identified subwatersheds with little or no water treatment facilities

# **United States Geological Survey**

# Shingle Creek Flow and Water Quality Data (NAWQA, 1996-2001)

Coverage: Shingle Creek at Queens Ave. in Minneapolis

http://nwis.waterdata.usgs.gov/usa/nwis/qwdata/?site\_no=05288705

### Shingle Creek Water Quality Data (NAWQA, 1995)

Coverage: Shingle Creek at 46th Street in Minneapolis

http://nwis.waterdata.usgs.gov/usa/nwis/qwdata/?site\_no=05288710

# Shingle Creek Water Quality Data (NAWQA, 1996-2001)

**Coverage:** Shingle Creek

http://nwis.waterdata.usgs.gov/usa/nwis/qwdata/?site\_no=450518093201903

# Minnesota Board of Water and Soil Resources (BWSR)

Minnesota Wetland Conservation Manual (2003)

http://www.bwsr.state.mn.us/wetlands/wcamanual/wcamanual02.pdf

# City of Minneapolis

# NPDES Phase I Annual Report (2002)

Coverage: City of Minneapolis

The NPDES annual report provides annual documentation of the City's stormwater management activities designed to meet the requirements of the NPDES Phase I Permit for the current year.

### NPDES Phase I Annual Report (2003)

**Coverage:** City of Minneapolis

The NPDES annual report provides annual documentation of the City's stormwater management activities designed to meet the requirements of the NPDES Phase I Permit for the current year.

### 2003 Draft Sanitary Sewer Infrastructure Report

**Coverage:** City of Minneapolis

This is the most up-to-date inventory of the City of Minneapolis sanitary sewer system. The report includes descriptive statistics, conditional ratings and maintenance issues surrounding sanitary sewers. The functionality of the system is discussed as well as system valuation and rehabilitation costs.

#### 2003 Draft Storm Water Sewer Infrastructure Report

Coverage: City of Minneapolis

The report provides descriptive statistics about the status of infrastructure including quantity, age and condition. Financial information on past expenditures, asset valuation, capital improvements and operating budgets is also included. The report also highlights trends and offers policy/programming options and implications.

### CSO Annual report (2001)

Coverage: City of Minneapolis

The report details the projects, and activities initiated during the past 2 years in formulating and implementing a long-range plan for total elimination of CSOs in the near future.

#### CSO Tier II Sewer Plan Update (2002)

Coverage: City of Minneapolis

City of Minneapolis Comprehensive Plan includes as part of the public facility plan requirements, the 1999 Sewer Plan. This document is a sewer policy plan, classified as a Tier II Sewer Plan according to the content requirements in the Met Council's Local Planning Handbook (1998). The plan describes the sanitary sewer system history, features, and current problems; and provides projections of future sewage flows and schedules for improvements. This report updates the Tier II Sewer Plan as well as serves to meet the requirement of the Memorandum of Understanding Relating to Combined Sewer Overflow Elimination Efforts

(MOU) for submittal of an implementation plan for CSO improvements based on the joint study completed in April 2002.

# Surface Water Quality Monitoring in the City of Minneapolis

**Coverage:** City of Minneapolis

This report was prepared jointly by the City of Minneapolis Public Works and the Minneapolis Park and Recreation Board. It gives an overview of surface water monitoring efforts and resulting publications over time in the City of Minneapolis

# **City of Minneapolis Ordinances**

Coverage: City of Minneapolis

http://www.ci.minneapolis.mn.us/cityhall/laws/ordinances/

# Minneapolis Park and Recreation Board

Minneapolis Lakes and Parks: Proceedings of a Special Session

<u>Coverage:</u> Minneapolis Not Available On-Line

This report collected papers form the 16<sup>th</sup> annual North American Lake Management Society International Symposium on Lake, Reservoir and Watershed Management. Papers included a summary of Minneapolis Parks and Lakes, A summary of MCES monitoring, water quality trends in the City, Watershed-level approaches on lake restoration, a discussion of BMPs, and a discussion on public participation.

# Appendix I Minneapolis Stormwater Management Goals

#### **FEBRUARY 4, 2000**

Adopted. Yeas, 12; Nays none.

Absent - Herron.

Passed February 4, 2000.

Approved February 7, 2000. S. Sayles Belton, Mayor.

Attest: M. Keefe, City Clerk.

**T&PW** - Your Committee, having under consideration the establishment of stormwater management standards as called for the Stormwater Ordinance, now recommends passage of the accompanying resolution that establishes interim stormwater discharge standards for construction sites of one acre and greater, in accordance with Chapter 54 of the Minneapolis Code of Ordinances (Stormwater Management Ordinance).

Adopted. Yeas, 12; Nays none,

Absent - Herron.

Passed February 4, 2000.

Approved February 7, 2000. S. Sayles Belton, Mayor.

Attest: M. Keefe, City Clerk.

#### RESOLUTION 2000R-042 By Mead

Establishing interim stormwater discharge standards for construction sites of one acre and greater in accordance with the requirements of Chapter 54 of the Minneapolis Code of Ordinances, Stormwater Management Ordinance.

Resolved by The City Council of The City of Minneapolls:

That the following interim stormwater discharge standards be required for stormwater management on all construction sites greater than 1 acre:

Lake	Stormwater Discharge Goal
Chain of Lakes	
Brownie	10% phosphorus load reduction
Cedar	40% phosphorus load reduction
Lake of the Isles	20% phosphorus load reduction
Calhoun	30% phosphorus load reduction
Harriet	20% phosphorus load reduction

#### Other Minneapolis Lakes & Wetlands

Powderhorn	30% phosphorus load reduction
Lake Hiawatha	42% phosphorus load reduction
Lake Nokomis	25% phosphorus load reduction
Loring Park Pond	0% phosphorus load increase
Webber Pond	0% phosphorus load increase
Wirth Lake*	30% phosphorus load reduction
Spring Lake	30% phosphorus load reduction
Crystal Lake**	30% phosphorus load reduction
Diamond Lake	30% phosphorus load reduction
Grass Lake	30% phosphorus load reduction
Birch Pond	0% phosphorus load increase
Ryan Lake	30% phosphorus load reduction
Other wetlands	30% phosphorus load reduction

<sup>\*</sup>Wirth Lake is within the Minneapolis Park system but not within the City limits of Minneapolis 
\*\*Crystal Lake is in Robbinsdale and receives stormwater drainage from an area of north 
Minneapolis

#### **FEBRUARY 4, 2000**

Mississippi River Minneapolis streams 70% removal of total suspended solids No increase in runoff rate from project site

Be it Further Resolved that projects not able to comply with the on-site stormwater standards shall be allowed to contribute towards construction of a regional stormwater treatment facility at a rate of \$15,000 per acre of runoff that is being discharged from the site.

Be It Further Resolved that the design standards for stormwater treatment devices be those recommended in the Minnesota Pollution Control Agency manual titled Protecting Water Quality in Urban Areas, Best Management Practices for Minnesota, October, 1989, and future updates of this manual.

Adopted. Yeas, 12; Nays none.

Absent - Herron.

Passed February 4, 2000. J. Cherryhomes, President of Council.

Approved February 7, 2000. S. Sayles Belton, Mayor.

Attest: M. Keefe, City Clerk.

**T&PW** - Your Committee recommends passage of the accompanying Resolution establishing uniform assessment rates for street construction and street renovation improvements for the 2000 calendar year.

Adopted. Yeas, 12; Nays none.

Absent - Herron.

Passed February 4, 2000.

Approved February 7, 2000. S. Sayles Belton, Mayor.

Attest: M. Keefe, City Clerk.

#### RESOLUTION 2000R-043 By Mead

Establishing uniform assessment rates for street construction and street renovation improvements for the 2000 calendar year.

Whereas, the City Council adopted a policy on October 31, 1980 establishing yearly uniform assessment rates for similar improvements at various locations; and

Whereas, the City Council adopted assessment policies on May 22, 1998 and June 12, 1998 relating to residential and non-residential properties and relating to Local and Other streets; and

Whereas, the City Engineer has submitted the recommended 2000 Uniform Assessment Rates, all as contained in Petn No 265573 on file in the Office of the City Clerk;

Now, Therefore, Be It Resolved by The City Council of The City of Minneapolis:

That the following rates are hereby established as the 2000 uniform assessment rates and are to be applied in determining the assessments for the benefited parcels for certain types of work ordered by the City Council in the 2000 calendar year:

Construction (street paving, curb and gutter and other street paving related improvements) - appropriate rate is applied to the land area of benefited parcels located within the street influence zone along the improved street:

\$0.95/sq ft - Local - Non-Residential;

\$0.95/sq ft - Other - Non-Residential;

\$0.37/sq ft - Local - Residential;

\$0.296/sq ft - Other - Residential.

Renovation (mill and overlay of street surface and selected curb and gutter and street construction as needed) - appropriate rate is applied to the land area of benefited parcels located within the street influence zone along the improved street:

\$0.475/sq ft - Local - Non-Residential;

\$0.475/sq ft - Other - Non-Residential;

\$0.185/sq ft - Local - Residential;

\$0.148/sq ft - Other - Residential.



### City of Minneapolis

#### Department of Public Works

David J. Sonnenberg City Engineer Director

Brian J. Lokkesmoe **Deputy Director** 

350 South 5th Street - Room 203 Minneapolis MN 55415-1390

> Office (612) 673-2352 Fax 673-3565

TTY 673-2157

Management Services R. H. Smith, Director Assistant Director of Public Works 350 South 5th St. - Room 203 Minneapolis, MN 55415-1390 (612) 673-2241

Administrative Services J. M. Garber, Director 350 South 5th St. - Room 203 Minneapolis, MN 55415-1390 (612) 673-2410

**Engineering Services** R. Kannankutty, Director 309 2™ Ave. S. - Room 300 Minneapolis, MN 55401-2268 (612) 673-2456

**Equipment Services** J. E. Edmunds, Director 1300 Currie Ave. Minneapolis, MN 55403-1234 (612) 673-5737

Field Services L. A. Krumm, Director 350 South 5th St. - Room 203 Minneapolis, MN 55415-1390 (612) 673-3759

**Property Services** S. A. Kolke, Director 350 South 5th St. - Room 223 Minneapolis, MN 55415-1390 (612) 673-2402

Solld Waste & Recycling S. A. Young, Director 309 2<sup>rd</sup> Ave. S. - Room 210 Minneapolis, MN 55401-2281 (612) 673-2433

Transportation & Parking G. A. Finstad, Director 350 South 5" St. - Boom 233 Minneapolis, MN 55415-1390 (612) 673-2411

Water Works A. J. Kramer, Director 250 South 4" St. - Room 206 Minneapolis, MN 55415-1330 (612) 673-2418

January 19, 2000

The Honorable Dore' Mead Chair, Transportation and Public Works Committee Minneapolis City Council 307 City Hall Minneapolis, MN 55415

Re: Establishing Interim Stormwater Management Goals

Dear Council Member Mead:

The newly adopted stormwater ordinance (Chapter 54) went into effect on January 1, 2000. The primary purpose of the ordinance is to minimize negative impacts of stormwater runoff rates, volumes and quality on Minneapolis lakes, streams, wetlands and the Mississippi River by guiding future significant development and redevelopment activity, and by assuring long-term effectiveness of existing and future stormwater management facilities. Contained in the ordinance are standards and specifications for construction and maintenance of stormwater controls for all construction projects 1 acre and greater in area. The actual standards that site plans must comply with are to be published in a Minneapolis Stormwater Manual. Interim standards are required until the final stormwater manual is published and approved by the City Council.

# **Stormwater Management Goals**

The Minneapolis Stormwater Ordinance specifies that stormwater management standards be set according to the receiving waterbody. The standards are to include (but not be limited to) reductions of suspended solids for the Mississippi River discharges, controlled rate of runoff for discharges to streams, and a reduction in nutrients for stormwater discharging to lakes and wetlands.

The Honorable Dore' Mead January 19, 2000 Page 3

a regional facility. It is proposed that the fee be based on the cost for construction of a City facility. Typical components of a project would include property acquisition, excavation, stormwater structures, landscaping and engineering. Using costs developed in the flood mitigation program, it can be estimated that a pond designed to treat runoff from 100 acres would cost approximately \$1,500,000 (this does not include the additional costs to create area for flood mitigation). Therefore for each acre of redevelopment the City's typical cost would be \$15,000.

It is recommended that the fee for contribution to a regional facility in lieu of onsite treatment be established at \$15,000 for January 1 to December 31, 2000.

# Minneapolis Stormwater Manual

In an effort to find funding for the Minneapolis Stormwater Manual, staff solicited partnership with the City of St. Paul and the City of Bloomington. After both cities agreed, then a joint application was made to the Metropolitan Council for funding from their stormwater grant program. The Metropolitan Council agreed that this would be an important project for the entire Twin Cities area and agreed to fund the development of the manual. Instead of awarding the grant to Minneapolis they decided to coordinate the creation of the manual and make the final product available to the entire region. It is expected that the manual will be complete in approximately 18 months.

#### **RECOMMENDATION:**

It is recommended that the City Council adopt an ordinance that establishes interim standards for stormwater discharges in accordance with the requirements of the newly adopted Minneapolis Stormwater Management Ordinance, Chapter 54.

Sincerely,

David J. Sonnenberg, P.E.

City Engineer - Director of Public-Works

By

Ramankutty Kannankutty, P.E. Director, Engineering Services

RK:JMP:gb

Report prepared by: Jodi Polzin

Phone Number: 673-3626

cc: Michael Orange (Planning) Jeff Lee (Park Board) Tom Frame (Inspections) Bill Dunning (City Attorney)

**T&PW** – Your Committee Recommends adoption of the following resolution that establishes interim stormwater discharge standards for construction sites of 1 acre and greater in accordance with the requirements of Chapter 54 of the Minneapolis Code of Ordinances, Stormwater Management Ordinance.

#### **MEAD**

Establishing interim stormwater discharge standards for construction sites of 1 acre and greater in accordance with the requirements of Chapter 54 of the Minneapolis Code of Ordinances, Stormwater Management Ordinance.

Resolved by the City Council of the City of Minneapolis:

That the following interim stormwater discharge standards be required for stormwater management on all construction sites greater than 1 acre:

Lake	Stormwater Discharge Goal	
Chain of Lakes		
Brownie	10% phosphorus load reduction	
Cedar	40% phosphorus load reduction	
Lake of the Isles	20% phosphorus load reduction	
Calhoun	30% phosphorus load reduction	
Harriet	20% phosphorus load reduction	
Other Minneapolis Lakes &	Wetlands	
Powderhorn	30% phosphorus load reduction	-
Lake Hiawatha	42% phosphorus load reduction	
Lake Nokomis	25% phosphorus load reduction	
Loring Park Pond	0% phosphorus load increase	
Webber Pond	0% phosphorus load increase	•
Wirth Lake*	30% phosphorus load reduction	
Spring Lake	30% phosphorus load reduction	
Crystal Lake**	30% phosphorus load reduction	

Diamond Lake

30% phosphorus load reduction

Grass Lake

30% phosphorus load reduction

Birch Pond

0% phosphorus load increase

Ryan Lake

30% phosphorus load reduction

Other wetlands

30% phosphorus load reduction

\*Wirth Lake is within the Minneapolis Park system but not within the City limits of Minneapolis

\*\*Crystal Lake is in Robbinsdale and receives stormwater drainage from an area of north Minneapolis

Mississippi River

70% removal of total suspended solids

Minneapolis streams

No increase in rate of runoff from project site

Be it further resolved that projects not able to comply with the on-site stormwater standards shall be allowed to contribute towards construction of a regional stormwater treatment facility at a rate of \$15,000 per acre of runoff that is being discharged from the site.

Be it further resolved that the design standards for stormwater treatment devices be those recommended in the Minnesota Pollution Control Agency manual titled <a href="Protecting Water Quality in Urban Areas">Protecting Water Quality in Urban Areas</a>, Best Management Practices for Minnesota, October, 1989, and future updates of this manual.

# Appendix J Minneapolis Lakes Recreational/Aesthetic Indicator Development

Purpose: To develop indicators that can be used to measure and report multiple aspects of the recreational and aesthetic condition of Minneapolis lakes. These indicators were created by the Minneapolis Surface Water Quality Monitoring Task Force.

# **Environmental Indicators**

An indicator is something that points to a problem or condition. Its purpose is to show you how well a system is working. If there is a problem, an indicator can help you determine what direction to take to solve the problem. – Minnesota Planning Environmental Quality Board (2000)

Environmental indicators are selected parameters or indices that can be used to characterize the overall condition or trend of a resource. Indicators can provide a generalized measure of changes in water quality and the effectiveness of management measures. Indicators are useful in conveying complex environmental monitoring information in an understandable format to policy makers, lake users and the public. Indicators must be scientifically valid, meet practical considerations and consider current and future program needs.

Important considerations in selecting appropriate indicators include cost and cost effectiveness, level of difficulty, measurable and quantifiable metrics, reproducibility from year to year and locations, relevance to the recreational uses and understandability by target audiences. Indicators need to be representative of factors that can change over time. Indicators also need to provide for a meaningful tracking of changes, i.e., water quality or vegetation changes on an annual basis. Indicator measures such as fish community composition that change relatively slowly over time are thus less useful.

The Minneapolis Park and Recreation Board (MPRB) currently monitors water quality through a mixture of monitoring efforts. The monitoring programs measure and report lake trophic status, chemical water quality of streams and lakes, beach bacteria levels, lake vegetation, biological monitoring of lakes and wetlands, lake levels and the quality of stormwater runoff. It is important for managers to be able to clearly communicate the basic findings, conclusions and recommendations of indicator studies to stakeholders and elected officials, and how study results can be used to improve water quality programs. (Bicknell, 2002). The results of the current monitoring efforts have been reported in the annual Water Resources Report (produced by MPRB) and the State of the City Report (produced by the Minneapolis Planning Division) and the annual NPDES stormwater report (produced by the

Minneapolis Public Works Department). As new indicators are developed, it will also be important to develop an effective means of communicating the results of indicator measures. A critical component of that communication effort will be providing the public the background needed to understand the basis for the measurements and the meaning of the environmental indicator results. Policy makers and managers must also be prepared to make suitable changes to management efforts when indicator results point to the need for such modifications.

The trophic state index (TSI) has been used as the primary measure to report and track lake water quality trends over the last 12 years. According to a number of scientists and policy makers, the TSI as measured in the open water area of lakes, appears to incompletely represent the state of lakes with regard to other aspects such as aquatic vegetation, public health concerns, recreational use and aesthetic condition. To the average recreational user, trophic status provides a good indicator of swimming suitability in the middle of the lake. However, other factors such as smell, debris, interference from vegetation, bacteria levels and isolated near-shore problems are not considered by the TSI measurement.

# Considerations for Selection of Indicators for Measuring Recreation and Aesthetic Suitability

The development of multi-metric indicators to measure recreational suitability for Minneapolis lakes emphasizes the need to move beyond sole dependence upon chemical water quality and incorporate additional measures reflective of other recreational uses. Another central aspect to the indicator development process was the desire to use existing data gathering efforts, and (as much as possible) limit the addition of new parameters to existing monitoring programs.

The important measures that would/will be included in the overall indicator can generally be categorized as:

- environmental quality
- public health
- aesthetic considerations
- recreational interferences
- 1. The chosen environmental quality measure is the Carlson's Trophic State Index (TSI), as discussed above. Carlson's TSI quantifies lake trophic status by using three key indicator variables: Secchi disc transparency, total phosphorus concentration, and chlorophyll a concentration. As conceived, the TSI is technically sound and provides an attractive index for the complex series of water quality changes that occur in lakes during eutrophication (aging process by which lakes are fertilized with nutrients). This data is collected as part of the twice

- monthly lake water quality sampling program currently underway in Minneapolis.
- 2. The selected public health measure is the number of *Escherichia coli* (*E. coli*) measurements that exceed the EPA's criteria for swimming beaches over the summer. High levels of indicator bacteria such as *E. coli* demonstrate the presence of fecal pollution in quantities high enough to require limiting body contact to protect recreational bathers. Indicator organisms such as these have long been used to protect bathers from illnesses that may be contracted from surface waters contaminated by fecal pollution. This indicator is applied only to Minneapolis lakes that have primary contact recreation, i.e., swimming beaches.
- 3. Aesthetic considerations are often qualitative in nature and can elicit highly variable reactions from one person to the next. In an attempt to quantify lake aesthetics, three measures were selected odor, color of the water and debris. These measures will be assigned numeric values based upon condition descriptors. The aesthetic evaluation will be conducted at selected locations around each lake, such as boat landings, beaches, fishing piers and overlooks. The number of sampling locations will be determined by the relative lake size and public access to the shoreline.
- 4. Recreational interferences are much more difficult to measure, but in Minneapolis lakes, excessive amounts of Eurasian watermilfoil and other aquatic vegetation can interfere with sailing, boating and swimming. Increased plant growth can reduce algae growth, lead to greater water clarity and provide valuable habitat Nevertheless, the barriers excessive growth creates to full recreational use of a lake often outweighs the water quality benefits. Measures of plant interference with recreational uses will include presence or absence of exotic species (i.e., Eurasian watermilfoil), density of aquatic vegetation, and coverage of the lake by aquatic vegetation. Lake vegetation has been quantitatively sampled on a rotating basis in the past, but was recently cut back due to staffing shortages as a result of budget cuts. Thus the data included in any annual index monitoring will be a qualitative estimation of vegetation coverage and density.

# Measurement of the Minneapolis Lake Quality Indicator

The existing Minneapolis monitoring programs and the environmental indicator efforts by other organizations were reviewed. Based upon the results of this review and input from city staff, policy makers and the public, a multi-metric indicator scheme was developed for Minneapolis lakes that incorporate the four measures described above.

# **Trophic State Index (Environmental Quality)**

The TSI scale is a simple way to integrate nutrient concentrations, the algal response to phosphorus and the public perception of the eutrophication process into one indicator measurement. Total phosphorus (TP) is the limiting nutrient; chlorophyll (CHLA) is used to represent algal biomass; and Secchi disc (SD) transparency is

widely recognized by the public as an indicator of "water quality" (Osgood, 2000; Carlson, 1977; MPCA, 2004).

The index represents a logarithmic transformation of the three variables and forces them onto a 0-to-100 scale in which a Secchi disc transparency of 1 meter equals 60. Low TSI values signify good water quality and high TSI values signify poor water quality. Every doubling (or halving) of transparency represents a decrease (or increase) in the index value of 10. The TSI equations are as follows:

```
TSI(TP) = 4.14 + 14.4 \ln(TP)

TSI(CLA) = 30.6 + 9.81 \ln(CLA)

TSI(SD) = 60 - 14.4 \ln(SD)
```

where TP and CLA are in  $\mu$ g/L, SD is in meters, and all are seasonal averages (May – September)

In Minneapolis, a TSI value of less than 57 is required for full support of swimming. The MPCA set the TSI threshold for swimmable lakes in the North Central Hardwood Forests ecoregion based upon impairment of swimming from algae and the relationship between phosphorus, chlorophylla and Secchi disc. Minneapolis is in the MPCA's North Central Hardwood Forests ecoregion. MPCA set the phosphorus criteria for this ecoregion as 40 micrograms per liter as the upper threshold for swimmable use. This phosphorus concentration corresponds to a Carlson's TSI value of 57. This threshold ensures that conditions associated with "impaired swimming" would occur during less than ten percent of the summer season. Phosphorus concentrations above the criteria levels would result in greater frequencies of nuisance algal blooms and increase the frequencies of "impaired swimming." (MPCA, 2004).

# Escherichia coli (Public Health)

Prior to 1986 the EPA recommended the use of fecal coliforms as the indicator organisms to protect bathers from gastrointestinal illness in recreational waters. The EPA has since conducted epidemiological studies that evaluated the use of several other organisms as indicators. In 1986 the EPA recommended the use of *E. coli* for fresh recreational waters because they were better predictors of acute gastrointestinal illness than fecal coliforms. EPA guidelines for *E. coli* are that a single sample should not exceed 235 organisms per 100 mL of water and the geometric mean of not less than five samples over a 30-day period should not exceed 126 organisms per 100 mL of water. Beaches that exceed these criteria should be closed until such time as the levels of bacteria return to below the thresholds. The number of *E. coli* measurements exceeding EPA criteria in a summer season, expressed as percent of sampling dates, will be the scoring for a 0 - 100 scale. This section of the index will be applied only to Minneapolis lakes that have primary contact recreation, i.e., swimming beaches (US EPA, 2002a; US EPA 2002b; MPCA, 1997).

# **Odor/Color/Debris** (Aesthetic Considerations)

The measurement of aesthetic conditions quantifies lake aesthetics using three measures – odor, color of the water and debris. These qualitative measures will be assigned numeric values based upon condition descriptors listed in the following table J-1. This scheme was originally developed by the Rouge River National Wet Weather Demonstration Project (1998, Wayne County, Michigan). The three measures would be summed (50 possible points) and averaged over the summer to develop an annual rating. The higher the aesthetic condition rating, the "poorer" the overall quality of the lake's aesthetics (Fellows, et al, 1996; Heidtke, 1998, US EPA, 2003).

**Table J-1. Aesthetic Conditions Descriptors** 

Parameter	Descriptor	Value
Color	Clear	0
	Light brown	2
	Green	2
	Bright green	5
	Milky white	8
	Gray/black	10
Odor	None/natural	0
	Musty, faint	1
	Musty, strong	2
	Harsh (sewage/fishy)	
	Faint	5
	Strong	8
	Anaerobic	10
Debris	None	0
	Natural	1
	Foam	2
	Trash, floating	4
	Trash, fixed	5
	Green scum	8
	Oil scum	9
	Sewage solids	10

# Plant Growth/Species (Recreational Interferences)

Excessive amounts of Eurasian watermilfoil and other aquatic vegetation can interfere with sailing, boating and swimming, and can be perceived as unsightly by lake users. Qualitative measures of plant interference with recreational uses will include presence or absence of exotic species (i.e., Eurasian watermilfoil), density of aquatic vegetation, and coverage of the lake by aquatic vegetation as shown in Table J-2. Measurements would be made monthly (May – September) and a summer average reported for each lake based upon the rating scale. As with the aesthetic condition measurement, the higher the rating score, the poorer the perceived quality of the lake would be (BDWMO, 2003; Doucette, 2001. USEPA, 2002b).

**Table J-2. Qualitative Measures of Plant Interference** 

Parameter	Descriptor	Value
Exotic Species Present	More than one	10
	One	5
	None	0
Average Macrophyte Density	High	10
	Medium	5
	Low	0
Vegetation Coverage of Lake	100%	10
Surface ≤ 15 N deep	≥ 50%	5
	≤ 50%	0

# **Index Scoring**

Tracking of four components allow for management actions to be taken with regard to issues identified by each of the subparts.

The scoring system is weighted toward environmental status and public health concerns because they are important considerations for lake users and visitors. Following the same indexing as the TSI, the Minneapolis lake index is designed so that a lower value designates better quality.

Lakes with beaches:

Harriet

■ Calhoun	<ul><li>Hiawatha</li></ul>
■ Cedar	<ul><li>Nokomis</li></ul>

■ Wirth

No *E. coli* scores are used as this measurement is collected only at swimming beaches (*E. coli* measurements are not taken at lakes without beaches since those lakes are used for recreation that does not involve direct contact and thus ingestion of water)

Lakes without beaches:

■ Brownie	■ Powderhorn
■ Diamond	■ Ryan
■ Grass	<ul><li>Spring</li></ul>
■ Isles	■ Webber
<ul><li>Loring</li></ul>	

# **Implementation Issues**

Discussion still needs to be completed regarding data collection and reporting of the index.

Current data collection efforts include:

- Lake sampling for TSI every two weeks for the May through September time period
- *E. coli* monitoring at beaches two times per week with two samples per beach for each sampling event over the entire beach season

Collection of the vegetation and aesthetic data will require an additional level of effort beyond current monitoring programs.

Reporting of the index would ideally be used as an annual benchmark, but could also be reported monthly, although there is a three week minimum lag between data collection and data reporting due to the complexity of the laboratory analyses.

# Literature Review and References

Anhorn, R. 1994. Handbook for the Citizen-Assisted lake Monitoring Program. Metropolitan Council, St. Paul, MN.

Bicknell, J.C. 2002. Final discussion of future knowledge needs on environmental indicators. In: Urbonas, B.R. 2002. Linking Stormwater BMP Design and Performance to Receiving Water Impacts Mitigation, Engineering Foundation Conference August 24, 2001. United Engineering Foundation, Environmental and Water Resources Institute of the American Society of Civil Engineers. http://www.scvurppp-w2k.com/pdfs/0102/SC33-23\_bicknell\_final\_indicators\_discussion\_paper.pdf

Black Dog Watershed Management Organization. 2003. Black Dog WMO Aesthetic and Habitat Monitoring of Strategic Water Resources. Barr Engineering Company, Minneapolis, MN.

Carlson, R. E. 1977. A trophic state index for lakes. Limnology and Oceanography, 22(2):361-369.

Carricker, N.E. 1999. TVA's Approach to Ecological Health Assessment in Streams and Reservoirs. In: P.C. Schulze, Editor. 1999. Measures of Environmental Performance and Ecosystem Condition. National Academy of Engineering, National Academy Press, Washington, D.C.

Claytor, R.A. and W.E. Brown. 1996. Environmental Indicators to Assess Stormwater Control Programs and Practices. Center for Watershed Protection, Silver Springs, MD.

Cloak, D., L.A.J. Buchan, C. Chiu, T, Cooke, F. Demgen, K. Dorsey, M. Hayden, P. Mineart, P. Randall, M. Stevenson and S. Tucker. 2000. Demonstration of Stormwater Environmental Indicators in the Coyote Creek Watershed and the Walsh Avenue Catchment, Silicon Valley, California. Proceedings of the WEFTEC 2000 Conference, Anaheim, California, October 14-18, 2000. Water Environment Federation, Alexandria, VA. http://imaginature.org/dancloak/Publications/Walsh-Coyote.PDF

Doucette, S., 2001. Biomass and species richness of submerged and floating-leaved macrophytes in relation to trophic status in six lakes. MS Thesis, St. Cloud State University.

Emmons, E.E., M.J. Jennings and C. Edwards. 1999. An alternative classification method for northern Wisconsin Lakes. Canadian Journal of Fisheries and Aquatic Sciences 56(4):661-669.

Engel, S. and J.L. Pederson, Jr. 1998. The Construction, Aesthetic, and Effects of Lakeshore Development: A Literature Review. Wisconsin Department of Natural Resources Research Report 177. Madison, WI.

Fellows, E., M. Belefski, S. Lehmann and A. Robertson. 1996. Water Quality Goals and Indicators--Draft February 15, 1996. Watershed '96 Proceedings. http://www.epa.gov/owow/watershed/Proceed/fellows.html

Great Lakes – Upper Mississippi River Board of State Public Health and Environmental Managers. 1990. Recommended Standards for Bathing Beaches. Published by Health Education Services, Albany, NY.

Heidtke, T. 1998. Evaluation of Aesthetic Conditions Within the Rouge River: 1996. The Rouge River National Wet Weather Demonstration Project. Wayne County, Michigan. http://www.rougeriver.com/pdfs/sampling/tm28.pdf

Heiskary, S., R. Anhorn, T. Noonan, R. Norrgard, J. Solstad, and M. Zabel. 1994. Minnesota lake and watershed data collection manual. Environmental Quality Board – Lakes Task Force, Data and Information Committee. Minnesota Lakes Association. http://www.shorelandmanagement.org/depth/manual.pdf

Miers, L. 1994. Aquatic Habitat Classification: Literature Review Towards Development of a Classification System for BC. The Province of British Columbia, Ministry of Environment, Lands and Parks.

http://srmwww.gov.bc.ca/risc/o\_docs/aquatic/aqahabclass/aquatichabitatclass-oct11.pdf

MPRB Citizens Advisory Committee – Lake Water Quality Management. 1993. Water Quality Management Citizens Advisory Committee Report and Recommendations. MPRB and City of Minneapolis, Minneapolis, MN.

Minneapolis Park and Recreation Board. 1997, 1998, 1999, 2000, 2001, and 2002. Water Resources Report. Environmental Operations Section, Minneapolis, MN.

2001 Report

http://www.minneapolisparks.org/default.asp?PageID=795

2002 Report

http://www.minneapolisparks.org/default.asp?PageID=796

Minneapolis Park and Recreation Board. 2004. Beach Monitoring and Closure Procedures for 2004. MPRB Environment and Operations Committee Study/Report Item. Dated February 18, 2004.

Minnesota Planning Environmental Quality Board. 2002. Smart Signals: An Assessment of Progress Indicators. Sustainable Development Team, Minnesota Planning, St. Paul. http://www.mnplan.state.mn.us/pdf/2000/eqb/measure.pdf

Minneapolis Planning Division. 1996, 1997, 1998, 1999, 2000, 2001. State of the City Report. City of Minneapolis, Minneapolis, MN.

1999 State of the City Report

http://www.ci.minneapolis.mn.us/citywork/planning/soc99/soc-toc.html

2000 State of the City Report

http://www.ci.minneapolis.mn.us/citywork/planning/soc00/soc-toc.html

2001 State of the City Report

http://www.ci.minneapolis.mn.us/citywork/planning/soc01/

2002 State of the City Report

http://www.ci.minneapolis.mn.us/citywork/planning/soc02/

Minnesota Pollution Control Agency. 1997. Lake Prioritization for Protecting Swimmable Use. Water Quality Division, St. Paul, MN.

http://www.pca.state.mn.us/water/pubs/lwq-priorityrpt.pdf

Minnesota Pollution Control Agency. 2004. Guidance Manual for Assessing the Quality of Minnesota Surface Waters for the Determination of Impairment. Environmental Outcomes Division. St. Paul, MN.

http://www.pca.state.mn.us/publications/manuals/tmdl-guidancemanual04.pdf

Osgood, R. A., P. L. Brezonik and L. Hatch. 2002. Methods for Classifying Lakes Based on Measures of Development Impacts. WRC Technical Report 143. Water Resources Center, University of Minnesota, St. Paul, MN.

http://wrc.coafes.umn.edu/pubs/tech143.htm

Osgood, R.A. 2000. Lake sensitivity to phosphorus changes. Lakeline 20(2):9-11.

Shupp, D.H. 1992. An ecological classification of Minnesota lakes with associated fish communities. Minnesota Department of natural Resources Investigation Report 417. files.dnr.state.mn.us/publications/fisheries/ investigational\_reports/417.pdf

Smeltzer, E., V. Garrison, and W.W. Walker, Jr. 1989. Eleven years of lake eutrophication monitoring in Vermont: A critical evaluation. Enhancing States' Lake Management Programs. Pages 53-62.

Smeltzer, R. and S. Heiskary. 1990. Analysis and applications of lake use survey data. Lake and Reservoir Management 6(1):109-118.

U.S. EPA. 1998. Lake and Reservoir Bioassessment and Biocriteria, Technical Guidance Document. Office of Wetlands, Oceans, and Watersheds, Office of Science and Technology, Office of Water, Washington, DC. http://www.epa.gov/owow/monitoring/tech/lakes.html

U.S. EPA. 2002a. Implementation Guidance for Ambient Water Quality Criteria for Bacteria. May 2002 Draft. Office of Water, Washington, DC. EPA-822-B-02-003. http://www.epa.gov/waterscience/standards/bacteria

U.S. EPA. 2002b. Methods for Evaluating Wetland Condition: Using Vegetation to Assess Environmental Conditions in Wetlands. Office of Water, Washington, DC. EPA-822-R-02-020.

http://www.epa.gov/waterscience/criteria/wetlands/10Vegetation.pdf

U.S. EPA. 2003. Bacterial Water Quality Standards for Recreational Waters – Status Report. Office of Water. Washington, DC. EPA-823-B-03-008. http://www.epa.gov/OST/beaches/local/statrept.pdf

U.S. EPA. 2003a. Elements of a State Water Monitoring and Assessment Program. Assessment and Watershed Protection Division, Office of Wetlands, Oceans and Watershed. EPA 841-B-03-003.

http://www.epa.gov/owow/monitoring/elements/elements.html

Ward, R.C. 1989. Water Quality Monitoring – A systems approach to design. International Symposium on the Design of Water Quality Information Systems, US EPA and Colorado State University, Fort Collins, CO.

Wendt, K., P. Pajak, C. Turner, C. Bryant, L. Preus, 1998. Developing Environmental Indicators for Minnesota: The Environmental Indicators Initiative. State of Minnesota. www.dnr.state.mn.us/eii/develop.html

# **Appendix K NPDES CSO Permit**



# Minnesota Pollution Control Agenc

October 1, 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Sharon Sayles Belton Mayor, City of Minneapolis 350 South Fifth Street Minneapolis, Minnesota 55415

RE: Draft Reissued NPDES Permit No. MN 0046744
Minneapolis Combined Sewer Overflow Permit

Dear Mayor Belton:

Your National Pollutant Discharge Elimination System (NPDES) Permit Application has been reviewed and a determination has been made to draft the referenced reissued permit for the combined sewer system.

I would like to draw your attention to Part I.E., Schedule of Compliance, which requires that the Joint Permittees eliminate the remaining combined sewer overflow bypass/overflow regulator structures.

Enclosed is a copy of the public notice and reissued draft permit in accordance with Minn. R. 7001.0100.

If you have any questions, please contact Dave Sahli of my staff at (612) 296-8722.

Sincerely,

Russell C. Felt, Supervisor

Point Source Compliance Section

Water Quality Division

RCF:jmg

Enclosure: (1)

cc: Jodi Polzin, Minneapolis Public Works, Engineering Design (w/enclosure)

Jake Burggraf, Minneapolis Public Works, Engineering Design (w/enclosure) 520 Lafayette Rd. N.; St. Paul, MN 55155-4194; (612) 296-6300 (voice); (612) 282-5332 (TTY)

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# STATE OF MINNESOTA

# Minnesota Pollution Control Agency

# WATER QUALITY DIVISION

PUBLIC NOTICE OF INTENT TO REISSUE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AND
STATE DISPOSAL SYSTEM (SDS) PERMIT MN 0046744

Public Comment Period Begins: October 1, 1996
Public Comment Period Ends: October 31, 1996

Current Permit Issued:

January 3, 1991

Current Permit Expiration Date:

December 31, 1995

Name and Address of Joint Permittees Minneapolis Department of Public Works 309 Second Avenue South Third Floor Minneapolis, MN 55401 Facility Name and Location
Fifteen (15) Overflow Outfalls
Located Throughout the City of Minneapolis

Metropolitan Council Environmental Services 230 East Fifth St. St. Paul, MN 55101

Receiving Waters: Mississippi River

## Description of Permitted Facilities

All wastewater from domestic and industrial sources within the city are normally conveyed to the Metropolitan Council Environmental Services' Metropolitan Wastewater Treatment Plant in St. Paul for treatment. However, with combined sewers, storm water mixed with untreated wastewater overflows to the Mississippi River during rainfall and snowmelt events. Combined sewers carry both wastewater and storm water and the capacity of the pipe can be exceeded during wet weather conditions resulting in an overflow.

The city is in the process of completing the final construction projects in a ten-year program to separate combined sewers and eliminate combined sewer overflows. The separation program consisted of the construction of either a new sanitary sewer system or a new storm sewer system in the combined sewer areas. The separation program has provided separate sanitary and storm sewer systems within the area served by the city.

#### Petition for Contested Case Hearing

You also may submit a petition for a contested case hearing. A contested case hearing is a formal evidentiary hearing before an administrative law judge. In accordance with Minn. R. 7000.1900, the MPCA will grant a petition to hold a contested case hearing if it finds that:

(1) there is a material issue of fact in dispute concerning the application or draft permit; (2) the MPCA has the jurisdiction to make a determination on the disputed material issue of fact; and (3) there is a reasonable basis underlying the disputed material issue of fact or facts such that the holding of the contested case hearing would allow the introduction of information that would aid the MPCA in resolving the disputed facts in making a final decision on the draft permit. A material issue of fact means a fact question, as distinguished from a policy question, whose resolution could have a direct bearing on a final MPCA decision.

A petition for a contested case hearing must include the following information:

- A statement of reasons or proposed findings supporting the MPCA decision to hold a contested case hearing according to the criteria in Minn. R. 7000.1900, as discussed above; and
- 2. A statement of the issues proposed to be addressed by a contested case hearing and the specific relief requested or resolution of the matter.

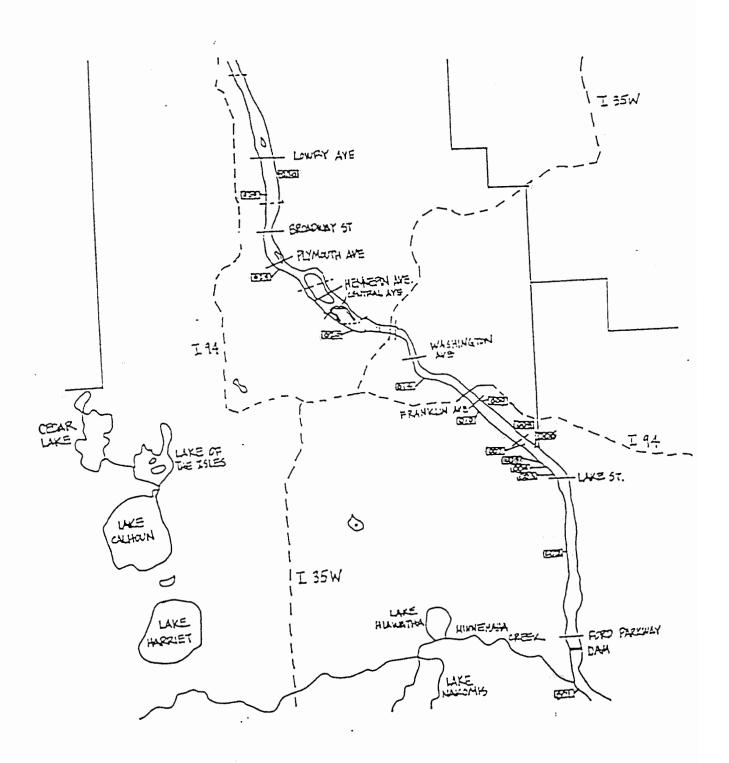
In addition and to the extent known, a petition for a contested case hearing should also include the following information:

- 1. A proposed list of prospective witnesses to be called, including experts, with a brief description of proposed testimony or summary of evidence to be presented at a contested case hearing;
- 2. A proposed list of publications, references, or studies to be introduced and relied upon at a contested case hearing; and
- 3. An estimate of time required for you to present the matter at a contested case hearing.

#### MPCA Decision

You may submit a petition to the Commissioner requesting that the MPCA Citizens' Board consider the permit issuance. To be considered timely, the petition must be received by the MPCA by 4:30 p.m. on the date the public comment period ends, identified on page 1 of this notice. Under the provisions of Minn. Stat. ch. 116.02, subd 6(4), the decision whether to issue the permit and, if so, under what terms will be presented to the Board for decision if: (1) the Commissioner grants the petition requesting the matter be presented to the Board; (2) one or more Board members request to hear the matter before the time the commissioner makes a final decision on the permit; or (3) a timely request for a contested case hearing is pending. You may participate in the activities of the MPCA Board as provided in Minn. R. 7000.0650.

### Facility and Discharge Location





#### STATE OF MINNESOTA

# Minnesota Pollution Control Agency WATER QUALITY DIVISION

COUNTY: Hennepin

National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permit MN 0046744

PERMITTEE: City of Minneapolis and the Metropolitan Council, Hereinaster "Joint Permittees"

FACILITY NAME: Combined Sewer System

RECEIVING WATER: Mississippi River

CITY OR TOWNSHIP: City of Minneapolis

REISSUANCE DATE: EXPIRATION DATE: June 30, 2001

The State of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Joint Permittees to operate a combined sewer system and to discharge from the bypass points identified herein, to the receiving water named above, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, and the U.S. Clean Water Act.

This permit is a reissuance of an existing permit which was issued on January 3, 1991. This reissued permit is effective on the issuance date identified above and supersedes the previous permit issued for this facility.

This permit and the authorization to discharge shall expire June 30, 2001. The Joint Permittees are not authorized to discharge after the above date of expiration. In order to receive authorization to discharge beyond the above date of expiration, the Joint Permittees shall submit such information and forms as are required by the MPCA no later than 180 days prior to the above date of expiration pursuant to Minn. R. 7001.0040.

Signature:

Marvin E. Hora, Manager for Peder A. Larson
Point Source Compliance Section Acting Commissioner
Water Quality Division Minnesota Pollution Control Agency

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact:

Minnesota Pollution Control Agency
Water Quality Division, Point Source Compliance Section
520 Lafayette Road North
St. Paul, MN 55155-4194
Telephone: (612) 296-6300

Fax: (612) 297-8683

Telephone Device for Deaf (TTY): (612) 282-5332
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Permit MN 0046744

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#### REPORT SUBMITTAL SUMMARY

Telemetered Site Monitoring Reports due by the 21st of the month. (Part I, C.1.) Agreement Between Joint Permittees within 180 days of permit final issuance. (Part II, A.2.) Annual Report submitted before April 30 of each year. (Part II, A.3.)

#### PART I

#### A. COMBINED SEWER BYPASS AND OVERFLOW POINT IDENTIFICATION

Serial No.	Discharge Identification (Name/Location)
001	Minnehaha Tunnel Outfall
002	East 38th ST Outfall
003	East Lake ST Outfall
004	Southwest Interceptor Outfall
005	Northwest Interceptor Outfall
006	Eastside Interceptor Outfall
007	East 26th ST Outfall
008	Cecil ST Outfall
009	Southeast Franklin AV Outfall
010	East Franklin AV Outfall
014	14th AV S & E 18th ST Storm Outfall
020	Chicago AV S & N MPLS Tunnel Outfall
025	Bassetts Creek Outfall
029	26th AV N Outfall
030	22nd AV NE Outfall

#### B. DISCHARGE CONDITIONS

During the period beginning on the effective date of this permit and lasting until the expiration date, the Joint Permittees are authorized to discharge combined sewage from the bypass/overflow point(s) identified under Paragraph A of this PART, until the sanitary sewer connection(s) are removed, in accordance with the conditions in this permit.

- 1. The discharge from any combined sewer system bypass/overflow point by the Joint Permittees is prohibited except:
  - a. During periods of hydraulic overload caused by rainfall or snowmelt conditions which exceed the design hydraulic capacity of the conveyance system, only after the maximum amount of flow has been conveyed to the wastewater treatment facility; or
  - b. During emergency conditions to include the following:
    - i. The bypass is unavoidable to prevent loss of life, endangerment of human health, personal injury, or severe property damage. Endangerment of human health includes basement backups. "Severe property damage" means substantial damage to property of the Joint Permittees' or of others, damage that may cause the combined sewer system to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss as a result of a delay in production.
    - ii. There is no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or performance of maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance.
- 2. If a regulator listed in Attachment A with a removal status of A or B continues to bypass sewage following completion of the separation program and scheduled removal dates such bypass is not authorized by this permit notwithstanding PART I, B.1 and may be subject to enforcement action until eliminated. The provisions of PART I, B.1.b. may be raised as an affirmative defense to such enforcement action. The Joint Permittees shall, within five days of detection, notify the MPCA in writing of such a bypass and within 30 days recommend the additional corrective actions necessary to eliminate future bypasses from the regulator before it is closed. The MPCA shall review the recommendations, and may approve a schedule of compliance to implement the necessary corrective actions. Agency approval of such a schedule does not constitute an authorization under this permit to discharge from that regulator.

3. A regulator listed in Attachment A with a removal status of C or D must be equipped with an overflow monitoring device and such bypass is authorized in accordance with Part I, B.1. For the regulators not eliminated after the area tributary to it is separated according to the Facilities Plan, the Joint Permittees shall: (1) submit within 90 days of issuance of this permit, to the MPCA for approval, plans for the final overflow monitoring and proposed inspection frequency of any monitoring device; and (2) within 90 days after the monitoring plan is approved by the MPCA the Joint Permittees shall submit a report to the MPCA explaining the need for retaining the regulator.

The monitoring shall be used to determine the likelihood of sewage being bypassed from separated areas. If it appears probable that a bypass may occur under design conditions the Joint Permittees shall recommend and, upon approval, implement additional measures that may be taken to eliminate the potential for bypassing. A summary of the monitoring results and, if necessary, recommendations for further infiltration and inflow removal and/or capacity increases shall be included in the annual report required by PART II, A.3.

#### C. REPORTING AND MONITORING REQUIREMENTS FOR DISCHARGE EVENTS

#### 1. Telemetered Site Monitoring Requirements

The Metropolitan Council shall submit a monthly report to the MPCA summarizing precipitation, regulator overflow duration, and regulator overflow volume data collected through its remote telemetry system. Precipitation data shall be summarized from the Council's existing rain gauge network. Precipitation monitoring may be discontinued at all gauge locations during winter months to protect the measurement equipment from the cold weather. Overflow duration and overflow volume shall be reported for each regulator identified by an asterisk on Attachment A. If data is not available an explanation of the reasons why the data is not available, and a discussion of measures to be taken to ensure that the data will be available in the future shall be included with the report.

Each monthly report shall be submitted to the MPCA at the following address and shall be postmarked no later than the 21st day following the month during which the monitoring was completed:

Point Source Compliance Section
Water Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

#### 2. Bypass Notification

- a. Preliminary bypass notification shall be given immediately to the MPCA (Attn: Point Source Compliance Section, Water Quality Division) when the Joint Permittees believe, based on the information then available, that a bypass to waters of the state from any segment of the combined sewer system may be necessary pursuant to conditions outlined in PART I. B.1.b. Authorized bypasses which result from hydraulic overloading in the combined sewer system are exempt from this notification requirement. The notice shall include, to the extent then available, the reasons therefore, timetables, and appropriate alternatives that may be available to minimize or abate the bypass. Any changes in the foregoing shall be immediately reported to the MPCA. The Joint Permittees shall immediately after giving of said notice implement the planning for appropriate alternatives to minimize or abate the possible bypass. Thereafter, the Joint Permittees shall implement the appropriate, reasonable alternative(s) if any, to minimize or abate the bypass. Appropriate alternatives shall include but not be limited to those alternatives described in paragraph 3 hereinafter following. The failure of the Joint Permittees to properly evaluate or interpret the information available shall not void the Joint Permittees' responsibility to comply with this section.
- b. With the exception of a discharge pursuant to PART I, B.1.a., any bypass which is caused by an emergency shall be reported to the Duty Officer, 1-800-422-0798 or 612-649-5451 within one hour of the discovery of the incident. The Joint Permittees shall refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Facilities," dated April 1996, for information to be provided to the Duty Officer.

#### 3. Request for Permission to Bypass for Maintenance or Repair

Scheduled bypasses due to construction and/or normal maintenance are prohibited unless authorized by the MPCA in writing. Existing or temporary collection system facilities shall be used to the maximum extent practical to ensure compliance with permit conditions. The Joint Permittees shall submit a written request for the bypass at least ten days before the date of the bypass or as soon as possible under the circumstances. The request shall specify the following:

- a. Proposed date and estimated duration of the bypass;
- b. Alternatives to bypassing; and
- c. Measures to mitigate environmental harm caused by the bypass.

## 4. Monitoring Requirements in the Event a Bypass is Needed to Conduct Maintenance or Repairs

In the event a discharge from the remaining combined sewer system outfalls results from activities necessary to maintain or repair the combined sewer system a monitoring program as outlined in PART I, C.8. shall be conducted, and a report as required in PART I, C.6. shall be submitted.

A monitoring program that is not in accordance with PART I, C.8. will be accepted if site conditions do not probide for a safely accessible monitoring location.

#### 5. Monitoring Procedures and Reporting Results

- a. Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory appropriately certified by the Minnesota Department of Health, in accordance with Minn. R. 4740.2040.
- b. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136.
- c. All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Joint Permittees shall maintain written records of all calibrations and maintenance.
- d. The following information shall be recorded for each measurement taken or sample collected:
  - i. The exact place, date, and time of the sampling or measurement.
  - ii. The dates the analyses were performed.
  - iii. The person who performed the analyses, measurement, sample collection or calculation.
  - iv. The analytical techniques, procedures and methods used.
  - v. The results of the analyses.
- e. If a pollutant is monitored more frequently than required by this permit, the results and the frequency of monitoring shall be included in the calculation and reporting of values submitted in the report required by PART I, C.6.
- f. All records required by this permit shall be retained by the Joint Permittees for three years, including any calculations or any original recordings from automatic monitoring instrumentation. These retention periods shall be automatically extended during the course of any legal or administrative proceedings or upon request by the MPCA.

- g. Monitoring results shall be reported in the units specified in this permit. A report shall be submitted even if no discharge occurred during the reporting period. The Joint Permittees shall report any substantial changes in operational procedures; activities which alter the nature or frequency of the discharge; material factors affecting compliance with the conditions of this permit; and additional information requested by the MPCA.
- h. Except for data determined to be confidential, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minn. R. 7000.1300.
- i. All documents and reports submitted to the MPCA by the Joint Permittees, shall be signed by the Joint Permittees or duly authorized representative of the Joint Permittees.
  - j. Any person knowingly making any false statement on any report, or tampering with any monitoring device or method, is subject to the imposition of criminal and civil penalties.
- 6. Reporting on a Discharge Event Caused by Maintenance or Repair of the Combined Sewer System
  - a. In order to maintain an accurate record of a discharge event, its effect upon the receiving waters and the condition of or changes in the combined sewer system pursuant to PART I,C.3., a report shall be submitted to the Agency if a discharge event takes place. The report shall be submitted to the MPCA (Attn: Point Source Compliance Section, Water Quality Division) no later than sixty (60) days following the cessation of such a discharge and shall contain at a minimum the following information:
    - i. results of the sampling and monitoring required in PART I, C.8. These results shall be reported in the units specified in the permit;
    - ii. a summary of the impact of the discharge(s) upon the receiving waters. This summary shall be based upon water quality, flow volume, and other essential facts which may be documented from past and ongoing monitoring and/or studies, in addition to new data compiled from the sampling and monitoring program required by this permit;
    - iii. in the event of repairs or construction, the report shall contain a complete description of all repairs or construction completed, including any modifications in the combined sewer system, any substantial changes in the operational or maintenance procedures, and any other significant activities which will alter the nature-or frequency of discharges; and

- iv. any other material factors affecting compliance with the conditions of this permit and such information as the Agency may reasonably require of the Joint Permittees pursuant to Minn. R. 7001.1090, subp. 1 and Minn. Stat. chs. 115 and 116 as amended.
- 7. Except for data determined to be confidential under Section 308 of the Act, and Minn. Stat. § 116.075, subd. 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the MPCA. Procedures for submitting such confidential material shall be pursuant to Minn. R. 7000.1300. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report, confidential or otherwise, is subject to the imposition of criminal penalties as provided for in Section 309 of the Act and Minn. Stat. § 115.071, subd. 2 (b).

#### 8. Monitoring Requirements

Each sample collected pursuant to PART I, C.4. above shall be analyzed for the following:

<u>Determination</u>	Units	Frequency	Sample Type	Notes
Discharge Flow	gal	Daily	Volume and Duration	n (1)
River Flow	cfs	Daily	Volume	
Biochemical Oxygen Demand	mg/l	Daily	Composite	(1)
Chemical Oxygen Demand	mg/l	Daily	Composite	(1)
Suspended Solids	mg/l	Daily	Composite	(1)
Ammonia Nitrogen	mg/l	Daily	Composite	(1)
Kjeldahl Nitrogen	mg/l	Daily	Composite	(1)
Nitrate Nitrogen	mg/l	Daily	Composite	(1)
Total Phosphorus	mg/l	Daily	Composite	(1)
Total Cadmium	ug/l	Daily	Composite	(1)
Total Chromium	ug/l	Daily	Composite	(1)
Total Copper	ug/l	Daily	Composite	(1)
Total Cyanide	ug/l	Daily	Composite	(1)
Total Iron	ug/l	Daily	Composite	(1)
Total Lead	ug/l	Daily	Composite	(1)
Total Mercury	ug/l	Daily	Composite	(1)
Total Nickel	ug/l	Daily	Composite	(1)
Total Phenols	ug/l	Daily .	Composite	(1)
Total Zinc	ug/l	Daily	Composite:	(1)

Notes: (1) Representative composite sample to be collected at the discharge point.

Additional monitoring of the discharge or receiving waters may be required at the request of the Agency.

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#### D. OPERATION OF THE COMBINED SEWER SYSTEM

General operation of the combined sewer system shall be in compliance with the following terms and conditions and the operational plan approved on May 11, 1987, and any amendments thereto.

#### 1. Operation of the System for Control of Combined Sewer Losses

The Joint Permittees shall operate the system for control of combined sewer losses (including regulator devices, structures, systems, and programs) as efficiently as possible in order to utilize the system capacity to the maximum extent possible in order to minimize discharges from the combined sewer system.

#### 2. <u>Maintenance of Facilities and Systems</u>

The Joint Permittees shall at all times maintain in good working order and operate as efficiently as possible all facilities or systems of control installed or used in the combined sewer system and shall conduct a regulator elimination program in conformance with the schedule in Attachment A.

#### 3. System Reliability

The Joint Permittees are responsible for maintaining adequate safeguards to minimize the discharge of untreated or inadequately treated wastes at all times. The Joint Permittees are responsible for insuring system reliability.

## 4. Scheduling of Discharges from the Combined Sewer System for Maintenance or Repairs

Any maintenance or repair of the combined sewer system shall be scheduled as much as possible during periods of high river flow and shall be carried out in a manner approved by the MPCA as outlined in PART I, C.3.

#### Providing an Adequate Maintenance Staff

The Joint Permittees shall provide an adequate staff to carry out the operation, maintenance, repair and testing functions required to insure compliance with the conditions of this permit.

#### 6. Removed Substances

The Joint Permittees shall not deposit sludge or other removed substances from other treatment facilities or any other source into the interceptor system at a time or in a manner that would allow these substances to enter the receiving water as a result of a discharge from bypass/overflow points(s) authorized herein. The Joint Permittees shall dispose of solids, sludges, or other pollutants removed from or resulting from treatment or control of discharges in accordance with all applicable air, water and solid waste Statutes and Rules. When requested by the MPCA, the Joint Permittees shall submit for approval an acceptable plan for such disposal and shall be responsible for obtaining MPCA approval and/or permit of such disposal plans.

#### 7. Storm Water Inflow

No new sources of storm water inflow shall be directly connected to any portion of the sewer system that is designed to carry only sanitary sewage.

#### E. SCHEDULE OF COMPLIANCE

#### 1. CSO Construction Program

The Joint Permittees shall proceed with elimination of combined sewer bypass/overflows in accordance with the schedule and requirements outlined below. Upon completion of the approved CSO control program there shall be no discharges of sanitary sewage from the separated sewer system.

#### 2. Project Schedules

The Joint Permittees shall proceed with the elimination of regulator structures in accordance with the schedule identified in Attachment A and the provisions of Part I, B. 2, and 3..

#### 3. Elimination of Rainleader Connections

Consistent with Minnesota Statues 116.162, Subp. 7 the city shall continue with an effective rainleader elimination program. A summary of the progress of this program shall be included in the annual report required by PART II, A.3.

#### 4. Operational Plan

The Joint Permittees shall continue implementation of the operational plan approved on May 11, 1987, and any approved amendments thereto that provides for maximum conveyance of wet weather flows to the treatment plant during the implementation phase of the CSO control program.

Page 12 of 20 Permit MN 0046744

#### F. <u>DEFINITIONS</u>

- 1. "Act" means the Clean Water Act.
- 2. "Bypass" means an intentional diversion of a waste stream from any portion of the treatment facility.
- 3. The "City" means the City of Minneapolis.
- 4. "Combined Sewer" means a sewer that is designed and intended to serve as a sanitary sewer and a storm sewer, or as an industrial sewer and a storm sewer. For the purposes of this permit, the combined sewer system shall include combined sewers and all portions of the separated sewer system which have a connection between the separate sanitary sewer and the separate storm sewer system via a regulator or overflow structure that will allow sanitary sewage to be discharged from the storm sewer.
- 5. "Combined Sewer Overflow" means a discharge of a combination of storm and sanitary wastewater or storm and industrial wastewater directly or indirectly into the waters of the state, occurring when the volume of wastewater flow exceeds the conveyance or storage capacity of a combined sewer system.
- 6. "Completion of Separation." For the purposes of interpreting the requirements of Part I, E. of this permit, completion of separation or similar references shall mean completion of construction of all sewer work required for separation, including punch list items followed by an inspection period to identify and correct miscellaneous sources of infiltration and inflow.
- 7. "Composite Sample" means: a) a series of grab samples collected at least once per hour at equally spaced intervals and proportioned according to flow; or b) grab samples of equal volume each collected after a predetermined volume of flow has passed.
- 8. "Duty Officer" means the Minnesota Duty Officer, Department of Public Safety, Division of Emergency Management.
- "Emergency Incident" means all emergency bypasses, spills, or any other environmental emergency as described in the MPCA "Emergency Notification Guidance for Wastewater Treatment Facilities."
- 10. "Grab Sample" means an individual sample.

- 11. "Infiltration" means water other than wastewater that enters a sewerage system (including sewer service connections) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.
- 12. "Inflow" means water other than wastewater that enters a sewerage system (including sewer service connections) from sources such as roof leaders, cellar drains, yard drains, area drains, foundation drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.
- 13. "MPCA" means the Minnesota Pollution Control Agency as described in Minn. Stat. § 116.02.

#### PART II

#### A. MANAGEMENT REQUIREMENTS

#### 1. Street and Collection System Cleaning Program

- a. The Joint Permittees shall conduct a collection system cleaning program to reduce the amount of pollutants contributed to the river by CSO and storm water discharges.
- b. The city shall conduct a street cleaning program to reduce the amount of pollutants contributed to the river by CSO and storm water discharges.
- c. New storm sewer systems shall be designed and constructed to provide for reliable and efficient capture of floatables and other runoff debris, consistent with reliable and efficient conveyance of storm water.
- d. A summary of the cleaning program activities shall be included in the annual report required by PART II, A.3.

## 2. Agreement Between the Joint Permittees Defining Responsibilities to Meet Requirements of the Permit

The Joint Permittees shall either modify the existing Agreement which expired December 31, 1995, or enter into a new Agreement to define the individual responsibilities for meeting the requirements and conditions of this permit. As a part of the above mentioned Agreement the Joint Permittees shall define individual responsibilities to assure that the regulator elimination program as outlined in Attachment A and all other maintenance and operational procedures are properly conducted. The Agreement shall include but is not limited to the following items:

- a. . A delineation of responsibility to assure that all studies and programs are completed and submitted to the Agency according to the schedules contained in this permit.
- b. A delineation of responsibility for the maintenance and repair of the conveyance structure contained in the combined sewer system
- A delineation of responsibility for the inspection, maintenance and elimination of all regulators, the regulator structure(s) and outfall structures(s) in the event such coordination is needed to carry out the maintenance and elimination program as outlined in Attachment A or any other maintenance or repair.

- d. A condition outlining the coordination procedure between the Joint Permittees for the maintenance and elimination of the combined sewer system, regulator(s), regulator structures(s) and outfall structure(s) in the event such coordination is needed to carry out the elimination program as outlined in Attachment A or any other maintenance or repair.
- e. A delineation of responsibilities for submittal of the comprehensive report required by PART II, A.3.
- f. A delineation of responsibilities for conducting post-separation overflow monitoring in accordance with Part I,B.3.
- g. A delineation of responsibilities for implementing the operational plan outlined in PART I, E.4.

A copy of the Agreement shall be submitted to the MPCA within one hundred eighty (180) days of the date of issuance of this permit.

#### 3. Annual Report on the Combined Sewer System

The Joint Permittees shall submit an annual report to the MPCA regarding the combined sewer system, the street and collection system cleaning program, the sewer separation program, implementation of the approved operational plan, and the regulator elimination and maintenance program outlined in Attachment A. At a minimum this report shall contain information on progress accomplished pursuant to permit requirements, problems encountered in the system and locations thereof, impact of the problem upon the system, date or dates the problem occurred, past problems of a similar nature, steps taken to correct the problem areas, recommendations for permanent solutions to the problems encountered and any pertinent information that would aid in understanding these problems and the action taken to correct them. This report shall be submitted to the MPCA before April 30 each year and shall cover the previous calendar year.

#### 4. Construction

This permit authorizes construction to attain compliance with the limitations and conditions of this permit.

#### 5. Outfall Identification

The Joint Permittees shall maintain identification signs on all authorized outfalls. Such signs shall conform with the specifications outlined in the previously issued permit dated September 25, 1984. Upon elimination of the CSO discharge to an outfall, the Permittee shall remove the identification sign to the outfall and note this activity in the annual report required by PART II, A.3.

#### B. GENERAL TERMS AND CONDITIONS

The Joint Permittees shall comply with all requirements of 40 CFR 122.41 and 122.42, Minn. R. ch. 7040, and Minn. R. 7001.0150, subp. 3 and 7001.1090, subp. 1, including, but not limited to, the terms and conditions contained in this part.

#### 1. Changes in Discharges from the Combined Sewer System

- a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any wastewater not consistent with the terms and conditions herein shall constitute a violation of this permit. Such a violation may result in the imposition of civil or criminal penalties as provided for in Section 309 of the Act and Minn. Stat. § 115.071.
- b. Combined sewer system modifications, additions, and/or expansions that increase the system capacity shall be reported to the MPCA (Attn: Point Source Compliance Section, Water Quality Division) prior to the changes taking place and this permit may then be modified or reissued to reflect such changes.
- c. In no case are any system modifications or significant changes in system operation including regulator adjustments permitted that will cause an increase in volume or duration of overflow events.

#### C. PERMIT MODIFICATIONS

#### 1. Joint Permittee Initiated

The following changes may require a permit modification and shall be reported to the MPCA for approval prior to the change:

- a. anticipated changes in the combined sewer system discharge, including new significant industrial discharges or significant changes in existing industrial discharges to the sanitary sewer system.
- b. the permit is not transferable to any person without the express written approval of the MPCA. The new owner must submit a permit application no later than 90 days before the scheduled change in ownership or control.

#### 2. MPCA Initiated

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked for causes including, but not limited to, the following:

a. Violation of any terms or conditions of this permit.

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- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
- c. A change in any condition that requires a change in discharge.
- d. The establishment of toxic effluent standards or prohibitions more stringent than any limitations in this permit.
- e. Minn. R. 7001.0170 and 7001.0190.

#### D. <u>INSPECTION AND ENTRY</u>

- 1. The Joint Permittees shall allow of the MPCA to:
  - a. Enter the premises where the facility is located or activity conducted.
  - b. Have access to and copy any records that are required under the conditions of this permit.
  - c. Inspect any facilities, equipment, practices or operations regulated or required under this permit.
  - d. Sample or monitor for the purposes of assuring compliance.
- 2. The Joint Permittees shall furnish to the MPCA, within a reasonable time, any information requested to determine compliance with this permit.

#### E. <u>LIABILITY EXEMPTION</u>

- 1. In issuing this permit the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Joint Permittees in the conduct of actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minn. Stat. § 3.736.
- 2. The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules or plans beyond what is authorized by Minnesota statutes.

#### F. LIABILITIES

1. The MPCA's issuance of this permit does not release the Joint Permittees from any liability, penalty, or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit.

- 2. Nothing in this permit shall be construed to preclude the institution of any legal or administrative proceedings or relieve the Joint Permittees from any responsibilities, liabilities, or penalties for violation of effluent and water quality limitations, or other federal regulation or state rules, not included in this permit.
- 3. The issuance of a permit does not prevent the future adoption of the MPCA of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Joint Permittees.
- 4. Noncompliance with the terms and conditions of this permit subjects the Joint Permittees to penalties provided by federal and state law, including monetary penalties, imprisonment or both.

#### G. PROPERTY RIGHTS

The issuance to this permit does not convey a property right or exclusive privilege, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

#### H. <u>SEVERABILITY</u>

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

#### I. PROHIBITED WASTES

The Joint Permittees shall prohibit the discharge to its combined sewer system of the following specific prohibited pollutants:

- 1) pollutants which create a fire or explosion hazard, including any discharge with a flash point less than 60 degrees C (140 degrees F),
- 2) pollutants which will cause corrosive structural damage, but in no case less than pH 5.0,
- 3) solid or viscous pollutants which will cause obstruction to flow,
- 4) pollutants which result in the presence of toxic gases, vapors, or fumes that may cause acute worker health and safety problems,

#### J. COOLING WATER

New discharges into the sanitary or combined sewer system of noncontact cooling water is prohibited, unless there are no cost-effective alternatives.

Existing discharges of non-contact cooling water to the Joint Permittees' combined sewer system shall be eliminated, where elimination is cost-effective, or where an infiltration/inflow analysis and sewer system evaluation survey indicates the need for such removal.

#### ATTACHMENT A

#### Regulator Removal Schedule

NPDES Outfall N			Responsible Party	Rem Stat
001		Minnehaha Tunnel Outfall		•
	1-37 *	Minnehaha Pkwy & 39th AV S	MCES	В
002		East 38th ST Outfall		
	2-35	East 38th ST & 26th AV S	MCES	C
004		Southwest Interceptor Outfall		
	4-34 *	Southwest Meters Bypass	MCES	. D
005		Northwest Interceptor Outfall		
	5 <b>-3</b> 4 <b>*</b>	Northwest Meters Bypass	MCES	D
006		Eastside Interceptor Outfall		
	6-48 *	East Meters Bypass	MCES	D
007		East 26th ST Outfall		
	7-33 *	East 26th ST & Seabury AV	MCES	D
008		Cecil ST Outfall		
	8-31A	East River RD & Cecil ST on E River RD	MCES	В
	8-31B	East River RD & Cecil ST on Cecil ST	MCES	В
009		Southeast Franklin AV Outfall		
	9-30A	E River RD & Franklin AV SE on Franklin	MCES	В.
	9-30B	E River RD & Franklin AV SE on 27th AV	MCES	B
010		East Franklin AV Outfall		
	10-32	E Franklin AV & W River RD	MCES	В
014		14th AV S & E 18th ST Storm Outfall		
	14-221⁄2h	E 26th ST & 18th AV S	MCES	В
020		Chicago AV S & N MPLS Tunnel		
		Outfall		
	20-17 *	Portland AV S & Washington	MCES	D
025		Bassetts Creek Outfall		
	25A-13	Bassetts Creek at 5th ST N	City	В
029		26th AV N Outfall		
	29-8	26th AV N & Emerson AV N	MCES	В
030		22nd AV NE Outfall		
	30-Q	22nd AV NE at 5th ST NE from N	City	В
	30-R	22nd AV NE at 5th ST NE from S	City	В

<sup>\*</sup> Indicates regulator monitored telemetrically by MCES.

#### Removal Status for Combined Sewer Overflow Regulators

- A: To be eliminated in 1996
- B: To be eliminated in 1997
- C: Monitoring is required before elimination can be scheduled
- D: Additional monitoring is required. May be necessary to remain as an emergency bypass.

# **Appendix L NPDES Stormwater Permit**



## Minnesota Pollution Control Agency

December 1, 2000

CERTIFIED MAIL NO. Z 295 023 724 RETURN RECEIPT REQUESTED

Mr. David Sonnenberg City Engineer, Director of Public Works 350 South 5th Street, Suite 203 Minneapolis, MN 55415

RE: Final NPDES/SDS Permit No. MN 0061018

Municipal Storm Sewer System

Minneapolis, Minnesota

Dear Mr. Sonnenberg:

Enclosed is a copy of the final National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit for the Minneapolis Storm Sewer System. All comments submitted in writing during the public notice comment period have been considered in the formulation of the terms and conditions of the permit.

It is the responsibility of the Permittee to maintain compliance with all of the terms and conditions of this permit. Please carefully review the entire permit.

If you have any questions regarding any of the terms and conditions of the permit, please contact Dave Sahli of my staff at (651) 296-8722.

Sincerely.

David Kortan, P.E. Supervisor, Sector 3 Major Facilities Section

Metro District

DK:lh

Enclosure: Final Permit

cc: Peter Swenson, U.S. Environmental Protection Agency, Chicago (w/final permit) Jodi Polzin, Minneapolis Public Works Department (w/final permit) Jeff Lee, Minneapolis Park and Recreation Board (w/final permit) Janette Brimmer, Minnesota Center for Environmental Advocacy (w/final permit) Sol Simon, Mississippi River Revival (w/final permit)

STATE OF MINNESULA





#### Minnesota Pollution Control Agency

#### WATER QUALITY DIVISION

National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permit MN 0061018

PERMITTEE: City of Minneapolis and the Minneapolis Park and Recreation Board, hereinafter the

"Permittee" or "Joint Permittees"

FACILITY NAME: Minneapolis Storm Sewer Drainage Area

RECEIVING WATERS: Water bodies in the City of Minneapolis storm sewer system drainage area as

listed in this permit.

CITY OR TOWNSHIP: City of Minneapolis

COUNTY: Hennepin

ISSUANCE DATE: December 1, 2000

EXPIRATION DATE: January 1, 2004

The State of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a municipal separate storm sewer system as named above, and to discharge storm water from this facility to the receiving waters named above, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above.

The Permittee is not authorized to discharge after the above date of expiration. In order to receive authorization to discharge beyond the above date of expiration, the Permittee shall submit such information and forms as are required by the MPCA no later than 180 days prior to the above date of expiration pursuant to Minn. R. 7001.0040.

Signature: Achoric

Richard J. Sandberg

Program Manager

Major Facilties Section

Metro District

for

Karen A. Studders

Commissioner

Minnesota Pollution Control Agency

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact:

> Minnesota Pollution Control Agency Metro District, Major Facilities Section 520 Lafayette Road North St. Paul, MN 55155-4194

Telephone: (612) 296-6300

Fax: (612) 297-8683

Telephone Device for Deaf (TTY): (612) 282-5332

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	Required Submittals, One-time Submittals
June 1, 2001	Submit a revised storm water monitoring program manual. Chapter 2, 19.2
June 1, 2001	Submit a work plan and schedule for completion of the design manual. Chapter 2, 7.3
June 1, 2001	Submit a proposed work plan and schedule for completion of the pesticides, herbicides, and fertilizers pilot project. Chapter 2, 10.3.
June 1, 2002	Submit the first report regarding coordination with other governmental entities. Chapter 2, 16.2.
June 1, 2003	Submit the second report regarding coordination with other governmental entities. Chapter 2, 16.3
January 1, 2004	Submit a pesticides, herbicides, and fertilizers pilot project final report. Chapter 2, 10.3.
	Required Submittals, Annual Submittals
June 1	Submit a proposed Storm Water Management Program for the year. Chapter 2, 3.2.
June 1	Submit a Storm Water Management Annual Report. Chapter 2, 18.1

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The municipal separate storm sewer system consists of the storm sewer system and treatment works for the collection, conveyance, treatment, storage, and discharge of storm water in the City of Minneapolis.

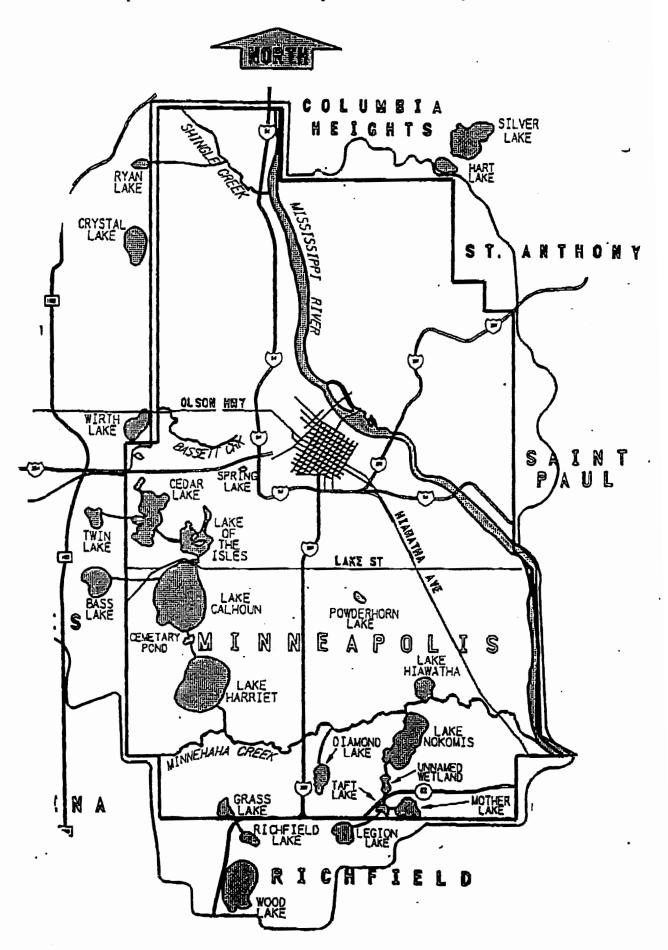
The discharge consists of storm water at a rate dependent upon precipitation and snow melt. All sanitary wastes in the affected area are conveyed to the municipal sanitary sewer or combined sewer system and their discharge is not authorized by this permit.

Storm water from the Permittees' separate storm sewer system is discharged to the following waters of the State:

Receiving Water	Total Discharge Points			
Mississippi River	72			
Shingle Creek	30			
Ryan Lake	1			
Minnehaha Creek	115			
Bassett Creek	40			
Brownie Lake	2	]		
Cedar Lake	13	l		
Lake of the Isles	19	1		
Lake Calhoun	19	I		
Cemetery Lake	1			
Sanctuary Fond	1	1		
Lake Harriet	16	Ì		
Diamond Lake	10	]		
Taft Lake	3	]		
Mother Lake	12			
Unnamed Wetland west of Mother Lake	5			
Lake Hiawatha	4			
Lake Nokomis	16	1		
Birch Pond	1			
Powderhorn Lake	4	]		
Grass Lake	111	]		
Legion Lake	7			
Richfield Lake	2			
Unnamed Wetland at Highway 62 and East 28th St.	1	1		
Unnamed Wetland at Ewing Ave. S. and West	1	۱		
22nd St.		1		
Hart Lake (Columbia Hgts.)	1	ł		
Silver Lake (New Brighton)	1	ł		
Crystal Lake (Robbinsdale)	2	ł		
Total Discharge Points	400	j		

130-115=15

Watershed of Minneapolis and Joint Permittees Separate Storm Sewer System



F-652

#### SD 001, SD 002, SD 003, SD 004, SD 005

FROM-Camp Dresser & McKee Inc.

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, 05 Day (20 Deg C)	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	1 x Month	I
Cadmium, Total (as Cd)	Monitor Only	п8/Г	Single Value	Mar-Oct	Composite	1 x Month	ī
Chloride, Total	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	l x Month	1
Copper, Total (as Cu)	Monitor Only	ug/L	Single Value	Mar-Oct	Composite	1 x Month	1
Fecal Coliform, MPN or Membrane Filter 44.5C	Monitor Only	#100ml	Single Value	Mar-Oct	Grab	l x Month	ı
Flow	Monitor Only	MG	Calendar Month Total	Mar-Oct	Measurement	1 x Day	1
Flow	Monitor Only	mgd	Daily Average	Mar-Oct	Measurement	1 x Day .	1
Lead, Total (as Pb)	Monitor Only	ug/L	Single Value	Mar-Oct	Composite	l x Month	Ī
Mercury, Total (as Hg)	Monitor Only	ng/L	Single Value	Mar-Oct	Grab	1 x Month	2
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	1 x Month	1
Nitrogen, Ammonia, Un-ionized as N)	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	1 x Month	1
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	1 x Month	I
Н	Monitor Only	SU	Single Value	Mar-Oct	Grab	l x Month	I
Phosphorus, Dissolved	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	l x Month	ī
Phosphorus, Total (as P)	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	l x Month	1
Precipitation	Monitor Only	in	Single Value	Jan-Dec	Measurement	1 x Day	
Solids, Total Dissolved (TDS)	Manitor Only	mg/L	Single Value	Mar-Oct	Composite	l x Month	1
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Single Value	Mar-Oct	Composite	1 x Month	1
Zinc, Total (as Zn)	Monitor Only	ug/L	Single Value	Mar-Oct	Composite	l x Month	ı

Notes:
1 -- The March sample shall be of a snow melt event and may be a grab sample.
2 -- Use EPA method 1631 and sampling method 1669. Monitoring will be completed as part of a two-year pilot project as described in Chapter 2, Section 19.9. The March sample shall be of a snow melt event and may be a grab sample

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#### Chapter 1. Surface Discharge Station Requirements - General

#### Sampling Location

Permit Expires: January 01, 2004

1.1 Samples for stations SD001, SD002, SD003, SD004, and SD005 shall be collected from a point in the collection system that is representative of the flow that is discharged.

Sampling will be completed as part of a joint program between the City of Minneapolis and the City of St. Paul as described in Chapter 2, Section 19.7 of this permit.

- 1.2 The monitoring sites shall be representative of the following land use types:
  - a. SD001 Residential
  - b. SD002 Residential
  - c. SD003 Industrial/Commercial
  - d. SD004 Industrial/Commercial
  - e. SD005 Mixed or other use type

#### 2. Surface Discharges

2.1 The Permittee shall install and maintain outlet protection measures at all discharge points to prevent erosion.

#### Discharge Monitoring Reports

3.1 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for these stations. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR) for that station.

#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### 1. Authorization

- 1.1 This permit authorizes the Permittee to discharge municipal storm water in accordance with the provisions in this chapter.
- 1.2 This permit does not exempt or otherwise preclude the Permittee from complying with the requirements of Watershed Districts, Watershed Management Organizations, the County or any other local, state, or federal rules and regulations.

#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### 2. Prohibited Discharges

- 2.1 This permit does not cover discharges other than storm water. Non-storm water discharges may include noncontact cooling water, sewage, wash water, scrubber water, spills, oil, hazardous substances, nor commercial equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands nor other surface waters of the state. A separate NPDES permit may be required for these discharges. The Permittee has a separate NPDES permit for combined sewer overflow discharges.
- 2.2 This permit does not cover the discharge of storm water associated with industrial activity or construction activity. A separate NPDES permit may be required for these activities.
- 2.3 This permit does not cover the discharge of storm water from any other entity located in the drainage area or outside the drainage area. Only the Permittee and the portions of the storm sewer system that are under its jurisdiction are covered by this permit.

#### 3. Storm Water Management Program Requirements

- 3.1 The management of the municipal storm sewer system shall be in compliance with the Clean Water Act and with the terms and conditions of this permit. The Permittee shall manage, operate, and maintain the storm sewer system and areas drained by the storm sewer system in a manner to reduce the discharge of pollutants to the maximum extent practicable. The management may consist of a combination of Best Management Practices (BMPs), education, other control techniques, system design and engineering methods, and such other provisions as the Permittee and/or MPCA determine as appropriate.
- 3.2 The Permittee shall develop a Storm Water Management Program (hereinafter "Management Program") to reduce the discharge of pollutants from the storm sewer system. The Permittee shall submit a Management Program by June 1 of each year beginning in 2001 in accordance with the Annual Report requirements, for review and approval by the MPCA.
- 3.3 The Management Program shall, at a minimum, contain controls that address the reduction of pollutants from the sources and activities listed in this chapter. Each proposed program shall identify which sources and the pollutant that will be targeted for reduction and which category listed in items 4-16 below the program addresses. For each program there shall be a description, responsible department in charge, an estimated annual budget for the next five years and performance measures that can be used to determine the success or benefits of the activity.

#### 4. Structural Controls

4.1 The Permittee shall operate and maintain all storm water structural controls, over which they have jurisdiction, in a manner so as to reduce the discharge of pollutants.

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#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### Structural Controls

- 4.2 All structural controls such as ponds and grit chambers must be inspected a minimum of two times per year. The Permittee shall keep records of inspection results, date, antecedent weather conditions, sediment storage and capacity remaining, and any maintenance performed or recommended. After two years of inspections, if patterns of maintenance become apparent the frequency of inspections may be adjusted. If maintenance or sediment removal is required as a result of both inspections the frequency of inspection shall be increased to at least three times per year or more frequent if needed to prevent carry-over or washout of pollutants from the structures and maximize pollutant removal. If maintenance or sediment removal is not required as a result of both inspections, the frequency may be reduced to one time per year.
- 4.3 The Permittee shall inspect 20% of the outfalls on a rotating basin at different locations during the effective period of this permit. If additional erosion protection is necessary based on an outlet inspection the protection project shall be completed during the same year as the inspection or a schedule for completion shall be submitted in the annual report. Results of outlet inspections shall be reported in the annual report and include the dates of inspection and the date of completion of additional erosion protection.

#### 5. Facilities Operation and Quality Control

- 5.1 All storm water collection, conveyance, treatment, and discharge facilities shall be operated in a manner consistent with the following:
  - a. Maintenance of the system that results in degradation of effluent quality shall be carried out in a manner that minimizes any adverse impact to waters of the state.
  - The Permittee shall provide an adequate operating staff pursuant to Minn. Rules 7001.0150, subp. 3.F., to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.
  - c. The Permittee shall at all times maintain in good working order and operate as efficiently as possible all facilities or systems of control installed or used in the municipal separate storm sewer system.

#### Removed Substances

- 6.1 The Permittee shall dispose of solids, floatables, dredgings, or other pollutants removed from or resulting from treatment or control of storm water in such a manner so as to prevent any pollutant from such materials from entering waters of the state. The Permittee, in disposing of such materials, shall comply with all applicable statutes and rules.
- 6.2 The Permittee shall record the quantity of all removed substances. The substances shall be divided into categories of structural controls, type of removed substances (i.e. leaves, sediment, etc.), and when possible, by seasons.

#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### 7. Areas of New Development or Construction

- 7.1 The Permittee shall implement a program to reduce the discharge of pollutants from construction sites that disturb one acre of land or more. The program shall include an ordinance or other regulatory mechanism to require erosion and sediment controls and sanctions to ensure compliance. Sanctions may include penalties, fines, bonding, other financial assurances, or permit denial for non-compliance. The program shall include planning, maintenance, and inspections to address potential water quality impacts during construction.
- 7.2 The Permittee shall utilize a comprehensive planning process to develop, implement, and enforce controls to reduce the discharge of pollutants from areas of new development and significant redevelopment, after construction is completed.
  - The program shall include requirements for long-term storm water management after construction. Long-term management shall include the use of on-site, off-site, or regional BMPs. The program shall include a process for the review of the impacts to the design capacity of existing structural BMPs from proposals to add additional drainage area to the BMPs. Inspections, maintenance, and reporting requirements must be included for structural BMPs to ensure that they will continue to provide pollutant removal as designed.
- 7.3 The permittee's existing storm water ordinance passed in 1999 refers to the city's storm water design manual. The design manual is the compilation of design, performance, and review criteria for storm water management practices in the city. Minimum requirements for pollutant removal, including total suspended solids removal, discharge rate control, and nutrient reduction are prescribed in the design manual.

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The ordinance does not contain a schedule for adoption of a Minneapolis Storm Water Management Design Manual. The permittee shall therefore be required to develop a design manual as described in the ordinance and submit it with the permit application for reissuance of this permit.

The Permittee shall submit a workplan and schedule for completion of the design manual in the annual report due on June 1, 2001.

#### 8. Roadways

- 8.1 The Permittee shall operate and maintain public streets, roads and highways under its jurisdiction in a manner so as to reduce the discharge of pollutants.
- 8.2 The Permittee shall operate a program of street sweeping in which all streets are swept at least two times per year; once in the spring and once in the fall. The quantity of material removed shall be reported in the annual report. If applicable, seasonal sweepings for spring sand and fall leaves shall be itemized as part of the total quantity.
- 8.3 The Permittee shall employ measures to ensure that deicing materials and chemicals, sand, or other materials to deice roadways are applied to minimize their runoff.

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#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### 8. Roadways

- 8.4 The storage of deicing materials, chemicals, and sand shall be done in such a manner to prevent the uncontrolled runoff and discharge of these materials.
- 8.5 The Permittee shall maintain records of the quantity of deicing materials, chemicals, and sand applied to roadways under its jurisdiction and report the quantities used each year in the annual report. The location and description of all storage facilities shall be identified in the annual report.

#### 9. Flood Control

- 9.1 The Permittee shall ensure that any flood control projects it undertakes are designed to minimize the impacts on the water quality of the receiving water. When repairs, improvements, or changes are planned for existing flood control devices, the Permittee shall also evaluate the feasibility of retrofitting the existing devices to provide additional pollutant removal from storm water discharges.
- 9.2 The Permittee shall provide a list of existing flood control detention facilities that are primarily intended for volume control. The Permittee shall also report in each annual report the number and type of flood control projects planned and describe the pollutant removal capabilities associated with the project.

#### 10. Pesticides and Fertilizers

- 10.1 The Permittee shall implement a program to reduce the discharge of pollutants related to the application of pesticides and fertilizers.
- 10.2 The Permittee shall implement a city wide education program regarding the proper application of pesticides and fertilizers. If another governmental entity has implemented an education program in a portion of the storm sewer drainage area, the Permittee may work with that entity to share resources and expand the program to all portions of the storm sewer drainage area.
- 10.3 The Permittee shall perform a pilot project to investigate the use of pesticides and fertilizers on facilities under its jurisdiction. The Permittee shall analyze soil and vegetation types to determine the need for and appropriate types and quantities of pesticides and fertilizers. In the 2001 annual report, the Permittee shall propose a schedule for completion of this project during the effective period of this permit. The Permittee shall include a detailed implementation plan and project proposal in the annual report prior to the initiation of the project.

The final pilot project must be completed with a final report submitted by January 1, 2004.

#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### 11. Illicit Discharges and Improper Disposal

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11.1 The Permittee shall prohibit non-storm water discharges to the storm sewer system. The Permittee shall implement a program to detect, remove, or require to obtain a separate NPDES or other permit, illicit discharges and improper disposal into the storm sewer system under its jurisdiction.

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- 11.2 The Permittee shall implement an ongoing field screening program similar to the program required in the permit application. The program shall be performed annually in 20% of the drainage areas listed in the description on page 3 of this permit.
  - In the annual report, the number of screening activities, the results, and responses to the results shall be reported.
- 11.3 The Permittee shall prohibit the discharge or disposal of all used motor vehicle fluids and household chemical wastes into the storm sewer system.
- 11.4 The Permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from all unauthorized discharges accidental or otherwise, of oil, toxic pollutants or other hazardous substances consistent with Minnesota Statutes Section 115.061 and 40 CFR PART 110 and 116.

The Permittee shall report in each annual report the number of spills and unauthorized discharges that occured and the response to those spills.

The Permittee shall implement an education program for its staff regarding the duty to notify the Department of Public Safety Duty Officer as required in Chapter 3, Section 8 of this permit. The program shall also include a notification protocol for maintenance staff or other department's staff for response and containment of materials.

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#### Chapter 2. Municipal Storm Water, NPDES/SDS

#### 11. Illicit Discharges and Improper Disposal

- 11.5 Unless identified by the Permittee or the MPCA as significant sources of pollutants to waters of the State, the following non-storm water discharges need not be prohibited from entering the storm sewer system, provided appropriate control measures, if needed, are used to minimize the impacts of such sources on the receiving water are implemented:
  - a. NPDES permitted non-storm water discharges,
  - b. dechlorinated water line flushing and other discharges from a potable water distribution. system.
  - c. landscape irrigation and lawn watering,
  - d. irrigation water,
  - e. diverted stream flows,
  - f. rising ground water
  - g. foundation drains,
  - h. water from basement sump pumps,
  - i. air conditioning condensation,
  - j. springs,
  - k. individual residential and fund raising car washings,
  - 1. flows from riparian habitats and wetlands,
  - m. dechlorinated swimming pool discharges,
  - n. flows from fire fighting.

The Permittee shall recommend appropriate control measures for disposal of these discharges to the storm sewer system and report them in the annual report in accordance with Chapter 2, Section 18.2 of this permit.

11.6 The Permittee shall develop a program to inform residents not to discharge non-storm water substances and that the drain discharges to a lake or stream. An example of such a program is storm drain stenciling.

#### 12. Construction of Storm Sewers

12.1 New storm sewer systems and additions to the existing storm sewer system shall be designed and constructed to provide for reliable and efficient capture of floatables and other runoff debris, consistent with reliable and efficient conveyance of storm water. Designs may include either inlet or outlet control measures, or other BMPs.

#### Public Education Program

13.1 The Permittee shall implement a public education program to promote, publicize, and facilitate the proper management of storm water discharges to the storm sewer system by all the residents under their jurisdiction so as to reduce the discharge of pollutants.

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## Chapter 2. Municipal Storm Water, NPDES/SDS

### 13. Public Education Program

- 13.2 All of the storm water management requirements in this chapter shall include an education component. All education activities do not have to involve efforts to contact all residents, but may be focused to specific groups that are responsible for a management program activity.
- 13.3 Each year in the annual report, the Permittee shall include copies of educational materials, descriptions of the education activities, and the quantity of material destributed.

### 14. Public Participation

- 14.1 The Permittee shall implement a process to allow for public input into the development of priorities and activities necessary to maintain compliance with this permit. The Permittee shall seek input from citizen's groups, advisory groups, or others on each annual report.
- 14.2 A public hearing or other meeting where the opportunity for public testimoney is available shall be held for the annual report prior to submittal each year. A formal resolution from the Permittee's governing body adopting the report as the annual report as the storm water management plan shall be included with the annual report submittal. A summary of the public input and/or testimony received at the hearing or meeting and a summary of the Permittee's response to it shall be included with the formal resolution.
- 14.3 A notice of availability of each Storm Water Management Annual Report shall be provided to all governmental entities that have jurisdiction over activities that directly or indirectly relate to storm water management in the drainage area, prior to the date of the scheduled public hearing.

## 15. Pilot Program for Storm Water Management

- 15.1 Individual storm water management requirements may be implemented on a pilot project basis in a portion of the drainage area. Pilot programs may be considered in compliance with the management requirements despite the limited application. All pilot programs that are determined to be successful, shall be considered for implementation within the entire drainage area. The evaluation for system wide implementation shall be reported in accordance with the Annual Report requirements.
- 15.2 Proposals to implement individual storm water management requirements as pilot projects in only a portion of the drainage area must be submitted to the MPCA for approval prior to initiation. Proposals shall include a description of the activities to be completed, the pollutants that will be targetted, a schedule of completion, performance measures that will be used to determine the effectiveness of the project.
- 15.3 Upon completion of a pilot project an analysis of the project shall be included in the annual report. The analysis shall include a determination of the effectiveness of the project, a cost/benefit analysis for broader implementation, and a schedule for implementation to a large part of the drainage area if the project is determined to be an effective BMP.

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## Chapter 2. Municipal Storm Water, NPDES/SDS

#### 16. Coordination with Other Governmental Entities

- 16.1 The Permittee shall cooperate with other city, county, state and local governmental entities in the overall storm water management efforts in the drainage area. Examples of other governmental entities and activities which may directly or indirectly relate to storm water management include the local fire departments, county household hazardous waste collection, Watershed Management Organizations, Watershed Districts, the Metropolitan Council, or the Department of Natural Resources.
- 16.2 The Permittee shall submit a report listing the other governmental entities that perform storm water management activities in the drainage area. The report shall include a summary of each activity performed by more than one group in a specific area, and how the activity relates to the requirements of the permit. The report shall be submitted by June 1, 2002.
- 16.3 The Permittee shall submit a report that describes how the different governmental entitities are cooperating and coordinating efforts in managing storm water related activities in the drainage area. The report shall include the goals for each cooperative effort, where and how the activity will be performed, and a schedule for implementing it. The report shall be submitted by June 1, 2003.
- 16.4 The Permittee shall report the ongoing coordinated activities and status of cooperative efforts in each subsequent Annual Report.

#### 17. Modifications to the Management Program

- 17.1 The management program may be modified by the Permittee without prior approval of the MPCA provided it is in accordance with the following:
  - a. a BMP is added, and none subtracted, from the management program; or
  - b. a BMP identified in the management program has been determined to have failed and is replaced with an alternate BMP. The alternate BMP shall address the same, or similar, concerns as the failed BMP; and
  - c. The MPCA is notified of the modification in the annual report for the year the modification is made, or in a technical report as needed.

## Chapter 2. Municipal Storm Water, NPDES/SDS

## 17. Modifications to the Management Program

- 17.2 The MPCA may require the Permittee to modify their management program as needed, in accordance with the following:
  - a. discharges from the storm sewer system are impacting the quality of receiving waters; or
  - b. more stringent requirements are necessary to comply with new State or Federal regulations; or
  - c. additional conditions are deemed necessary to comply with the goals and requirements of the Clean Water Act.
  - d. modification shall be made in writing, set forth schedules for compliance, and offer the Permittee the opportunity to propose alternative program modifications to meet the objectives of the requested modification. The requirements in Chapter 3, Sections 10 and 11 may also apply.

## 18. Storm Water Management Annual Report

- 18.1 The Permittee shall submit an annual report to the Commissioner regarding the status of the storm water management program. The report shall contain information on progress accomplished pursuant to permit requirements. The Permittee shall submit an annual report by June 1 of each year, beginning in 2001. The report shall cover the activities in the previous calendar year and the proposed storm water management for the next calendar year.
- 18.2 The Annual Report shall include an inventory of new, removed, or relocated outfall locations and the receiving water. The inventory contained in the Part II application shall be expanded upon and include an outfall identification number, size of outfall pipe, size of the drainage area, land use types in drainage area and their distribution, population in drainage area, percent of area that is impervious surfaces, and the number and type of structural controls in the drainage area.

The inventory of structural controls (i.e. ponds, grit chamber, etc.) shall also be identified with the size of the area tributary to it, the land use types and distribution, population, and the design capacity or size of the structure. Catch basins and other storm drain inlets do not have to be identified in the inventory

The inventory shall include a listing of any known industrial, commercial, or institutional facilities that discharge any flow other than storm water to the storm sewer system. The list shall include the name, location, discharge location to the storm sewer system, the receiving water, discharge description, and any permits issued for the discharge.

The inventory shall also include a listing and description of any "storm water hotspots" that have been identified. A "storm water hotshop" as defined in Title 3 of the Minneapolis Code of Ordinances, Chapter 54, is a land use or activity that generates higher concentrations of hydrocarbons, trace metals, or toxicant than are found in typical storm water runoff.

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## Chapter 2. Municipal Storm Water, NPDES/SDS

## 18. Storm Water Management Annual Report

- 18.3 The Annual Report shall include an inventory of all the individual components of the Storm Water Management Program. The inventory shall include a summary of the status of implementing the individual components. In addition to the reporting requirements listed in items 4-16 above, the summary shall include, but not be limited to, a comparison of the goals set in the previous years report to the accomplishments, proposed goals for the following year, operation and maintenance activities, performance, effectiveness, inspections, enforcement activities, and public education activities for each management program.
- 18.4 The Annual Report shall include a discussion of proposed changes to the Storm Water Management Program and changes made according to the Modifications to the Management Programs requirements. The discussion shall include a description of why the changes are needed. When feasible, this shall include qualitative and/or quantitative data demonstrating the effectiveness of the program elements or identifying impacts on the receiving waters.
- 18.5 The Annual Report shall include an assessment of the Storm Water Management Program. This shall include a discussion of the overall effectiveness of the program and accomplishment of goals. The assessment shall include an identification of improvements or degradation in storm water runoff quality and receiving water quality if possible.
- 18.6 The Annual Report shall include a fiscal analysis. This should include, but not be limited to, the annual expenditures for the previous year, the budget for the current year, and the source of funds. The analysis shall include a breakdown of capital, operation, maintenance and staff resource costs of each item in the program.
  - For individual programs, a cost/benefit analysis shall be completed. The analysis shall include a determination of the cost per unit reduction in pollutants removed, cost per acre, cost per person, or other cost per unit appropriate to describe the program activity.
- 18.7 The Annual Report shall include an analysis of the monitoring data that was collected during the reporting year. In addition, any changes to the location of a monitoring sites shall be requested. Changes may be necessary to correspond to a proposed pilot project, ease of sampling, safety, or other reason.
  - The first annual report shall include information acquired since the submittal of Part 2 of the application regarding BMP performance, receiving water quality, or other data available that characterized the quality of storm water discharges.

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## Chapter 2. Municipal Storm Water, NPDES/SDS

## 18. Storm Water Management Annual Report

18.8 The Annual Report shall include a calculation of the event mean concentration and the annual and seasonal pollutant loadings from each major outfall and the cumulative discharge of all outfalls to each receiving water. The calculation shall be made for all of the pollutants listed in the Limits and Monitoring Requirements on page 5. A description of the calculation method and calibration of any models used shall be included.

A major outfall as defined in the Code of Federal Regulation, 40 CFR Part 122.26(b)(5) is a discharge from a singe pipe:

- a. with an inside diameter of 36 inches or more or its equivalent, or,
- b. which is associated with a drainage area of 50 acres or more, or,
- c. with an inside diameter of 12 inches or more or its equivalent and receives storm water from an area zoned for industrial use, or,
- d. which is assiciated with a drainage area of 2 acres or more and receives storm water from an area zoned for industrial use.
- 18.9 The Annual Report shall include the proposed storm water management program to be implemented for the next year in accordance with the Storm Water Management Program Requirements.

## 19. Storm Water Monitoring Program Manual

19.1 The Permittee's monitoring program for Part II of the permit application process was described in detail in the document titled, "Minneapolis Storm Water National Point Discharge Elimination System (NPDES), Part II Monitoring; City of Minneapolis Minnesota; Field Quality Assurance Manual," dated March 1992. The Manual contained detailed information about the monitoring program organization and responsibilities, field and laboratory quality assurance, sampling site characteristics, health and safety procedures, and site specific operating procedures.

The Permittee's individual storm water monitoring manual may be replace by the joint document required in Section 19.2.

19.2 The Manual shall be amended, rewritten, or revised to include the monitoring and reporting requirements set forth in the permit and submitted by June 1, 2001. Revisions shall be made as changes occur.

The Manual shall be completed as a joint document that covers the monitoring requirements in the city of Minneapolis and the city of St. Paul and shall be submitted as a single document.

- 19.3 Storm water monitoring of discharge events shall begin in March 2001.
- 19.4 All storm water monitoring shall be performed according to the précedures set forth in the monitoring program manual.

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December 01, 2000

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Chapter 2. Municipal Storm Water, NPDES/SDS

## 19. Storm Water Monitoring Program Manual

- 19.5 In the overall scope of the monitoring program, it is a higher priority to sample the required number of events than to meet all of the seasonal and antecedent condition requirements. If the total number of events for a year cannot be sampled due to lack of precipitation, freezing in the collection system, or other factor beyond the control of the Permittee, the remaining events shall be sampled the following month, or the next year, which ever is sooner.
- 19.6 After 2-years of monitoring in accordance with this permit, if a direct relationship between the concentration of total suspended solids and other parameters can be demonstrated, a reduction in monitoring frequency and parameters may be considered.
- 19.7 The city of Minneapolis, the Minneapolis Park and Recreation Board, and the city of St. Paul have agreed to complete the discharge event monitoring requirements of this permit in a joint monitoring program with includes a total of five sites and sampling for eight events. The responsibilities of each of the parties must be defined in an agreement between the parties before beginning the monitoring program. A copy of the agreement shall be submitted to the commissioner.
- 19.8 The results of the joint monitoring program shall be reported in accordance with the Chapter 2, Section 18.7 requirements for analysis of the monitoring data.
- 19.9 The city of Minneapolis, the Minneapolis Park and Recreation Board, and the city of St. Paul have agreed to perform a pilot project of mercury sampling at a minimum of two of the sampling locations identified in Chapter 1, Section 1.2 The effective period of the monitoring shall last for two years. The mercury sampling pilot program shall include the analysis of total suspended solids to determine if a relationship exists between the two parameters.

## 20. Alternative Sources of Monitoring Data

- 20.1 Alternate sources of monitoring data may be allowed to be substituted for the monitoring requirements specified in this permit. To be considered for substitution the data must be in compliance with the terms and conditions of this permit.
- 20.2 In-stream monitoring data will be considered for substitution with the monitoring requirements in this permit. In-stream monitoring proposed for substitution must provide information that represents the chemical and/or biological impacts of storm water discharges on the quality of the receiving water.
- 20.3 The substitution of alternate data sources must be approved by the Commissioner. A request for substitution must include a discussion of how the data will be utilized to demonstrate compliance with this permit and how it will characterize the impacts of storm water discharges.

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#### 1. Definitions

- 1.1 "Best Management Practices (BMPs)" means water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing degradation of surface waters.
- 1.2 "Flow Composite" sample type is a combination of individual grab samples taken at periodic intervals over a defined time period. Either the time interval between each individual sample or the volume of each individual sample shall be proportional to the flow at the time of sampling or the total flow since the last individual sample. Flow composite samples shall be taken for the entire discharge or for the first three hours of the discharge. The samples may be taken with an automatic sampler or a combination of a minimum of three sample aloquots taken in each hour of discharage with each aloquot being separated by a minimum period of fifteen minutes.
- 1.3 "Grab" sample type is an individual sample collected from one location at one point in time. Grab samples shall be taken during the first thirty minutes of the discharge, or as soon as practicable thereafter.
- 1.4 "Municipal separate storm sewer system" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned or operated by a public body having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as sewer district, flood control district or drainage district, or similar entity; designated or used for collecting or conveying storm water; which is not a combined sewer; and with is not a part of a Publicly Owned Treatment works (POTW) as definded in 40 CFR 122.2.
- 1.5 "Single Value" is a reported value from a single sample or measurement for which there is no limit.
- 1.6 "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

## 2. Sampling and Analyses

- 2.1 Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory certified by the Minnesota Department of Health for the applicable permitted parameters. Analyses of dissolved oxygen, pH, temperature and total residual chlorine do not need to be completed by a certified laboratory.
- 2.2 Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minnesota Rules, part 7041.3200.
- 2.3 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Permittee shall measure flows to ensure accuracy within plus or minus ten percent of the true flow values. The Permittee shall maintain written records of all calibrations and maintenance.

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## Chapter 3. Total Facility Requirements

## 2. Sampling and Analyses

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- 2.4 The "sample type", "sampling frequency" and "effective period" identified in the Limits and Monitoring section of this permit together designate the minimum required monitoring frequency.
- 2.5 If a Permittee monitors more frequently than required by this permit, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or other form for that reporting period.
- 2.6 For bypasses, upsets, spills or any other discharge that may cause pollution of the waters of the state, the Permittee shall take at least one (1) grab sample for permitted effluent parameters two (2) times per week. If the Permittee believes that measuring these parameters is inappropriate due to known information about the discharge, the monitoring may be modified in consultation with the MPCA. Appropriate sampling shall be determined in consultation with the MPCA. Sanitary sewer overflows and combined sewer overflows may be regulated by other NPDES permits and shall be sampled in accordance with those permits.

## 3. Reporting

- 3.1 The Permittee shall report monitoring results for the completed reporting period in the units specified by this permit on a Discharge Monitoring Report (DMR) form or other report form provided by the MPCA.
- 3.2 The Permittee shall report values less than the level of detection as "<" the value of the level of detection. For example, if a parameter is not detected at a detection level of 0.1 mg/L, the concentration shall be reported as "<0.1 mg/L." "Non-detected", "undetected", "below detection limit" and "zero" are unacceptable reporting results, and are permit reporting violations.
- 3.3 A Discharge Monitoring Report (DMR) shall be submitted for each station even if no discharge occurred during the reporting period. The Permittee shall report 'No Discharge', 'No Flow' or 'No Materials Generated' on a DMR or other monitoring report form only if no discharge, flow or materials are generated during the entire reporting period. The schedule for reporting can be found on the Submittals Summary section of this permit.
- 3.4 The Permittee shall report the following information on the Discharge Monitoring Report (DMR):
  - a. any substantial changes in operational procedures;
  - b. activities which alter the nature or frequency of the discharge; and
  - c. material factors affecting compliance with the conditions of this permit.
- 3.5 The Permittee or the duly authorized representative of the Permittee shall sign the reports and documents submitted to the MPCA by the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 2.D)

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## Chapter 3. Total Facility Requirements

## 3. Reporting

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- 3.6 A person who falsifies, tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to penalties provided by federal and state law. (Minnesota Rules, pt. 7001.1090, subp. 1.G)
- 3.7 The Permittee shall report noncompliance with the permit not reported under Minnesota Rules, part 7001.0150, subpart 3, item K as a part of the next report which the Permittee is required to submit under this permit. If no reports are required within 30 days of the discovery of the noncompliance, the Permittee shall submit the information listed in Minnesota Rules, part 7001.0150, subpart 3, item K within 30 days of the discovery of the noncompliance. (Minnesota Rules, pt. 7001.0150, subp. 3.L)
- 3.8 A person who knowingly makes a false statement, representation, or certification in a record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance is subject to penalties provided by federal and state law set forth. (Minnesota Rules, pt. 7001.1090, subp. 1.H)

#### Records

- 4.1 The Permittee shall maintain records for each sample and measurement. The records shall include the following information:
  - a. the exact place, date and time of the sample or measurement;
  - b. the date of analysis;
  - c. the name of the person who performed the sample collection, measurement, analysis, or calculation;
  - d. the analytical techniques, procedures and methods used; and
  - e. the results of the analysis.
- 4.2 The Permittee shall keep the records required by this permit for at least three (3) years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA and/or during the course of an unresolved enforcement action. (Minnesota Rules, pt. 7001.0150, subp. 2.C)
- 4.3 Except for data determined to be confidential according to Minnesota Statutes, ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minnesota Rules, pt. 7000.1300.

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#### 4. Records

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4.4 The Permittee shall, when requested by the commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.H)

## 5. Compliance Responsibility

- 5.1 The Permittee shall perform the actions or conduct the activity authorized by the permit in accordance with the plans and reports approved by the agency and in compliance with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.E)
- 5.2 Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, title 40, sections 400 to 460 and Minnesota Rules, parts 7050.0100 to 7050.0220 and 7055.0010 to 7055.0120 and any other applicable MPCA rules. (Minnesota Rules, pt. 7001.0190, subp. 1.A)

## 6. Noncompliance

- 6.1 Noncompliance with the requirements of this permit subjects the Permittee to penalties provided by federal and state law including monetary penalties, imprisonment, or both. (Minnesota Rules, pt. 7001.1090, subp. 1.B.; U.S.C. title 33, sect. 1319; Minn. Stat. sect. 115.071)
- 6.2 If the Permittee discovers that noncompliance with a condition of the permit has occurred, the Permittee shall:
  - a. take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies, or the environment resulting from a permit violation.

b. notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 within 24 hours of becoming aware of a permit violation that may endanger human health, public drinking water supplies or the environment. The Permittee shall submit a written description of the exceedance to the MPCA within five (5) days of discovery of the exceedance.

Nothing in this requirement relieves the Permittee from immediately notifying the MPCA of any release to surface waters of the state. (Minnesota Rules, pt. 7001.0150, subp. 3. J, K)

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## 6. Noncompliance

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- 6.3 The Permittee shall submit a written description of any bypass, spill, upset or permit violation during the reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:
  - a. a description of the event including volume, duration, monitoring results and receiving waters;
  - b. the cause of the event;
  - c. the steps taken to reduce, eliminate and prevent reoccurrence of the event;
  - d. the exact dates and times of the event; and
  - steps taken to reduce any adverse impact resulting from the event. (Minnesota Rules, pt. 7001.0150, subp. 3.K)

#### 7. Upset Defense

- 7.1 In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:
  - a. the specific cause of the upset;
  - b. that the upset was unintentional;
  - c. that the upset resulted from factors beyond the control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities:
  - d. that at the time of the upset the facility was being properly operated;
  - e. that the Permittee properly notified the commissioner of the upset in accordance with Minnesota Rules, part 7001.0150, subpart 3, item I; and
  - f. that the Permittee implemented the remedial measures required by Minnesota Rules, part 7001.0150, subpart 3, item J. (Minnesota Rules, pt. 7001.1090, subp. 1.L)

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## 8. Duty to Notify and Avoid Water Pollution

- 8.1 The Permittee shall notify the Minnesota Department of Public Safety Duty Officer at (800)422-0798 or (651)649-5451 immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state. Notification is not required for a discharge of five (5) gallons or less of petroleum. (Minnesota Statutes, section 115.061)
- 8.2 The Permittee shall report to the Duty Officer all pertinent information regarding the discharge.

  Refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Systems" for further information.
- 8.3 The Permittee shall take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies or to the environment resulting from the discharge. This may include restricting or preventing untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways, containing spilled materials, recycling by-passed wastewater through the plant, or using auxiliary treatment methods. (Minnesota Statutes, section 115.061)
- 8.4 The Permittee shall maintain a plan designed to adequately notify the public of potential health threats due to discharges of untreated or partially treated wastewater. The Permittee shall notify the public in accordance with the plan.

## 9. Inspection And Entry

- 9.1 The Permittee shall allow a representative of the MPCA, in accordance with Section 308 of the Act and Minnesota Statutes, section 115.04, (1992), and upon presentation of proper credentials, to:
  - a. enter the premises where the facility is located or activity conducted;
  - b. review and copy the records required by this permit;
  - c. inspect the facilities, systems, equipment, practices or operations regulated or required by this permit;
  - d. sample or monitor to determine compliance; and
  - e. bring equipment upon the Permittee's premises necessary to conduct surveys and investigations. (Minnesota Rules, pt. 7001.0150, subp. 3.I)

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## Chapter 3. Total Facility Requirements

#### 10. Permit Modifications

- 10.1 Changes to the facility or operation of the facility may require a permit modification. The Permittee shall submit an application describing the changes to the facility or operation to the MPCA and receive a permit modification prior to implementing the changes. The Permittee must submit the permit modification application fee in accordance with Minnesota Rules, part 7002.0250 with the application.
- 10.2 The procedures as set forth in Minnesota Rules, pt. 7001.0100 through 7001.0130, including public notice, apply to applications for permit modifications, with the following exceptions:
  - a. Modifications solely as to ownership or control as described in Minnesota Rules, pt. 7001.0190, subp. 2.
  - b. Minor modifications as described in Minnesota Rules, pt. 7001.0190, subp. 3.
- 10.3 No permit may be assigned or transferred by the holder without the approval of the MPCA. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.N)

## 11. Permit Modification, Suspension or Revocation

- 11.1 This permit may be modified, suspended, or revoked for the following reasons:
  - a. A violation of permit requirements.
  - b. Misrepresentation or failure to disclose fully all relevant information to obtain the permit.
  - c. A change in a condition that alters the discharge.
  - d. The establishment of a new or amended pollution standard, limitation or effluent guideline that is applicable to the permitted facility or activity.
  - e. Failure to pay permit fees.
  - f. Other reasons listed in Minnesota Rules, pt. 7001.0170.

#### 12. Permit Reissuance

12.1 The Permittee shall submit an application for reissuance at least 180 days before permit expiration. (Minnesota Rules, pt. 7001.0040, subp. 3)

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#### 12. Permit Reissuance

- 12.2 If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines one of the following:
  - a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit.
  - b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit.
  - c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies. (Minnesota Rules, pt. 7001.0160)
- 12.3 If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA. The MPCA may require the Permittee to apply for reissuance or a major modification of this permit to authorize facility closure.

## 13. Property Rights

13.1 The permit does not convey a property right or an exclusive privilege. (Minnesota Rules, pt. 7001.0150, subp. 3.C)

## 14. Special Requirements

#### Joint Permittees

- 14.1 The following entities are Joint Permittees to this permit. The titles "Joint Permittee" and "Permittee" shall be considered to be same and both refer to these entities and are use interchangeably:
  - a. City of Minneapolis
  - b. Minneapolis Parks and Recreation Board

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## 14. Special Requirements

- 14.2 Each Joint Permittee is individually liable for:
  - a. permit compliance for the discharges from portions of the storm sewer system which it is the owner and/or operator:
  - b. storm water management for discharges from portion of the storm sewer system which it is the owner and/or operator:
- 14.3 Each Joint Permittee is jointly liable for:
  - a. compliance with annual reporting requirements;
  - b. ensuring funding for representative monitoring according to established agreements;
  - c. ensuring implementation of any system-wide management program elements;
  - d. compliance on portions of the storm sewer system where operation, maintenance, or other authority has been transferred from one Joint Permittee to another in accordance with legally binding interagency agreements; and
  - e. compliance on portions of the storm sewer system where the Joint Permittees jointly own or operate the system.
- 14.4 The Joint Permittees shall enter into and agreement to define the individual responsibilities for meeting the requirements and conditions of this permit. As part of the agreement, the Joint Permittees shall define individual responsibilities to assure that the operation, maintenance, monitoring, and management of this permit are completed. The agreement shall include, but not be limited to the following items:
  - a. a delineation of an Authorized Representative to serve as the coordinator of the Joint Permittees.
  - b.a delineation of responsibilities to assure all storm water management programs are implemented and managed according to the conditions of this permit.
  - c. a deliniation of responsibilities for submittal of the annual report.
- 14.5 A copy of the Agreement shall be submitted to the Commissioner within one hundred-eighty (180) days of the date of issuance of this permit. Any changes to the agreement shall be submitted to the Commissioner within thirty (30) days of the final execution of the changes.

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## 15. Liability Exemption

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- 15.1 In issuing this permit, the state and the MPCA assume no responsibility for damage to persons. property, or the environment caused by the activities of the Permittee in the conduct of actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736. (Minnesota Rules, pt. 7001.0150, subp. 3.0)
- 15.2 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules or plans beyond what is authorized by Minnesota Statutes. (Minnesota Rules, pt. 7001.0150, subp. 3.D)

#### 16. Liabilities

- 16.1 The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.A)
- 16.2 The issuance of a permit does not prevent the future adoption by the MPCA of pollution control rules, standards or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards or orders against the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 3.B)

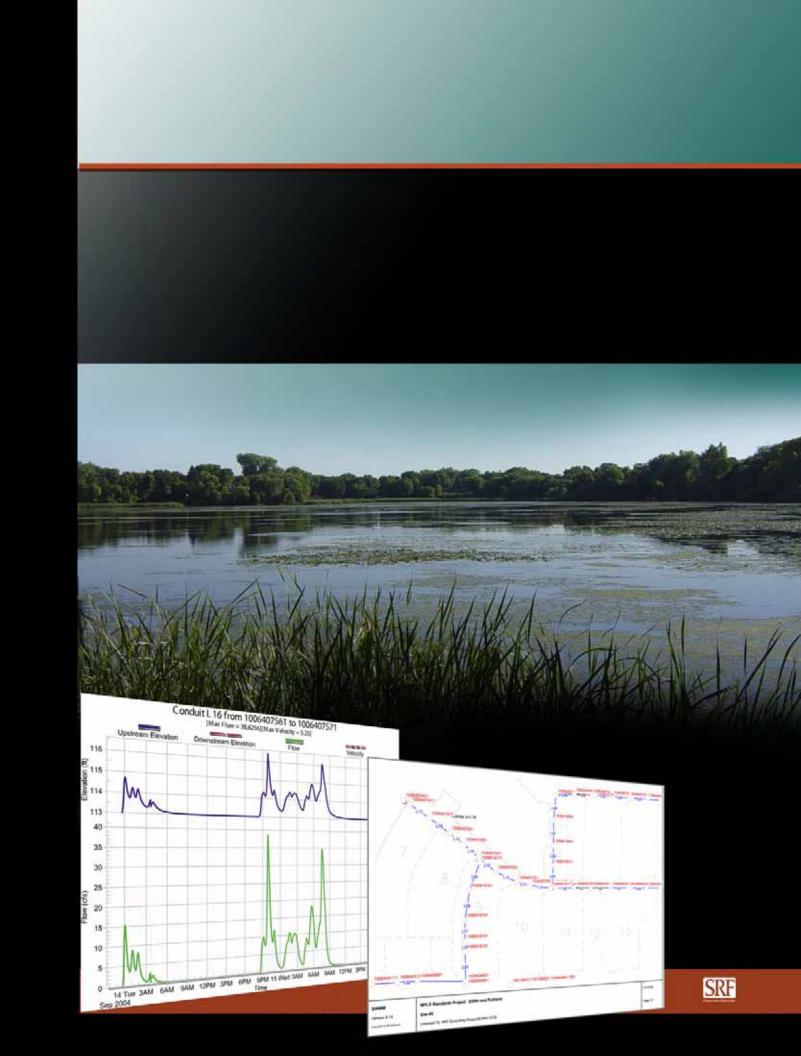
### 17. Severability

17.1 The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

#### 18. Incorporation By Reference

18.1 The Permittee shall comply with the provisions of 40 CFR Parts 122.41 and 122.42, Minnesota Rules, pt. 7001.0150, subp. 3, and pt. 7001.1090, which are incorporated into this permit by reference, and are enforceable parts of this permit.

# Appendix M XP-SWMM Modeling Guidance



## **XP-SWMM Model Development Guidance Manual**

#### I. Introduction

Welcome to the XP-SWMM Hydrology and Hydraulics Model Development Guidance Manual! Hydrologic and hydraulic modeling using XP-SWMM can be simple or complex, easy or challenging, quick or time consuming. For all models, however simple or complex, the City of Minneapolis has established basic criteria, standards, and data that should be used to ensure that models developed by a variety of professionals are of the same quality and consistency. Standardizing parameters and reporting model results will greatly assist City staff in reviewing and accepting final hydrologic and hydraulic models.

This manual is intended to provide XP-SWMM modelers with information, data sources and processing requirements, and modeling standards for all SWMM models developed for the City of Minneapolis. The City of Minneapolis Local Surface Water Management Plan should be consulted for more specific design related standards and guidance. (see Appendix E for modeling methods). In addition, Table 5.5 in Appendix E, may be used if lot sizes are known to be consistent. Discrete modeling parameters for one rainfall event (whether synthetic or actual) or perhaps multiple events over a relatively short period of time (typically one week or less) are the focus of this manual.

#### II. How to Use This Manual

This manual is intended for experienced XP-SWMM modelers who are well versed in the RUNOFF (Runoff and SCS methods) and HYDRAULICS modules and their operation. A great deal of information on specific hydrologic and hydraulic parameters and processes are presented for use by modelers depending on the purpose, site, and product. It is understood that not all parameters or data contained in this manual will be used in any given model. Indeed, some parameters and processes used by modelers may be outside the scope of this manual and will require discussions with City staff as model development proceeds. It is the discretion of the modeler to determine which parameters and data are applicable and should be used.

The manual follows a simple two-step model development procedure:

- 1. Data collection and model construction
- 2. Reporting of results

For the data collection and model construction step, relevant tables, figures, and sources of data are presented with recommendations on certain processes. The modeler should follow the development process beginning at data collection and proceed into model construction, importing or entering data as needed until the model is complete. It is left to the modeler to determine model inputs or parameters that are not presented in this manual and, of course, to determine areas, slopes, impervious percentages, and the like that are unique to the specific watersheds or pipesheds being analyzed. Following the process outlined in this manual does not preclude the modeler from carefully checking all specific watershed related hydrologic and hydraulic input data for accuracy before presenting it to the City for review.

## III. Overview of XP-SWMM Modeling

#### **Purpose of Modeling**

Hydrologic and hydraulic modeling typically falls into two categories:

- · Modeling for research or studies that may include data collection and calibration
- Modeling for watershed analysis or design

Determining runoff volumes and mass loading of pollutants associated with surface water runoff is one example of a model developed for analysis purposes. Modeling can also be conducted to determine specific flows from a watershed for design purposes that may include analysis of storm sewer design, combined sewer operation and separation projects or the analysis and design of storm water treatment facilities. This manual addresses both of these modeling scenarios.

#### Hydrology

Several hydrologic modeling methods are available in XP-SWMM, including the Runoff, SCS, and Rational methods. The City of Minneapolis accepts both the Runoff and SCS methods as their standard for modeling. According to the City of Minneapolis Local Surface Water Management Plan, the Runoff method of hydrograph generation is preferred for hydrologic/hydraulic analysis.

#### **Hydraulics**

XP-SWMM contains a great variety of hydraulic conditions that can be modeled from simple pipe networks to complex, multi-staged outlet structures to natural channels. Those commonly used parameters, such as pipe entry and exit loses and pipe Manning's n, are easily subject to standardization where more esoteric parameters, such as those related to natural channel geometrics or to weirs and pumps, are more difficult to standardize and will be left to the individual modeler to determine. Only three hydraulic parameters (Manning's n as well as exit and entry losses) are subject to standardization.

All other hydraulic parameters, including contraction-expansion loss coefficient, weir coefficients, culvert inlet type, low flow roughness factor, sediment depth, and pipe extension factor, cannot be standardized across all models. Except for the pipe extension factor, these parameters are related to physical characteristics of the pipe system and must either be determined based on system layout and operation or simply left at their default values. These adjustments are the responsibility of the individual modeler to determine and must be based on sound engineering judgment. If the modeler does not find a standard parameter or procedure that relates to the particular model under development in this manual and, furthermore, feels that a default parameter should not be used, she or he should contact City staff to obtain their advice and agreement prior to model finalization.

#### IV. Data Collection and Model Construction

#### **Overall Standards**

All models constructed for the City of Minneapolis must:

- Be georeferenced using the City's GIS database.
- Use the 10-digit "UDI" field as the node naming convention.



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- Use a unique, descriptive alpha-numeric with an "L" placed before the number as the link naming convention (10-digit maximum).
- Use street channel overflow sections to provide surface connectivity under flooding conditions.
- Use the Green-Ampt infiltration option with the Runoff method.

Data sources range from the City Engineering Services Department to construction and as-built plan sets, record drawings, and field investigations. The City's Engineering Services Department has standardized infrastructure data, which is comprised of an extensive GIS database and plat maps of storm sewer and sanitary systems. Appendices B, C, and D of this manual cover how to use the GIS database and the plat maps to build a georeferenced storm sewer network. City contact information is presented in Appendix B.

#### Non-GIS Infrastructure and Hydraulic Data

While the City is constantly updating the GIS database, there may be links with no invert or top of casting information. However, plat maps have been prepared and converted to electronic format for nearly all existing storm and sanitary sewer within the City. They consist of pipe profiles that contain the following information:

- Pipe invert elevation
- Pipe material
- Top of casting elevation
- Other utilities (if any)
- Pipe diameter

In order to obtain either the required information in the case of small projects or the plat map database and software in the case of larger projects, contact the Engineering Services Department. Elevations shown on City plots are local. In order to adjust for true mean sea level (1929), a factor of 710.3 must be added to the plat elevation.

#### Rainfall Data

Runoff is generated when rainfall is applied to a watershed or pipeshed. Two methods of generating rainfall—synthetic or actual—are acceptable to the City but depend upon the intent of the model. If a model is being developed for analyzing watershed characteristics or response to various inputs or changes in land use, then actual rainfall may be used. On the other hand, if the model is primarily being developed for design purposes that would include analysis of storm sewer and storm water treatment facilities under large event simulations, synthetic hydrographs based on design events would most likely be used.

#### Synthetic Hydrograph Method

The City typically uses the following standards for synthetic unit hydrographs for design purposes. Standards for using synthetic hydrographs are outlined in the Design Storm section on page 9.

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#### Actual Rainfall

The City maintains three rain gauges that are located at:

- Top of the City of Lakes building in downtown Minneapolis (309 2nd Avenue South)
- Public Works Sewer Maintenance Yard (1911 26th Street East)
- Minneapolis Parks and Recreation Board Building (3800 Bryant Avenue South)

Rainfall data from these three sites comes in an electronic format and is reported in five-minute intervals. The modeler can obtain rainfall data from the Engineering Services Department for specific time periods, and the data can easily be imported into XP-SWMM. Details on this procedure are presented in Appendix D.

### **Hydrologic Standards**

The following standards were developed from two recent studies and the Local Surface Water Management Plan. The studies were:

- XP-SWMM Calibration and Standards Study (2005)
- I-35W Tunnel Hydrology and Hydraulics Study (2005)

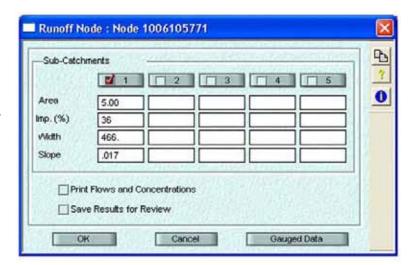
Both study reports can be obtained from Engineering Services.

#### Runoff Method

#### **Directly Connected Impervious Area (DCIA)**

As not all impervious surfaces are directly connected, an adjustment can be made to compensate for the change in hydrologic characteristics associated with indirectly connected impervious surfaces. The term Directly Connected Impervious Area (DCIA) is defined as impervious surfaces that are directly connected to an outlet—either via surface drainage along ditches, streets, and alleys or via storm sewer. Table 1 contains a value for the reduction that can be applied to the total impervious surface area by land use. For example, if the modeler is working with a five-acre single family land use site and

measures an impervious surface area of three acres, then 60% of the total area is impervious surface. According to Table 2, a DCIA multiplier of 0.60 (representing a 40% reduction to compensate for the indirectly connected impervious surfaces) can be applied to the 60%. The resulting value of 36% can then be entered directly into XP-SWMM as Imp (%) in the RUNOFF module in the Sub-Catchments data entry window. Both the Runoff and SCS methods use this value.



Consolidated | Commercial/ Multi-Family Recreational Mixed Single Family Transportation **Land Use** Residential Industrial Urban Residential Related Average % 95% 70% 5% 85% 50% 95% Impervious **Land Use** Class Bar, Restaurant, Club **CBRE** Common Area **RCMS** Garage or Misc Residential Structure **GMRS** parking ramps Group Residence **GRES** IND Warehouse Factory **IWFW** Institutions: School, College **CSCH** Determined on case-by-case basis Miscellaneous MISC Mixed Office, Retail, Residential **CMXD** Multi-Family Apartment **MFAP** Incl.high rise Multi-Family Residential **MFRS** Office Structure COFF **Public Accommodations HMTL** Retail **CRET SFAD** Single-Family Attached Single-Family Detached **SFDD** Sport or Recreation Facility **SPRC** see note Vacant Determined on case-by-case basis **VLND** CAUT ✓ Streets/Roads Vehicle Related Use Utility Related Use CUTL

Table 1 - Land Use Consolidation

NOTE: Many parking lots within the Land Use database are identified as Sport or Recreation Facilities. Parking lots should be assigned either a 100% impervious cover if paved or a 55% impervious cover if gravel per guidance provided in Table 5.4 of the Local Surface Water Management Plan (See Appendix E). A DCIA multiplier of 1.0 should be used in either case.

The modeler should determine what land uses are being modeled and then find the corresponding consolidated land use in Table 1. Once the consolidated land uses are selected, the modeler should determine percent impervious surface using one of two methods:

- Preferred Method Measure impervious surfaces using a CADD or GIS application.
- Acceptable Method Use the percent impervious values presented in Table 1.

N/A

Because the percent impervious values found in Table 1 are averages, the City prefers that modelers measure all impervious surfaces as closely as possible using either CADD or GIS, since this will provide the most accurate value to which the DCIA reduction multiplier can be applied. When using the percent impervious values in Table 1, they become less representative as smaller areas are modeled. Small areas of a few blocks are best modeled using the preferred method. It is left to the modeler and City staff to agree on what method will be used for larger models prior development.

**Development Guidance Manual** 

Mn/DOT

Highways

## Data Collection/Model Construction

When there are a multiple land uses associated with a particular drainage area, two methods for determining a composite DCIA can be used:

- 1. **Preferred Method** Once impervious surfaces have been determined for each land use, apply the DCIA multipliers found in Table 1 to each land use and then determine a composite DCIA that would be entered into the Runoff Node.
- 2. **Acceptable Method** Once impervious surfaces have been determined for each land use and if a single land use predominates (say, greater than 80% of the drainage area), the modeler may apply the DCIA multiplier in Table 1 associated with that land use to the entire drainage area.

As noted in Table 1, many parking lots have been assigned to the Sport or Recreation Facility land use, which, if simply taken as such and consolidated into the Recreational land use, would provide a DCIA that is too low. Parking lots should be removed from the Recreational consolidated land use and their respective DCIA applied prior to applying the DCIA multiplier for the remainder of the Recreational land use. Further, if the modeler determines that the assigned land use is not hydrologically appropriate (for example, a high rise apartment building complex that, according to Table 1, would be consolidated into Multi-Family but may better be consolidated into Mixed Urban), then the modeler may use a more appropriate consolidated land use. Great care, however, should be exercised in this regard.

#### **Green-Ampt Infiltration Parameters**

Infiltration significantly affects model results when small rainfall events (< 0.5 inches) that are combined with land uses exhibiting high pervious percentages (for example, recreation) are analyzed. The City prefers that soil samples are taken and the soil type is determined so that accurate Green-Ampt parameters can be selected. If soils information is known, then the Green-Ampt values presented in Appendix A should be used instead of the value in Table 2. Where no soils data is available, the values in Table 2 may be used, but with caution. If large rainfall events (> 0.5 inches) are to be analyzed, the affect of infiltration is minimized, and Table 2 parameters can be used.

Other recommended runoff method parameters by land use are also presented in Table 2.

**Table 2 - Runoff Method Parameters** 

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			, 0 11 3 0 1 1 0	areu L	and Use		
Hydrologic Parameter	Commercial/ Industrial	Multi- Family Residential	Recreational	Mixed Urban	Single Family Residential	Transportation Related	Remarks
Percent Impervious	95%	70%	5%	85%	50%	95%	
DCIA Multiplier	1.0	0.6	0.0	0.9	0.6	1.0	
Width	measured or calculated	measured or calculated	measured or calculated	measured or calculated	measured or calculated	measured or calculated	See EPA SWMM Version 4 User's Manual
Impervious Depression Storage	0.094	0.02	0.02	0.02	0.02	0.094	
Pervious Depression Storage	0.1	0.1	0.1	0.1	0.1	0.1	
Impervious Manning's <i>n</i>	0.014	0.014	0.014	0.014	0.014	0.014	
Pervious Manning's <i>n</i>	0.2	0.35	0.35	0.2	0.2	0.2	
Average Capillary Suction	10	12	7	10	10	10	Use only if soil types
Saturated Hydraulic Conductivity	0.25	0.3	0.08	0.25	0.25	0.25	are not known. Use Appendix A
Initial Moisture Deficit	0.32	0.32	0.16	0.32	0.32	0.32	if soil types are known.
Zero % Detention	25%	60%	100%	100%	25%	25%	
	1						

#### Width

Width may either be measured or computed using the following formula. Refer to SWMM Version 4 documentation provided by the EPA to determine if a skew factor is required.

 $W = (2 - Sk)^*I$  where:

W = subcatchment width

I = length of main drainage channel

$$Sk = \frac{A2 - A1}{A}$$

Where:

Sk = skew factor, 0 < Sk < 1,

A1 = area to one side of channel,

A2 = area to other side of channel

A = total area

#### **SCS Method**

#### **Parameters**

The recommended SCS method parameters by land use are provided in Table 3.

Table 3 - SCS Method Parameters

		Consolidated Land Use					
Hydrologic Parameter	Commercial/ Industrial	Multi- Family Residential	Recreational	Mixed Urban	Single Family Residential	Transportation Related	
Percent Impervious	95%	70%	5%	85%	50%	95%	
DCIA Multiplier	1.0	0.6	0.0	0.9	0.6	1.0	
Composite Pervious Curve Number	72	69	69	72	69	72	
Initial Abstraction (as a fraction)	0.20	0.20	0.10	0.10	0.20	0.10	
Shape Factor	484	484	484	484	484	484	

#### Time of Concentration

Time of concentration is defined by the NRCS as "the time it takes for runoff to travel from the hydraulically most distant part of the [drainage] area to the watershed outlet" (NEH Section 4, Chapter 15). The watershed outlet, in this case, is where runoff enters a pipe or channel network. Time of concentration, or  $T_{\rm C}$ , is strictly related to surface flow in an XP-SWMM pipe and channel network modeling situation. The NRCS suggests that  $T_{\rm C}$  can be divided into two surface flow components – overland or sheet flow time ( $t_{\rm O}$ ) and channelized flow time ( $t_{\rm T}$ ) (TR-55 2nd Edition, 1986). Typically,  $T_{\rm C}$  will be computed for overland sheet flow, which, after 300 feet becomes overland channelized flow, from the most distant point of a drainage area associated with a runoff node to the entrance of a pipe or channel network. Once flow reaches the node, XP-SWMM computes  $T_{\rm C}$  within pipes and channels. Overland flow can be calculated using the following equation (following equation and Table 4 taken from Minnesota Department of Transportation Drainage Manual):

$$T_{\rm C} = t_{\rm O} + t_{\rm T}$$
 where:

$$t_{\rm o} = \frac{0.42(nL)^{0.8}}{P^{0.5}s^{0.4}}$$

Where:  $t_0 = \text{overland flow time (min)}$ 

n = Manning's roughness coefficient (see Table 4)

 $L = \text{length of flow (ft) } L \le 300 \text{ ft}$ P = 2-year, 24-hour storm (2.8 inches)

s = average land slope along flow path (ft/ft)

$$t_{\rm T} = \frac{L}{60 V}$$

Where:  $t_{T} = \text{channelized flow time (min)}$ 

Table 4 – Roughness Coefficients (Manning's n) for Sheet Flow

Surface Description		<b>n</b> <sup>1</sup>
Smooth Surfaces (concrete, asphalt, gravel, or t	pare soil)	0.011
Fallow (no residue)		0.05
Cultivated Soils	Residue cover ≤ 20%	0.06
	Residue cover > 20%	0.17
Grass	Short grass prairie	0.15
	Dense grasses <sup>2</sup>	0.24
	Bermuda grass	0.41
Range (natural)		0.13
Woods <sup>3</sup>	Light underbrush	0.40
	Dense underbrush	0.80

<sup>1</sup> The *n* values are a composite of information compiled by Engman (1986).

### **Design Storm**

Standards for using synthetic hydrographs for design purposes are as follows:

- Design Storms: Typically 2, 10, 50, and 100 year events (See Local Surface Water Management Plan in Appendix E for application of the various storm events.)
- · Storm Duration: 24 hours
- Rainfall Distribution: SCS Type II, either 0.25 or 0.10 time intervals

Table 5 provides design storm event rainfall depth multipliers that should be used when synthetic hydrographs are selected.

Table 5 - Rainfall Frequency Depth (24 hr storm event)

Return Period (Years)	Depth Multiplier (Inches)
1	2.3
2	2.8
5	3.5
10	4.2
25	4.8
50	5.3
100	5.9

Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.

**<sup>3</sup>** When selecting *n*, consider cover to a height of about 0.1 ft, which is the only part of the plant cover that will obstruct sheet flow.

#### **Hydraulic Standards**

Typically, catch basins or drop inlets are not modeled, because, for hydraulic purposes, a number of inlets (catch basins, drop inlets, etc.) can be modeled as one node. Therefore, inlet capacity is usually not used and all surface water is assumed to get to the storm sewer pipe. If the modeler is modeling actual catch basins or drop inlets and wants to provide inlet capacity values, then she or he must determine what these values would be based on the type of inlet and potential plugging. This parameter can be modified under the node properties in the HYDRAULICS module. It should also be noted that the node must have storage associated with it to provide a way to store and release runoff at the inlet capacity rate. If the Inlet Capacity check box is not selected, XP-SWMM assumes all runoff enters the node unhindered. Recommended hydraulic parameters are presented in Table 6.

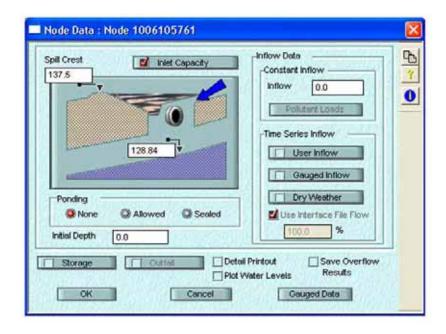


Table 6 - Hydraulic Parameters

Parameter	XP-SWMM Default	Recommended
Entrance Loss Coefficier	nt O	0.5
Exit Loss Coefficient	0	0.5 for manhole outlet 1.0 for external outlet or outfall
Manning's n	0.014	0.010 - Smooth wall plastic/HDPE
(conduit roughness)		0.012-0.014 - RCP (typical = 0.013) 0.024 - CMP, CPP

The City prefers modelers use multi-links that represent storm sewer (lower links) and street or overland flow (upper link). Appendix F provides information on using multi-links for to model street flow.

## V. Preparing a Model for Review

In this section, the standards and formats are presented for preparing a model for the City to thoroughly review.

#### Electronic

When submitting a model to the City, provide a CD-ROM with all model runs, including those run for various storm events, if appropriate. All files associated with the model should be provided on the CD-ROM so that City staff do not need to run the model again.

In addition, all files on the CD-ROM should have short but descriptive names as shown in the following examples:

- 14\_PARK91404.xp refers to the 14th and Park pipeshed using the September 14, 2004, actual rainfall
  event.
- 14\_PARK10YR.xp refers to the 14th and Park pipeshed with the synthetic 10-year Type II storm simulated.

#### **Print Copies**

The City also requires that a drainage area map, including drainage boundaries and pipe networks (both existing and proposed if appropriate), is submitted for review. In addition, all computations of calculated parameters, such as area, weighted curve numbers, times of concentration, and any assumptions used to determine other values (for example, land use related pervious and impervious percentages), are provided.

#### VI. Final Model Submittal

When submitting the final model to the City, include all documentation used during the review as well as all comments provided by the City and the modeler's responses. Typically, a report is submitted with the model that, at a minimum, should include:

- Details of the modeling process
- Tables of input parameters and assumptions used to determine them
- Tables and hydrographs of results and a discussion of the impacts of the results on downstream conditions
- Recommendations (if appropriate)
- Any correspondence with the City (either by phone, letter, e-mail, or meeting minutes) that supports
  decisions that were made during the modeling process

**Development Guidance Manual** 

# Water Supply, Emergency and Conservation Plan



City of Minneapolis

Department of Public Works

Minneapolis Water Works

July 2008 Revised August 2009

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#### INTRODUCTION

This Water Supply, Emergency and Conservation Plan has been prepared to comply with Minnesota Statutes 473.859, which requires a water supply plan as a component of the Public Facilities Plan. The Laws of Minnesota mandated by Chapter 186 of the 1993 Legislative Session requires Public Water Suppliers sewing more than 1,000 persons to submit a Water Supply Plan to the Department of Natural Resources (DNR) for approval in October 2008 (Minn. Statutes 1036.291).

This plan is also submitted to the Metropolitan Council as an amendment to the local comprehensive plan (Minn. Statutes 473.859) for communities with municipal water supplies in the seven-county Twin Cities Metropolitan Area.

The Water Supply Plan for the Minneapolis Water Works / City of Minneapolis is prepared pursuant to Minnesota Statutes 103G. 291, subdivision 3 and is organized in accordance with the guidelines established by the DNR -Division of Waters and the Metropolitan Council.

This Plan is divided into four (4) parts:

- PART I: WATER SUPPLY SYSTEM DESCRIPTIONAND EVALUATION: This chapter addresses the adequacy of the existing water sources and supply systems to provide current and projected demands.
- PART II: EMERGENCY RESPONSE PROCEDURES: This chapter lists emergency response procedures and develops actions necessary to improve emergency preparedness.
- PART III: WATER CONSERVATION PLAN: This chapter identifies programs intended to reduce unnecessary water demand, improve the efficiency in usage and minimize water losses and waste.
- PART IV: METROPOLITAN COUNCIL ITEMS: This chapter relates to comprehensive plan requirements that apply to communities in the seven county Twin Cities Metropolitan Area.

#### System Information:

DNR Water Appropriation Permit Number	1976-6216-1
Name of Water Supplier:	Minneapolis Water Works, City of Minneapolis
Address:	4300 Marshall Street NE Minneapolis, MN 55421
Contact:	Chris Catlin
Title:	Superintendent of Water Plant Operations
Phone:	(612) 661-4904
Fax:	(612) 661-4913
E-mail:	chris.catlin@ci.minneapolis.mn.us

#### PART I. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

This chapter examines the current status of water demand and supply in order to assess the adequacy of the existing system to sustain current and projected demands.

#### A. ANALYSIS OF WATER DEMAND

Table 1 on the following page presents the historical water demand from 1998 through 2007.

## **Water Use Trends**

The Minneapolis Water Works uses water from the Mississippi River to supply the City of Minneapolis, Golden Valley, Crystal, New Hope, Columbia Heights, and Hilltop, as well as Edina Morningside and a portion of Bloomington's demand. Minneapolis also supplies the Minneapolis-St. Paul International Airport and the Fort Snelling area. The population of the cities supplied exclusively by Minneapolis Water Works are presented in the table below.

### Population of Service Area (2000 Census Data).

	Population	% of Total
Minneapolis	382,618	82.1%
Columbia Heights	18,520	4.0%
Hilltop	766	0.2%
Crystal (Joint Water Commission)	22,698	4.9%
Golden Valley (Joint Water Commission)	20,281	4.4%
New Hope (Joint Water Commission)	20,873	4.5%
Total	465,756	100.0%

Minneapolis Water Works also provides a portion of the water used by Bloomington (population = 85,172) and Edina (population = 46,656).

TABLE 1. Historic Water Demand (1998 – 2007)

	A	В	C	Q	E	F	$\mathcal{G}$	H	I	J	K	T
Year	Total Population (Population Served)	Total Connections	Residential Water Sold (MG)	C/G/I* Water Sold (MG)	Wholesale Deliveries (MG)	Total Water Sold (MG)	Total Water Pumped (MG)	Percent Unmetered Unaccounted	Average Demand (MGD)	Maximum Demand (MGD)	Residential gallons per capita per day	Total gallons per capita per day
	Minneapolis Only	Minneapolis Only			(to Suburbs)			(G-F)/G	G/365 or (G/366)		C/A/365	(G-E)/A/365
1998	360,591	102,000	9,329	9,526	4,982	23,837	24,829	4.00%	68.02	108.00	70.88	150.80
1999	358,610	102,000	6,039	9,230	4,827	23,097	23,863	3.21%	65.38	105.00	90.69	145.43
2000	382,618	102,000	9,817	11,136	4,931	25,884	26,027	%99.0	71.11	105.25	70.29	151.06
2001	382,446	102,133	9,430	10,549	5,791	25,770	26,058	1.11%	71.39	143.84	67.52	145.12
2002	382,700	102,266	8,737	9,652	4,174	22,563	23,431	3.70%	64.19	103.56	62.56	137.89
2003	382,295	102,399	9,158	8,600	4,728	22,486	23,516	4.38%	64.43	128.29	65.58	134.53
2004	382,400	102,532	8,670	8,555	4,474	21,699	21,929	1.05%	59.91	106.28	62.08	124.99
2005	387,711	102,665	8,337	8,281	4,216	20,834	21,926	4.98%	60.07	113.71	59.70	126.81
2006	387,970	102,753	8,378	8,186	4,764	21,328	22,230	4.06%	60.90	117.15	59.99	125.06
2007	388,020	102,800	8,436	8,170	4,340	20,496	22,283	%00.9	61.05	115.73	59.56	126.69

\* C/G/I: Commercial, Government, Industrial.

Commercial: Water used by hospitality industry, office buildings, commercial facilities, private hospitals

Government: Police, Fire and other City department use, public universities, County facilities (including HCMC)

Industrial: Power generation, manufacturing, food processing, paper industry, petroleum refining, etc.

Minneapolis Water Works Water Supply, Emergency and Conservation Plan Revised August 2009 Minneapolis population peaked in the 1950's and experienced large losses from 1950 to 1980. The decade population loss in Minneapolis for the period of 1980 to 1990 (Census years) of about 3,000, showed a reduced rate of loss. From 1980 to 1990, the population of Minneapolis increased from 368,383 to 382,618, or 3.9% (US Census Bureau, Decennial census). The Metropolitan System Forecasts predicts an increase in population from 3 to 5% over the next 20 years. Population projections for 2010 and beyond were provided by the Metropolitan Council and the Planning Section of the City of Minneapolis Community Planning and Economic Development Department based on the Traffic Analysis Zone (TAZ) base unit of analysis for comprehensive planning population and employment projections. Figure 1 presents the population trends for Minneapolis.

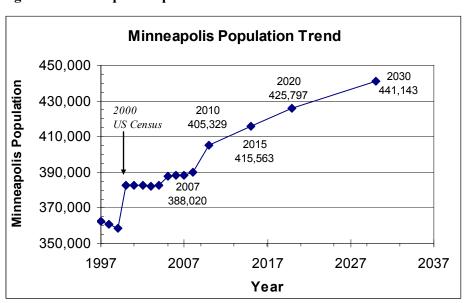


Figure 1. Minneapolis Population Trend

While population has recently increased, water usage has gone down. As shown in Table 1, both residential and total gallons per capita per day have decreased. This trend is attributable to increased use of water-conserving fixtures and appliances, increased efforts by customers to conserve drinking water as a valuable resource.

Annual demands are affected by weather conditions in a given year. Warmer, drier years such as 2001 result in increased use and increased maximum day demands. New instrumentation on influent flow meters was installed in 2005, resulting in more accurate metering of total water pumped. This contributes to the increase in percent unaccounted for water beginning that year.

Data in Table 1 regarding wholesale deliveries to suburban customers shows three distinct time periods. In 2001, Bloomington constructed major upgrades to double its treatment plant capacity. Minneapolis supplied a larger volume of water to that utility that year since the construction limited the amount of water Bloomington could treat. Since 2002, Bloomington's plant capacity was doubled and its withdrawals declined. From 1997 to 2001, wholesale deliveries averaged 4891 million gallons. From 2002 through 2006, wholesale deliveries averaged 4471 million gallons. This 8.5% decrease is largely attributable to the decrease in Bloomington's demand for Minneapolis water.

Table 2a shows the top 10 largest users of Minneapolis Water for 2007. Table 2b shows the amount of water sold to individual wholesale customers.

TABLE 2a. Large Volume Users (2007) Top 10 Largest Users (non-wholesale).

Customer	Million Gallons per year (2007)	% of total water sold
Metropolitan Airport Commission	370.04	1.73%
Minneapolis Public Housing Authority	285.03	1.34%
Covanta Hennepin Energy Resource Co., L.P. (Hennepin Energy Recovery Center)	223.65	1.05%
Minneapolis Board of Education	125.11	0.59%
Minneapolis Parks and Recreation Board	109.57	0.51%
Riverside Plaza	104.51	0.49%
Inland American Office Management, LLC	103.53	0.49%
Fairview Health Services	92.77	0.43%
Veterans Administration Medical Center	84.21	0.39%

TABLE 2b. Wholesale Customers (2007).

Wholesale Customer	Million Gallons per year (2007)	% of total water sold
Joint Water Commission (Crystal, Golden Valley, and New Hope)	2446	11.5%
Bloomington	1258	5.9%
Columbia Heights	538	2.5%
Edina (Morningside)	71	0.3%
Hilltop	26	0.1%
Total Wholesale	4340	20.3%

# B. TREATMENT AND STORAGE CAPACITY.

# **Treatment and Pumping Facilities**

The following table lists all major Minneapolis Water Works treatment and pumping facilities and the year they were built.

FACILITY	YEAR
75 million gallon Softened Water Basin (Columbia Heights)	1897
Pump Station #4	1904
Columbia Heights Filtration Plant (CHFP)	1913
45 million gallon Finished Water Reservoir (Columbia Heights)	1913
Pump Station #5	1927
Fridley Filtration Plant (FFP)	1927
16 million gallon Finished Water Reservoir (Fridley)	1927
Fridley Softening Plant	1940
Pump Station #6	1940
Pump Station #7	1950
16 Million Gallon Finished Water Reservoir (Fridley)	1952
20 Million Gallon Finished Water Reservoir (Hilltop)	1952
20 Million Gallon Finished Water Reservoir (Hilltop)	1954
Dewatering Plant	1973
Pump Stations #1, #2 and #3	1973
10 Million Gallon Finished Water Reservoir (Columbia Heights)	1978
Pump Station #8	1978
Pump Station #9	1991
Lagoon Overflow Treatment Plant (and Permanganate Building)	1995
17 Million Gallon Finished Water Reservoir (Hilltop)	2001
17 Million Gallon Finished Water Reservoir (Hilltop)	2001
Columbia Heights Membrane Filtration Plant	2005

Table 3(A) presents a list of the treatment plants and their production capacities. The overall design capacity of the treatment is the Fridley Softening Plant's capacity of 180 MGD.

TABLE 3(A) Water Treatment Plant Capacity

	Fridley Softening Plant	Fridley Filter Plant	Columbia Heights Filter Plant	Columbia Heights Membrane Plant
Design Capacity (MGD)	180	125	70	70
Average Production (MGD)	65	43	20	20
Firm Capacity (MGD)	165	115	60	70

# **Treatment Description:**

The basic treatment process begins with screening of debris at the raw water, low-lift pumps at Pump Station #5. During times of problematic taste and odors, powdered activated carbon or potassium permanganate may be added to the raw water. The raw water is pumped to the Fridley Softening Plant where lime is added and then a coagulant. The water is softened in twelve precipitators with the lime sludge withdrawn from the bottom of the precipitators and pumped to the Dewatering Plant. Softened water is recarbonated using carbon dioxide gas to adjust the pH. Powdered activated carbon may be added at the head of the recarbonation chambers to address taste and odor. After recarbonation, the water is directed to one of two filtration plants: to the Fridley Filter Plant via Pump Station #6 or to the Columbia Heights Filtration Plant via Pump Station #4. (Pump Station #4 can also serve as a raw water intake pump station). A softened water basin stores water prior to treatment at the Columbia Heights Filter Plant. At the filter plants, the softened water is prechlorinated with free chlorine for a short time prior to the addition of ammonia to form combined chloramine. The water is also coagulated with ferric chloride. After settling the water is filtered. At Columbia Heights, the settled water is generally directed to the ultrafiltration membrane plant (with the granular media filters serving as a back-up). At Fridley, the water is filtered by dual granular media filters. Following filtration, the chloramine residual is adjusted to the desired level, fluoride is added, and ortho-polyphosphate (a corrosion inhibitor) is added. Finished water is stored on the treatment complexes in underground reservoirs prior to distribution or transmission to the Hilltop reservoir system. The high-service Pump Station #5, and Pump Stations #7, #8, and #9 are finished water pumping from the finished water reservoirs. Pump Stations #1, #2, #3 serve to direct backwash water residuals or coagulation basin drainage from the filtration plants to the head of softening or the Dewatering Plant. Additionally, there are three booster pump stations in the distribution system to increase system pressures in small areas of high elevation (North High, Kenwood, and Southwest).

The residual solids from the lime softening and coagulation/settling processes are handled at a dewatering facility and on-site lagoons. The residuals are thickened in large gravity settling tanks. The thickener

overflow is recycled back to the softening plant. The thickened underflow is centrifuged. Centrifuge cake is trucked off site and the centrate is directed to seven lime residual lagoons where evaporation dries the solids. The dried solids from the lagoons are then also trucked off site. The solids are used as agricultural soil enhancements. The overall treatment process generates 25,000 to 32,000 tons of dry solids per year hauled away as centrifuge cake or sent to the lagoons. Decant from the lagoons is adjusted for pH, monitored for solids and discharged to the river at the Lagoon Overflow Treatment Plant.

The total treatment capacity has been sufficient to meet the water needs of the City and its suburban customers. The maximum daily treated flow in the past 30 years was 171.1 MGD on June 6, 1988.

# **Storage Capacity**

The City has an uncovered, in-ground storage structure for softened water storage with a design capacity of 75 million gallons. This settling basin has an approximate useable capacity of 60 million gallons in case of an emergency.

Table 3(B) lists the finished water reservoirs and elevated tanks for the City of Minneapolis only.

**TABLE 3(B) Storage Capacity** 

Reservoir (with nominal capacity)	Capacity*	Year Built
	(Million gallons)	
45 million gallon Finished Water Reservoir (Columbia Heights)	26.4	1913
16 million gallon Finished Water Reservoir (Fridley)	10.9	1927
16 million gallon Finished Water Reservoir (Fridley)	10.4	1952
19 Million Gallon Finished Water Reservoir (Hilltop)	16.8	1952
19 Million Gallon Finished Water Reservoir (Hilltop)	16.3	1954
10 Million Gallon Finished Water Reservoir (Columbia Heights)	9.8	1978
17 Million Gallon Finished Water Reservoir (Hilltop)	16.8	2001
17 Million Gallon Finished Water Reservoir (Hilltop)	16.8	2001
Total useable underground finished water storage	124.2 million	n gallons
Average system demand (2003 – 2007), based on total water pumped:	61.3 MGD	
Days of storage (average)	2.0	

<sup>\*</sup> Capacity is defined as approximate useable capacity from the overflow level to the minimum operating depth.

#### C. WATER SOURCES

The Minneapolis Water Works has a single supply source, namely the Mississippi River, with two intake systems in the Fridley Area. The main intakes are at Pump Station #5, which has 10 pumps: Four pumps have a capacity of 30 MGD, four pumps have a capacity of 20 MGD, and two additional pumps are present with capacities of 19 and 6 MGD. The total capacity is thus 219 MGD and the firm capacity (with the largest pump out of service) is 189 MGD.

The alternate intake system at Pump Station #4 is approximately 2 feet lower than the main intakes at P.S. #5. This system could be used during severe lowered elevations of the River. The alternate intakes are located south of P.S. #5. This system was constructed in 1904 with a six pumps (6 to 30 MGD). The total capacity is 119 MGD with a firm capacity of 89 MGD. An upgrade to this station, including an increase in capacity, is planned within the next three years.

The Minneapolis Water Works does not have any wholesale or interconnections with other utilities that can supply water on a regular or emergency basis nor does it have any groundwater sources.

TABLE 4(A) and 4(C): Total Water Source Capacity (All Surface Water)

Total Capacity of Low-Lift Pump Station 5	219 MGD
(Mississippi River)	
Total Firm Capacity	189 MGD

# **Conjunctive Use of Surface and Ground Waters**

In 1987, the U.S. Geological Survey (USGS) in cooperation with the City of Minneapolis, began a study to evaluate the ground-water-flow system underlying and near the Minneapolis Water Works treatment plant in Fridley, as an alternate or supplement to the current surface water source. The study examined the effects of ground water withdrawals on flow in the ground water system and the Mississippi River near the plant and, in lesser detail, a part of the seven-county Twin Cities Metropolitan Area. The Water-Resources Investigations Report 90-4165 (1990) describes the construction, calibration and application of a numerical ground-water-flow model that simulates the aquifer system, consisting of Prairie du Chien-Jordan aquifer and overlaying units in the study area. The study concluded that "Contaminated water from areas of known contamination could move towards depressions in the potentiometric surfaces of the confined-drift and the St. Peter aquifers and Prairie du Chien-Jordan aquifers if additional ground water were withdrawn near the Minneapolis Water Works. The presence of the bedrock valley beneath the Minneapolis Water Works and discontinuities in the upper-drift confining unit create the potential for the downward movement of contaminants from the surficial

sand and gravel deposits to the underlying aquifers." The risk of contamination precluded use of groundwater in close proximity of the MWW Fridley treatment campus to supplement Minneapolis' water supply.

Within the City of Minneapolis boundaries, there are no high-capacity wells that could be hooked up to the City water supply system in the event of a water emergency. Even if such wells existed within the Minneapolis city distribution system area, direct injection of high pressure, untreated, un-softened water into water mains would likely cause numerous quality and pressure-related problems.

The Joint Water Commission (JWC), a suburban wholesale customer to the east of Minneapolis comprised of Crystal, Golden Valley and New Hope conducted a groundwater source assessment work in 2003. This study concluded that within the JWC service area up to 21 mgd of groundwater could be pumped from the Prairie du Chien / Jordan aquifer. In the event of supply limitations on the Mississippi River, the conjunctive use of ground water from this source would be considered.

#### **TABLE 4(B) Ground Water Sources** – Not Applicable

# Interconnections with adjacent communities

Interconnections with adjacent communities have been reviewed for use as an emergency or supplemental water supply. However, supply size, pressure and water quality differences prohibit potential interconnection with all adjacent communities except St. Paul. Minneapolis uses lime softening in their treatment process. All adjacent or non-distant public water suppliers, with the exception of Bloomington and St. Paul do not use softening. Bloomington has low excess capacity. A limited localized supply could be achieved by interconnecting with the City of Bloomington. Supply would be limited by Bloomington's system's lower capacity in comparison to Minneapolis and could only serve an isolated area near the south portion of the Minneapolis. It should be noted that the City's agreement with the Joint Water Commission (JWC) allows the JWC to develop interconnections with its neighbors. The JWC is currently evaluating the efficacy of physical interconnections with its neighbors. Such interconnections would be intended for emergency purposes only.

The idea of an interconnection between Minneapolis and St. Paul has been discussed since the 1930's. Since 2000, the City of Minneapolis, in cooperation with the City of St. Paul, contracted with an engineering consultant to perform a feasibility study to evaluate a possible interconnection between the two city water systems. The study assessed vulnerabilities for the existing systems of both cities, then developed and evaluated alternatives for constructing an interconnection. The interconnection study report served as additional justification for a water system interconnection which will benefit both cities and many suburban

communities. The study outlines construction, usage and maintenance issues identified as a Joint Powers

Agreement between the Cities regarding the interconnection construction, operation, maintenance, and cost

sharing. The interconnection project includes the design and installation of new pipelines, a new pump

station, and modifications to an existing water reservoir. The new pipelines connect the City of Minneapolis

water distribution system to a common reservoir in St. Paul. This allows Minneapolis to supply water directly

to the City of St. Paul. With the construction and use of a new pump station, St. Paul will also supply water to

the City of Minneapolis. The primary goal would be to use the interconnection during emergency situations

and for large-scale scheduled repairs, improvements, or maintenance. The Cities will seek state and federal

funds for this project.

At the time of this Water Supply plan's revision, planning was underway for water main relocation associated

with the Metropolitan Council's new Central Corridor Light Rail Transit project along Washington and

University Avenues. It is planned to install a valve vault with two valves, one from Saint Paul and one from

Minneapolis each terminating in the vault. In future emergency situations, a spool piece could quickly be

installed and the valves opened to enable a limited area of either system to be supplied from the other.

TABLE 4(D) Wholesale or Retail Interconnections – Not Applicable

**TABLE 4(E) Emergency Interconnections** – Not Applicable

D. DEMAND PROJECTIONS

Demand projections for the next 10 years (2008 – 2017) are presented in Table 5. Projections for 2020, 2030

and ultimate (2037) are also provided in accordance with requirements for metropolitan area public suppliers.

**Projection Method** 

The data in Table 5 was calculated as follows.

Population projection:

The population data from 2004 – 2006 as shown in Table 1 was combined with the population estimates for

2010, 2015, 2020, and 2030 as described in Figure 1. A 2<sup>nd</sup> order polynomial trend line was fitted to the data

 $(R^2 = 0.9949)$  and the yearly population calculated from the associated polynomial equation.

Average Day Demand:

The projected annual demand (MGY) was divided by 365 to calculate the average day demand.

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**TABLE 5. Demand Projections.** 

Population served is for Minneapolis only. Demands presented include wholesale customers.

Year	Population Served	Average Day Demand	Maximum Day Demand	Projected Demand
	- Minneapolis	(MGD)	(MGD)	(MGY)
	Only-	- Including	- Including	- Including
		wholesale-	wholesale-	wholesale-
2008	390,031	61.4	124.4	22,409
2009	399,831	62.3	124.4	22,753
2010	405,329	62.8	124.4	22,925
2011	405,798	62.8	124.4	22,940
2012	408,618	63.1	124.4	23,039
2013	411,329	63.3	124.4	23,112
2014	413,931	63.6	124.4	23,203
2015	415,563	63.7	124.4	23,238
2016	418,807	64.0	124.4	23,352
2017	421,081	64.1	124.4	23,408
2020	425,797	64.6	124.4	23,573
2030	441,143	66.0	124.4	24,087
2037 (ultimate)	443,661	66.2	124.4	24,175

#### Maximum Day Demand:

The maximum day demand in any given year is primarily dependent on weather conditions (high temperatures and low levels of precipitation) and the use of water for cooling systems and lawn and garden watering. Figure 2 shows the maximum daily summer flow from 1972 - 2007 (the daily peak flow during the months of June, July, and August in each year). From this chart it can be seen that peak flows are variable from year to year. From 1970 - 1997, there seems to be a general trend downward which may be attributable to a reduction in population and improved conservation efforts. However from 1997 to 2007, when population stabilized or increased, there is variability around an approximate average of 120 MGD.

The individual daily summer flows from 1997 – 2007 were analyzed for a probability distribution shown in Figure 3. The data presents the percentage of days daily flows were at or below a specified flow rate. For example, the daily summer flow rate was at or below 75.4 MGD 50% of the time. The flows were at or below 102.4 MGD 90% of the time. For planning projections in Table 5, the 99<sup>th</sup> percentile value of 124.4 MGD was selected. There is a 1% probability that maximum demands will exceed this value based on the recent 10-year history. This projected peak value assumes population increases will be offset by continued improvements in water-conserving fixtures and increased efficiencies in water cooling systems.

Figure 2. Minneapolis Water Works Maximum Daily Summer Flow, 1972 - 2007

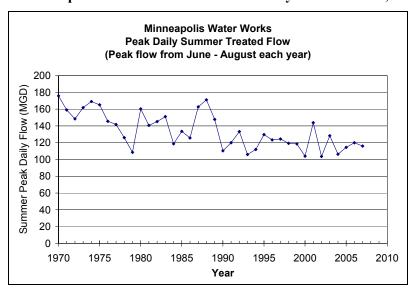
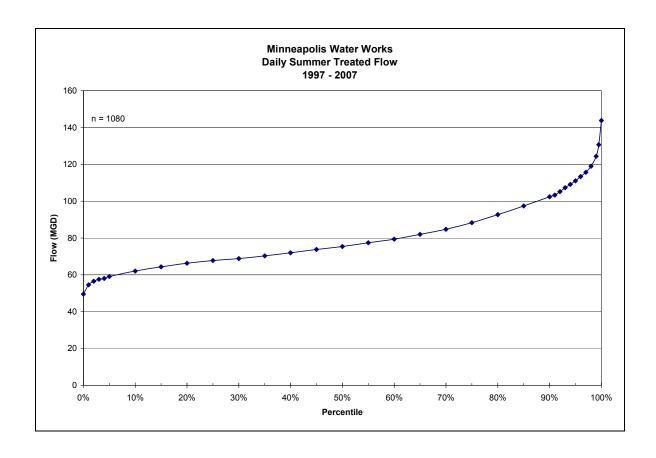


Figure 3. Probability Distribution of Daily Summer Flows, 1997 – 2007.



Projected Demand:

The amount of water demand in future years considered projected population growth, stability in the Commercial/Governmental/Industrial (C/G/I) area, and slight reduction in unaccounted for water. The average data for 2003-2007 presented in Table 1 was used as a baseline. The 2003-2007 average for Residential and Wholesale use was multiplied by the percentage of population growth to calculate the increase in those areas. This assumes the population of neighboring communities to which Minneapolis supplies water will follow the same trend as Minneapolis population. No significant increase in the number of C/G/I users is anticipated and any growth in existing business is assumed to be offset by improved water efficiencies by those users. Therefore, the C/G/I demand was assumed to be constant at 2003 – 2007 average levels. It was assumed that the percentage of unmetered and unaccounted for water would slowly decrease

E. RESOURCE SUSTAINABILITY

from the 2003 - 2007 average of 4.1% to 3.5% by 2030.

Sustainable water use: use of water to provide for the needs of society, now and in the future, without unacceptable social, economic, or environmental consequences.

The sole source of supply for the Minneapolis Water Works is the Mississippi River. The River intakes are located in the pool created by the Upper St. Anthony Falls (USAF) Dam. The main intakes are approximately five (5) miles upstream from the USAF Lock. The flow characteristics of the River have been thoroughly documented in the U.S. Army Corps of Engineers' St. Paul District's Reports.

Under extreme emergency conditions (zero flow in the River) the Minneapolis Water Works has an estimated maximum 20-day supply of water, if the alternate intakes at P.S. #4 could be used to withdraw from the pool of the USAF Dam.

The United States Geological Survey has maintained a river monitoring station near Anoka since 1931 (USGS Site ID 5288500). This station is downstream of the Coon Rapids Dam at approximate river mile 865, about 6.5 miles upstream of the Minneapolis intakes. Figure 4 presents the average annual mean flow at that gage for 1956 – 2006. For reference when reviewing the Figure, the Minneapolis average day demand of 61 MGD is about 94 cfs.

Figure 4 shows the variability in total annual flow from year to year. It is also illustrative to look at the statistical record associated with each date throughout the year. Figure 5 shows a compilation of USGS statistical data by calendar date (data from 1956 - 2006).

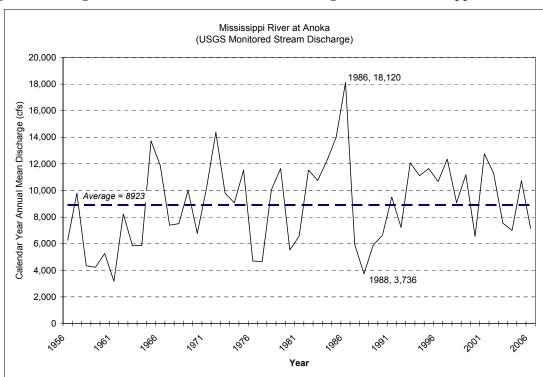


Figure 4. Average annual mean flow at USGS River Gage 5288500, Mississippi River at Anoka

Legislation enacted in 1990 mandated the Department of Natural Resources (DNR) to prepare a drought plan to provide a framework for preparing for and responding to droughts and to minimize conflicts and negative impacts on Minnesota's natural resources and economy. The plan provides for response in a staged approach related to decreasing levels of flow. The plan was revised in April 2009. The "Minnesota DNR Statewide Drought Plan" specifically discusses Mississippi River flows as measured by the USGS gage near Anoka as a trigger for implementing emergency responses for drought conditions. Part II.D of this plan describes the Drought Plan and triggers in more detail. If the average daily flow at the USGS gage near Anoka is at or below 2000 cfs for five consecutive days a Drought Warning condition is declared. The Minneapolis average day demand of 61 MGD is about 94 cfs while a peak day demand of around 120 MGD is about 186 cfs. In Figure 5, significant time periods of the 5<sup>th</sup> percentile and 10<sup>th</sup> percentile data are noted by circles. These time periods are when the percentile data drop below the 2000 cfs trigger for 5 or more days. It may be interpreted that once every 20 years (5<sup>th</sup> percentile), the Drought Warning condition would be triggered at some time between January 17<sup>th</sup> and March 3<sup>rd</sup> or between July 27<sup>th</sup> and September 2<sup>nd</sup>. Further, once every 10 years (10<sup>th</sup> percentile), the Drought Warning condition would be triggered at some time between August 5<sup>th</sup> and August 25<sup>th</sup>. However, the 10<sup>th</sup> percentile data never drops below the Restrictive Phase trigger of 1500 cfs and the 5<sup>th</sup> percentile value only drops below the Restrictive Phase trigger for six days between August 21<sup>st</sup> and 26<sup>th</sup>. Thus, the Mississippi River has ample flow to sustain Minneapolis Water Works demands with

minimal probability of reaching levels triggering drought response actions. During times of drought, conservation measures would be implemented to reduce demand needs in accordance with the procedures described in Section II.D of this plan.

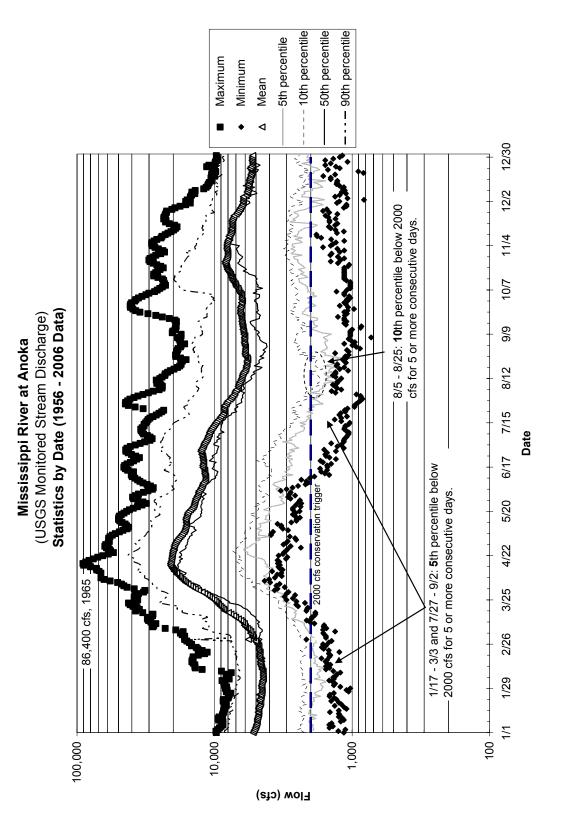
### **Source Water Protection Plan**

The Source Water Protection Plan for the City of Minneapolis, is a result of the 1996 Amendments to the Federal Safe Drinking Water Act, which requires the Minnesota Department of Health to complete source water assessments for public water systems in Minnesota. Although this plan is not mandatory by the 1996 Amendments or State Law, Minneapolis Water Works has decided to proactively protect their drinking water supply, the Mississippi River. The plan also addresses data elements and their assessments; impacts of changes on the public water supply; issues, problems and opportunities; source water protection goals, objectives and action plans; program evaluation; and alternative water supply/contingency strategy. The plan was endorsed by the Minnesota Department of Health in March 2009.

#### F. CAPITAL IMPROVEMENT PLAN

The existing treatment plants, pump stations, and distribution system of the Minneapolis Water Works are adequate to sustain current and projected demands. As described in Section B, major treatment and pumping facilities are 60 to 100 years old. Various projects are planned to improve system redundancy and robustness and eliminate vulnerabilities identified by the Vulnerability Assessment completed in 2003. Minneapolis also maintains ongoing capital funding to clean and line or replace water mains and repair or replace distribution system valves and hydrants. A major capital improvement project within the 10-year planning horizon is the interconnection with Saint Paul Regional Water System which was discussed in Section C.

Figure 5. Daily flow profile for Mississippi River at Anoka (USGS River Gage 5288500)



Minneapolis Water Works Water Supply, Emergency and Conservation Plan Revised August 2009

# PART II. EMERGENCY RESPONSE PROCEDURES

Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failures, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan.

# Federal Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV – Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. The Minneapolis Water Works completed an update to their Emergency Response Plan to comply with the regulation and submitted the required certification to the U.S. Environmental Protection Agency on September 26, 2003.

<b>Emergency Response Plan</b>	<b>Contact Person</b>	<b>Contact Number</b>
Emergency Response Lead	Shahin Rezania,	612-673-2418 or
	Director – Water Treatment & Distribution Services	612-799-0718 (cell)
Alternate Emergency	Chris Catlin,	612-661-4904 or
Response Lead	Superintendent of Treatment Operations	612-916-0546 (cell)
Emergency Response Plan Certification Date	September 26, 2003	

#### **Operational Contingency Plan.**

The Minneapolis Water Works operates plant maintenance and distribution maintenance shops with experienced trade personnel on a full-time basis. A full-scale meter shop also maintains, repairs or replaces all water meters within the City of Minneapolis. The plant maintenance shop continuously services, repairs and replaces old equipment and instrumentation to insure proper operation. It also handles all facilities/building maintenance. The distribution office has a preventive maintenance program (exercising valves, flushing

hydrants, detecting leaks, etc.). Distribution system repairs are also performed by full-time crews from this office. All the shops stock supplies and parts to reduce repair time in the event of an emergency.

MWW is continuously working with outside contractors on various construction projects, and as such maintains relationships with these contractors. These contractors can be utilized in emergency situations to supplement MWW forces in dealing with large scale failures.

#### A. EMERGENCY TELEPHONE LIST

Included in MWW Emergency Response Plan.

#### B. CURRENT WATER SOURCES AND SERVICE AREAS

Included in MWW Emergency Response Plan.

#### C. PROCEDURE FOR AUGMENTING WATER SUPPLIES

Included in MWW Emergency Response Plan.

#### D. ALLOCATION AND DEMAND REDUCTION PROCEDURES.

Demand reduction procedures are prudent to address the sudden loss of water due to line breaks, power failures, sabotage, etc. or a gradual decrease in water supply. During periods of limited water supplies public water suppliers are required to allocate water based on the priorities established in Minnesota Statutes 103G.261:

#### Water Use Priorities (Minnesota Statutes 103G.261)

**First Priority.** Domestic water supply, excluding industrial and commercial uses of municipal water supply, and use for power production that meets contingency requirements.

*NOTE*: Domestic use is defined (MN Rules 6115.0630, Subp. 9), as use for general household purposes for human needs such as cooking, cleaning, drinking, washing, and waste disposal, and uses for on-farm livestock watering excluding commercial livestock operations which use more than 10,000 gallons per day or one million gallons per year.

**Second Priority.** Water uses involving consumption of less than 10,000 gallons per day.

Third Priority. Agricultural irrigation and processing of agricultural products.

Fourth Priority. Power production in excess of the use provided for in the contingency plan under first priority.

Fifth Priority. Uses, other than agricultural irrigation, processing of agricultural products, and power production.

**Sixth Priority.** Non-essential uses. These uses are defined by Minnesota Statutes 103G.291 as lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses.

To estimate demands according to the statutory priorities, data from 2007 were used. The 2007 total for residential, commercial/industrial/institutional, and wholesale uses were within 4% of the 5-year average in each of those categories, indicating it was a reasonably representative year. Data for total 2007 volume delivered to the top 50 non-wholesale users was reviewed for trends between user types (hospitals, hotels, agricultural processing, power industries, etc.). Finally, the total usage of commercial, government, and industrial users whose accounts totaled less than 3.65 million gallons in 2007 (average of 10,000 gpd) was determined to quantify 2<sup>nd</sup> priority use. The data reviewed was for Minneapolis use only; the priorities and demand reduction potential of individual wholesale suburban customers was not analyzed or assumed.

- First priority use was defined individual residences and multiple dwelling units, institutional use (hospitals, schools, nursing homes and daycare centers), and industrial power production.
- Second priority use was determined by totaling the volume of all commercial, government, and industrial users whose individual accounts totaled less than 3.65 million gallons for the year (less than 10,000 gpd).
- Third priority use was determined by comparing the percentage volume of agricultural processing use to total commercial use in the Top 50 customers. This percentage was then applied to the total Commercial use for 2007.
- Fourth Priority use for non-essential power generation was assumed to be 0.
- The Fifth priority use was determined by subtracting the sum of the first four priority uses from the total average demand.

The sum of the five priority uses equals the average daily demand for the City of Minneapolis. The non-essential, Sixth priority, demand was assumed to be the overall average daily demand subtracted from the overall summer demand. Therefore, non-essential use in each of the first five priorities would be accounted for in the total non-essential use.

**Demand Reduction Potential**. The demand reduction potential for residential use will typically be the base demand during the winter months when water use for non-essential uses such as lawn watering do not occur. The difference between summer and winter demands typically defines the demand reduction that can be achieved by eliminating non-essential uses. In extreme emergency situations lower priority water uses must be restricted or eliminated to protect first priority domestic water requirements. Short-term demand reduction potential should be based on average day demands for customer categories within each priority class.

**Table 8. Water Use Priorities.** City of Minneapolis only – Does not include wholesale suburban customers except as noted. Based on 2007 data.

Customer Category	Allocation Priority	Average Day Demand (MGD)	Winter Day Demand (MGD)	Summer Day Demand (MGD)	Short- Term Demand Reduction Potential (MGD)	Non- essential use (MGD)
		A	В	C	A- $B$	C - A
Residential use, hospitals, contingency power production	1st	32	28	40	4	8
Commercial, Government, Industrial Use < 10,000 gallons per day	2nd	4	3	5	1	1
Processing of agricultural products	3rd	1	1	1	0	0
Power production in excess of contingency power	4th	0	0	0	0	0
Other uses	5th	9	7	17	2	8
Total 1st through 5th Priority uses, Minneapolis only		46	39	63	7	17*
Wholesale customers (all uses)		12	8	19	4	7
Total Minneapolis and Wholesale		58	47	82	11	24*

<sup>\*</sup> Total non-essential use (Sixth Priority) for Minneapolis is estimated to average about 17 MGD. Total non-essential use for Minneapolis and its suburban wholesale customers is 24 MGD.

The following triggers may be used for implementing actions to reduce water demand. Table 9 describes the actions associated with each trigger, dependent upon the severity of a given emergency situation.

- Water demand exceeds treatment capacity and reasonable use of storage. This could be due to excessive
  demands during times of extreme heat or drought exceeding firm treatment capacity. Another possible
  scenario would be due to critical equipment or water main failure. Depending upon the situation and
  season, the treatment capacity could vary, so a specific demand flow rate trigger can not be predetermined.
- Low flows in the Mississippi River would trigger varying levels of demand reduction dependent upon the severity of the drop in flow. Legislation enacted in 1990 mandated the Department of Natural Resources (DNR) to prepare a drought plan to provide a framework for preparing for and responding to droughts and to minimize conflicts and negative impacts on Minnesota's natural resources and economy. The plan provides for response in a staged approach related to decreasing levels of flow. The plan was revised in April 2009. The following table entitled "Minnesota DNR Statewide Drought Plan" outlines the staged approach for implementing drought response actions.
- Security breaches or contamination incidents in the distribution system could result in restriction of water supply in isolated areas. Security breaches or contamination in the river source, treatment plants, or

- finished water storage could constitute a severe emergency condition. The supply scenario would vary based on season and situation, so a specific demand flow rate trigger can not be pre-determined.
- A critical water deficiency, defined by the Governor's Executive order, would trigger demand reduction actions, as required by Statute.

**Table 9. Demand Reduction Procedures** 

	Trigger(s)	Action(s)
Stage 1 (Mild)	Informed by State as being in a "Drought Watch" phase in accordance with the Statewide Drought Plan.	Voluntary conservation actions requested of users which may include reducing or eliminating sprinkling, or to reduce residential use (minimize bath use, reduce shower length, wash only full loads of clothes and dishes, etc.)
Stage 2 (Moderate)	Informed by State as being in a "Drought Warning" phase in accordance with the Statewide Drought Plan.	Odd-even watering ban. (In addition to Stage 1 actions).
	When it is anticipated that demand will exceed 100% of available <i>firm</i> treatment capacity.	
Stage 3 (Severe)	Informed by State as being in a "Restrictive" phase in accordance with the Statewide Drought Plan.  When it is anticipated that demand will exceed 100% of actual available treatment capacity and storage reserves.	Total sprinkling ban, car-washing prohibited. Residential users encouraged to use water for only essential domestic purposes (drinking, cooking, basic sanitation).
Critical Water Deficiency (M.S. 103G.291)	Informed by State as being in a "Emergency" phase in accordance with the Statewide Drought Plan.  Executive Order by Governor.	Eliminate 6 <sup>th</sup> priority use and constrain 2nd through 5 <sup>th</sup> priority water allocation.
	Severe contamination event.	

*Note:* The potential for water availability problems during the onset of a drought are almost impossible to predict. Significant increases in demand should be balanced with preventative measures to conserve supplies in the event of prolonged drought conditions.

# Minnesota DNR Statewide Drought Plan (April 29, 2009)

Condition and Program Phase	State and Federal Actions	Water Users and Suppliers Actions
NON-DROUGHT PHASE A significant portion of the watershed is not under drought conditions according to the U.S. Drought Monitor. The U.S. Drought Monitor is a weekly index depicting the location and intensity of drought conditions using a blend of quantitative and qualitative indicators. Drought conditions referenced in this plan are keyed to the U.S. Drought Monitor http://drought.unl.edu/dm/monitor.html	Develop precipitation, streamflow, ground water, and water quality monitoring programs.     Conduct state and regional water studies and coordinate actions.     Assist water suppliers and other users in developing conservation measures.     Continue and improve water conservation education.	Develop/update/implement water supply plans (including drought preparedness and response and water conservation programs). Adopt conservation rate structures and ordinances Establish mutual aid agreements, interconnections, conservation education, redundant/alternative supplies, etc. Minimize water supply system losses and improve water use efficiency.
DROUGHT WATCH PHASE: A significant portion of the watershed is "Abnormally Dry" or in a "Moderate Drought"	Inform Drought Task Force of conditions. Intensify selected monitoring activities. Initiate public awareness. Notify water suppliers of moderate drought conditions. Monitor Mississippi River flows and coordinate with the U.S. Army Corps of Engineers (USACE) and hydropower facility owners	Monitor potential conflicts and problems and notify DNR of source conflicts.     Public water suppliers provide conservation information and request customers to implement voluntary measures to reduce water use.
DROUGHT WARNING PHASE  A significant portion of the watershed is in a "Severe Drought", or for public water suppliers using the Mississippi River, the average daily flow at the USGS gage near Anoka is at or below 2000 cfs for five consecutive days.	Convene Drought Task Force     Increase public drought awareness     Notify water suppliers of severe drought conditions.     Monitor implementation of the Mississippi River System-Wide Low-Flow Management Plan [for Dam operators].	Public water suppliers implement appropriate water use restrictions contained in their water supply plans. Other water users implement appropriate conservation measures. Public water suppliers implement water use reduction actions with a goal of reducing water use to 50% above January levels. Dam operators implement the Mississippi river System-Wide Low-Flow Management Plan.
RESTRICTIVE PHASE:  A significant portion of the watershed is in an "Extreme Drought", or for public water suppliers using the Mississippi River, the average daily flow at the USGS gage near Anoka is at or below 1500 cfs for five consecutive days.	Notify water suppliers of severe drought conditions.     Closely monitor river flows.     Continue drought awareness efforts to encourage conservation.	<ul> <li>Follow MDNR allocation restrictions.</li> <li>Public water suppliers implement water use reduction actions with a goal of reducing water use to 25% above January levels.</li> <li>All appropriators conserve water and minimize non-essential water uses.</li> </ul>
EMERGENCY PHASE:  A significant portion of the watershed is in an "Exceptional Drought", or highest priority water supply needs are not being met, or there are threatened or actual electricity shortages due to cooling water supply shortages, or for public water suppliers in the Twin Cities, the average daily flow of the Mississippi River USGS gage near Anoka is at or below 1000 cfs for five consecutive days.	Advise Governor on need for emergency declaration.     Minnesota Division of Homeland Security and Emergency Management implements MN Emergency Operations Plan (MEOP).     Consider request to the USACE for the release of water from the Mississippi River Headwaters Reservoirs.	Public water suppliers implement mandatory water use reduction actions with a goal of reducing water use to January levels. Limit water used based on highest priorities defined in Minnesota Statutes 103G.261 Implement measures consistent with an emergency declaration. Provide bottled water, hauled water, and sanitations supplies to users, as needed.

#### **Notification Procedures.**

Stage 1 actions can be implemented via City newsletters, City website, utility bill inserts, and press releases to local news media.

More severe conditions (Stages 2 through Critical Deficiencies) would utilize the same measures as Stage 1 with greater focus on high-impact announcements through media outlets such as radio and TV. For critical deficiencies, commercial and industrial users would be notified directly by phone or mail and the City's "Swift Reach" notification system could be implemented.

**D. Enforcement.** Minnesota Statutes require public water supply authorities to adopt and enforce water conservation restrictions during periods of critical water shortages.

# Public Water Supply Appropriation During Deficiency. Minnesota Statutes 103G.291, Subdivision 1.

Declaration and conservation.

- (a) If the governor determines and declares by executive order that there is a critical water deficiency, public water supply authorities appropriating water must adopt and enforce water conservation restrictions within their jurisdiction that are consistent with rules adopted by the commissioner.
- (b) The restrictions must limit lawn sprinkling, vehicle washing, golf course and park irrigation, and other nonessential uses, and have appropriate penalties for failure to comply with the restrictions.

The City of Minneapolis has ordinances in place that empower the Director of the Water Works or the City Engineer to address critical water deficiencies and provide for penalties for non-compliance. Ordinance 509.1480 authorizes the City Engineer or the appointed representative of the City Engineer to declare an emergency. The following are taken from the City Code of Ordinances:

# 509.960. Shut-off for public interest, misuse, waste or violation.

Any violation of chapter 509 may cause water to be shut off. Water may also be shut off if the director of the waterworks determines that the use, misuse or waste of water adversely affects the health, safety or welfare of the public. No one shall turn water on or off without authority from the city. Whenever water is found on without authority, it may be immediately turned off without further notice. (98-Or-134, § 1, 11-13-98)

**509.1470.** Water use limited during emergency period. No person shall draw or use water from the city water mains or city waterworks

system other than as permitted by the declaration of emergency during any period of emergency caused by shortage of water supply or lowering of water pressure in the water mains of the city. (77-Or-070, § 1, 4-7-77; 98-Or-135, § 38, 11-13-98)

**509.1480. Declaration of emergency.** The city engineer or the appointed representative of the city engineer shall declare the existence of such an emergency as and when it may become necessary, shall determine the period of such an emergency and the termination thereof, shall decide the daily hours of restriction, the method of restriction, and shall decide upon the proper notification to customers of such restrictions. (77-Or-O70, § 2, 4-7-77; Pet. No. 251069, § 26, 12-15-89; 98-Or-135, § 39, 11-13-98)

509.1490. Administrative fee. For a first violation of the declaration of emergency, the occupant of the premises or the owner thereof will receive a warning of the offense. Subsequent violations of the declaration of emergency will result in a turnoff of the water supply to the premises. Written notice posted on the premises at the time of the violation will be considered sufficient notice prior to turnoff of the water supply. No water supply which has been turned off because of a violation of this article shall be turned on until twenty-five dollars (\$25.00) has been paid to the Minneapolis waterworks division, together with the regular charge for turning off and on water service. The city engineer may, in the event of demonstrated economic hardship, waive a portion of the twenty-five dollar (\$25.00) administrative fee, but not exceeding fifteen dollars (\$15.00). The violation may also be subject to the penalties in Chapter 1 of this Code. (77-Or-070, § 3, 4-7-77; 98-Or-135, § 40, 11-13-98)

In the event emergency repairs are necessary, the City also has authority to shut off water:

509.110. City not liable for water shortage; authority to shut off. The city shall not be liable for any deficiency or failure in the supply of water to consumers, whether occasioned by shutting the water off for the purpose of making repairs or connections, or for any other cause whatever. In case of fire or alarm of fire, or in

making repairs, or constructing new works, the superintendent of the waterworks may shut off the water at any time and keep it shut off so long as the superintendent shall deem necessary. (Code 1960, As Amend., § 600.100; Pet. No. 251069, § 11, 12-15-89)

# PART III. WATER CONSERVATION PLAN

Water conservation programs are intended to reduce demand for water, improve the efficiency in use and reduce losses and waste of water. Long-term conservation measures that improve overall water use efficiencies can help reduce the need for short-term conservation measures. Water conservation is an important part of water resource management and can also help utility managers satisfy the ever-increasing demands being placed on water resources.

Minnesota Statutes 103G.291, requires public water suppliers to implement demand reduction measures before seeking approvals to construct new wells or increases in authorized volumes of water. Minnesota Rules 6115.0770, require water users to employ the best available means and practices to promote the efficient use of water. Conservation programs can be cost effective when compared to the generally higher costs of developing new sources of supply or expanding water and/or wastewater treatment plant capacities.

#### A. CONSERVATION GOALS.

#### **Unaccounted Water**

The Minneapolis Water Works unaccounted water has averaged only 4.1% over the last five years (918 million gallons per year). This is substantially below the American Water Works Association recommendation of 10%.

#### Per Capita Demand

The 5-year Minneapolis residential gallon per capita use has averaged 61 gallons per capita per day (GPCD). This is 19% lower than the 2002 Twin Cities Metropolitan Area average of 75 GPCD. The overall per capita demand (including commercial, industrial, and institutional use) has decreased by an average of about 1.3% per year between 1998 and 2007.

#### **Peak Demands**

The average ratio of the maximum day demand to average day demand from 2003 - 2007 was 1.90. This peaking factor indicates a reasonable baseline demand. Higher peaking factors are indicative of high summer use relative to winter use which is not the case in Minneapolis.

#### B. WATER CONSERVATION PROGRAMS

Six components of a conservation program are described below.

1. **Metering.** The American Water Works Association (AWWA) recommends that every water utility

meter all water taken into its system and all water distributed from its system at its customer's point of service. An effective metering program relies upon periodic performance testing, repair, repair and maintenance of all meters. AWWA also recommends that utilities conduct regular water audits to ensure accountability.

The Minneapolis Water Works meters virtually all its customers, including public facilities. There are less than 100 taps which are unmetered – fire standpipe connections and a small number of public fountains in parks. Water meters vary in size from 5/8-inch to 12-inch. The City of Minneapolis believes that its metering program causes the consumers to conserve water. The City provides an account history of past water use habits to all customers in their water bill (i.e. water use during the same period last year).

All of the City of Minneapolis water meters were changed out between 1992 and 2000 as part of the implementation of the automated meter reading program. Each year beginning in 2008 Minneapolis will spot test the oldest residential meters with the largest consumption. Tests with Minneapolis finished water quality indicated that 25 years is a realistic life expectation for 5/8" to 1" meters. On commercial meters 1-1/2" and larger, a 7-year periodic maintenance program is in place. Meters after 7 years of service are replaced, tested, reconditioned, tested again, and reinstalled. Field testing is not an option as there are no bypasses.

TABLE 10(A). Customer Meters

	Number of Metered Connections	Meter testing schedule	Average age/meter replacement schedule (years)	
Residential	77,074	Select meters annually	Age ~10 years / Replacement TBD, see discussion.	
Commercial	8,676	7 years	5 years / 7 years	
Industrial	92	7 years	5 years / 7 years	
Public Facilities	1,305	7 years	5 years / 7 years	
Other	15,399	Select meters annually	Age ~10 years / Replacement TBD, see discussion.	
TOTALS	102,546			

The on-going cost of meter replacement and rehabilitation and battery replacement is budgeted in the 10-year capital program. Converting meters from automatic phone transmitters to radio transmitters is budgeted at approximately \$400,000 per year. Battery replacement will be

required 8 to 10 years after the meters were initially installed.

The Minneapolis Water Works believes that the combination of metering all customer accounts,

and a monthly billing cycle promote wise use of water and contribute positively to conservation.

**Water Source Meters** 

The flow of water withdrawn from the river is measured using four venturi meters at the Fridley

Softening Plant. New differential pressure instrumentation was installed on the venturis in 2005

as part of a SCADA upgrade to the softening plant. The instrumentation undergoes all

manufacturer-recommended testing and preventative maintenance.

2. Unaccounted Water.

The Minneapolis Water Works unaccounted water has averaged only 4.1% over the last five years.

This is substantially below the American Water Works Association recommendation of 10%

In the City of Minneapolis, the City owns the water mains and each individual property owner owns

their service line from the tap in the water main to their service line. There are approximately 40 - 50

water main breaks (on the 1,000 miles of public main) each year and approximately 300 private

service line leaks. Most leaks (both public and private) are identified by the following means:

• Residents experiencing low water pressure / volume.

• Residents noticing water bubbling up out of the ground.

Residents noticing rumbling noise in their domestic water piping when they are not using any

water.

• Workers from other City Public Works divisions noticing water running in a storm drain or

catch basin during dry weather.

Since the City is an urban environment with almost no undeveloped land, residents are the best eyes

and ears to alert the City about anomalies. There has not been a formal leak survey in recent years,

nor is one planned given the low amount of unaccounted for water.

The Minneapolis Water Works has a full-time leak investigator on staff. The leaks reported or

detected are investigated and repaired as soon as possible, if the leak is on a City main. If the leak is

determined to be on a private service line, the consumer is notified by mail that the leak must be

repaired no later than 15 calendar days from the date of the letter. If the leak is not repaired during

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Minneapolis Water Works

this time, the Minneapolis Water Works shall have the necessary repairs made and charge the customer.

**Reducing Unaccounted Water**. List potential sources and efforts being taken to reduce unaccounted water.

Of the percent unaccounted for water in Table 1, 0.3 to 0.5% is attributable to the residuals underflow from the softening process (influent water exiting the process with lime solids residuals). An additional 0.5% to 1.0% is cleaning residuals from the membrane filtration plant exiting the process. Both these streams are treated and ultimately discharged back to the Mississippi River. Flushing of water mains during repair and use with in the treatment process also accounts for some of the volume.

City of Minneapolis maintains and on-going program to clean and line or replace 10 to 15 miles of water main each year.

Corrosion due to outside effects (soil, aggressive ground water, etc.) is minimized by a Minneapolis Water Works Comprehensive Corrosion Control Program that is administered by a full-time coordinator on staff. New installation, continuous monitoring, replacement and repair are also done by City personnel.

The City's water distribution maintenance yard has several crews to fix leaks and repair gates and hydrants to minimize water losses. The City also maintains a supply of spare parts and piping and accessories (flanges, couplings, joint materials, etc) as well as sleeves, valves, gates and parts, specials (tees, elbows, etc.) and related supplies in order to be able to respond to leaks and water main breaks as soon as they take place or are detected.

#### 3. Conservation Water Rates.

**Billing Frequency**: Monthly

**Volume included in base rate or service charge**: None

**Uniform rate**: Direct customers are billed at the same rate per unit regardless of volume. A unit is

100 cubic feet

Water Rates Evaluated: Every year

Date of last rate change: January 1, 2008

The Minneapolis Water Works believes that the combination of metering all customer accounts, uniform (not declining) block rates and a monthly billing cycle promote wise use of water and contribute positively to conservation. Sewer rental rates are also based on water usage which further promotes water conservation.

The City of Minneapolis has metered all its water customers for years and billed for water based on volume consumed and meter size. The City has an increasing block rate for monthly minimum charges based on meter size (from 5/8-inch to 12-inch) and higher rates for quarterly, non-residential fire protection based also on meter size (from 2-inch to 12-inch).

The volume-based water rates for direct customers are uniform. The 2008 rates for customers inside the City limits is \$2.75/billing unit. The billing unit equals 100 cubic feet. The current rate for customers outside the City limits is \$2.90/billing unit. There is a minimum charge of \$2 even if no usage is measured. Wholesale rates to other public water suppliers vary per contract.

The Minneapolis Water Works believes that the combination of metering all customer accounts, uniform (not declining) block rates and a monthly billing cycle promote wise use of water and contribute positively to conservation. Sewer charges are also based on water usage which further promotes water conservation. Any changes to rate structures as required by *Minnesota Statutes* will be implemented accordingly.

2008 Minneapolis Water Rates

Year	Water Charge per Unit (per 100 cubic feet)	Water Minimum	Outside City Water	Water Tax (%)
2008	\$2.75	\$2.00	\$2.90	7.15%
Meter Size	Monthly Minimum Charge	Fire Line Monthly Charge		
5/8"	\$2.00			
3/4"	\$2.40			
1"	\$4.80			
1-1/2"	\$8.85			
2"	\$14.00	\$2.50		
3"	\$27.00	\$3.00		
4"	\$50.00	\$4.00		
6"	\$95.00	\$6.00		
8"	\$135.00	\$10.00		
10"	\$191.00	\$15.00		
12"	\$231.00	\$25.00		

#### 4. Regulation.

As indicated in the section discussing enforcement of demand reduction procedures, Minneapolis has ordinances in place for emergency restrictions. The City Engineer or the appointed representative of the City Engineer has the flexibility in the method, timing, and duration of the restrictions used.

#### **State and Federal Regulations (mandated)**

The Minneapolis City Council enacts ordinances to regulate construction, maintenance, and remodeling so that the buildings where citizens live, work, and play will be safe. The City uses permits to make sure that the work is done in compliance with those ordinances. The City of Minneapolis enforces national and international codes adopted by the State of Minnesota. It is assumed the State codes include:

Rainfall sensors on landscape irrigation systems. Minnesota Statute 103G.298 requires "All automatically operated landscape irrigation systems shall have furnished and installed technology that inhibits or interrupts operation of the landscape irrigation system during periods of sufficient moisture. The technology must be adjustable either by the end user or the professional practitioner of landscape irrigation services."

Water Efficient Plumbing Fixtures. The 1992 Federal Energy Policy Act established manufacturing standards for water efficient plumbing fixtures, including toilets, urinals, faucets, and aerators.

Enforcement is handled by the Regulatory Services and Emergency Preparedness Division of the City Coordinator's office. Regulatory Services provides the investigation and enforcement of laws and ordinances pertaining building and housing code inspections from plan review through construction.

#### 5. Education and Information Programs.

All of Minneapolis Water Works' public education efforts emphasize the inherent value of drinking water and the importance of considering it and conserving it as a valuable resource. Public outreach efforts include:

- Annual (May) distribution of Consumer Confidence Reports. Future reports will provide specific resources for customers to learn more about water conservation.
- Annual (~ January) notices of water billing rates are directly mailed to customers and will provide specific resources for customers to learn about water conservation.
- All customers receiving direct mailings from the Utility billing department receive a brochure prepared by the American Water Works Association entitled "Water Conservation at Home"

which includes information on treating drinking water as a valuable resource and discusses how water is metered and used in the home and ways to reduce that use.

- The Water division's web site on the City's internet site
   (<a href="http://www.ci.minneapolis.mn.us/water/">http://www.ci.minneapolis.mn.us/water/</a>) includes a page of "Water Conservation Resources"
   providing links to information on water saving tips, water efficient fixtures and use of rain barrels
- Tours given to students from grade-school through college age, educators, citizen groups, etc. on a regular basis emphasize the need to treat drinking water as a valuable resource.
- Media interviews are given as requested.
- Support of theater and art communities' advocacy of water. A 2007-08 example includes support of In the Heart of the Beast Mask and Puppet Theater's "Invigorate the Common Well" series.

The City of Minneapolis is committed to providing sustainable options for metro living. "GREEN" construction is a holistic approach which encompasses healthy air quality, sustainable building materials, conservation of water, energy efficiency and environmentally friendly landscaping. The City's development website (<a href="http://www.ci.minneapolis.mn.us/mdr/GreenBuildingOptions\_home.asp">http://www.ci.minneapolis.mn.us/mdr/GreenBuildingOptions\_home.asp</a>) provides residents and business owners many options for going 'green' which can help citizens protect the environment, conserve water, and often save money over the lifetime of the investment.

Further, the City of Minneapolis is committed to helping businesses develop an approach to building and remodeling that encompasses healthy air quality, sustainable building materials, water conservation, energy efficiency and environmentally friendly landscaping. The following website describes some of the initiatives: <a href="http://www.ci.minneapolis.mn.us/cped/green">http://www.ci.minneapolis.mn.us/cped/green</a> development resources.asp

A packet of conservation tips and information can be obtained by contacting DNR Waters or the Minnesota Rural Water Association (MRWA). The American Water Works Association (AWWA) <a href="www.awwa.org">www.waterwiser.org</a> also has excellent materials on water conservation that are available in a number of formats. You can contact the MRWA 800/367-6792, the AWWA bookstore 800/926-7337 or DNR Waters 651/259-5703 for information regarding educational materials and formats that are available.

#### 6. Retrofitting Programs.

Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use as well as energy costs.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

**Retrofitting Programs**. Describe any education or incentive programs to encourage the retrofitting of inefficient plumbing fixtures (toilets, showerheads, faucets, and aerators) or appliances (washing machines).

The City's Utility Billing maintains the following website: "Money Saving Tips: Ways to Reduce Your Utility Bill" <a href="http://www.ci.minneapolis.mn.us/utility-billing/saving.asp">http://www.ci.minneapolis.mn.us/utility-billing/saving.asp</a> This page includes direct link to the US EPA's "WaterSense" web site which includes a product listing of water-efficient devices.

All customers receiving direct mailings from the Utility billing department receive a brochure prepared by the American Water Works Association entitled "Water Conservation at Home" which includes a section on Water-Saving Devices.

The Minneapolis Development Review, responsible for City building permits, maintains a link on their website to a Green Building Options Checklist, <a href="http://www.ci.minneapolis.mn.us/mdr/docs/greenbuildchecklist.pdf">http://www.ci.minneapolis.mn.us/mdr/docs/greenbuildchecklist.pdf</a>, which includes recommendations and information on installation of water efficient fixtures and rain barrels. This checklist also gives links to other green building sites.

The "Water's Off" program contributes to the overall water conservation. The Water's Off event is held each spring with volunteers from Minneapolis/St. Cloud Plumbers Local 15 donating their time to repair plumbing and retrofit old fixtures for the low-income, elderly and disabled homeowners. Contractors donate the use of their service trucks and the material for all the necessary repairs and the work is completely free to homeowners who qualify through Minneapolis community action programs. These programs supply the Water's Off committee with the names of people who meet guidelines to ensure that the people needing the help will receive it.

# **ADOPTION OF PLAN**

On July 11, 2008, the Minneapolis City Council approved submission of *The Minneapolis Plan for Sustainable Growth* to the Metropolitan Council for approval. This *Water Supply, Emergency, and Conservation Plan* is an appendix of that approved comprehensive plan. The overall comprehensive plan and this *Water Supply, Emergency, and Conservation Plan* will be formally adopted by the Minneapolis City Council upon approval by the Metropolitan Council.

A copy of the Council official proceedings approving the submission of the overall comprehensive plan may be found on pages 536 - 540 of the document posted at:

http://www.ci.minneapolis.mn.us/council/archives/proceedings/2008/20080711-proceedings.pdf

Suburban wholesale customers of Columbia Heights, Joint Water Commission (Crystal, Golden Valley, and New Hope), Edina, and Bloomington as well as St. Paul Regional Water Services were notified of the Minneapolis *Water Supply, Emergency, and Conservation Plan's* availability for on-line review from April 22 through June 30, 2008. Comments received after the review period on August 5, 2008 from the Joint Water Commission were incorporated into the revised version of this plan.

# PART IV. ITEMS FOR METROPOLITAN AREA PUBLIC SUPPLIERS

Minnesota Statute 473.859 requires water supply plans to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process. Much of the required information is contained in Parts I-III of these guidelines. However, the following additional information is necessary to make the water supply plans consistent with the Metropolitan Land Use Planning Act upon which local comprehensive plans are based. Communities should use the information collected in the development of their plans to evaluate whether or not their water supplies are being developed consistent with the Council's Water Resources Management Policy Plan.

#### **POLICIES**

Minneapolis Water Works' mission is to reliably supply high quality drinking water at affordable rates to its citizens and other customers. We believe that quality begins with treating our supply source, the Mississippi River, as a valuable natural resource.

#### IMPACT ON THE LOCAL COMPREHENSIVE PLAN

The adoption of this Water Supply Plan, aimed at reducing unnecessary demand, improving efficiency and minimizing water waste and loss, will not have any negative impact on the local comprehensive plan, community growth or economic development.

#### **DEMAND PROJECTIONS**

Demand projections for the next 30 years through the ultimate population projected for 2037 were presented in Table 5 of Part I.3. Population projections for 2010, 2020, and 2030 were from forecasts revised by City's Department of Community Planning and Economic Development in consultation with Metropolitan Council. The populations were revised upward by 1-1.5% from original Metropolitan System Statement Forecasts.

#### PLAN SUBMITTAL AND REVIEW OF THE PLAN

The plan will be reviewed by the Council according to the sequence outlined in Minnesota Statutes 473.175. **Prior to submittal to the Council, the plan must be submitted to adjacent governmental units for a 60-day review period.** Following submittal, the Council determines if the plan is complete for review within 15 days. If incomplete, the Council will notify the community and request the necessary information. When complete the Council will complete its review within 60 days or a mutually agreed upon extension. The community officially adopts the plan after the Council provides its comments.

Plans can be submitted electronically to the Council; however, the review process will not begin until the Council receives a paper copy of the materials. Electronic submissions can be via a CD, 3 ½" floppy disk or to the email address below. Metropolitan communities should submit their plans to:

Reviews Coordinator Metropolitan Council 390 Robert St, St. Paul, MN 55101 electronically to: watersupply@metc.state.mn.us



# Appendix F: Park Board Plan

# Background

The governance of the parks and recreational areas in Minneapolis is unique compared to most other municipalities in the United States. The Minneapolis Park and Recreation Board (MPRB) is a semi-autonomous body of city government, which oversees the City's park system. The MPRB has nine elected officials (Board of Commissioners), who serve four-year terms. It is the Board, rather than the City, which is responsible for maintaining and developing the Minneapolis park system and street trees.

In 2006-2007, the MPRB completed a comprehensive plan of its own, the first such initiative by this body since the 1960's. The final version of the plan was approved by its board on October 17, 2007. Due to its high level of relevance to the City's park system, the MPRB plan is included in this appendix in its entirety. Portions of the plan are also summarized in Chapter 7 – Open Space and Parks.

The MPRB plan can also be found on the MPRB website.

# Coordination Between Plans

Throughout the planning process for both the City and MPRB comprehensive plans, staff from both entities worked together to ensure the plans were consistent and complementary with one another. The MPRB primarily focused on planning for improvements on land it owns and maintains, while the City focused on lands outside of the official park system.

While each entity has its own goals, vision, and scope of influence, the two plans have much in common. There is strong potential for the two to work together into the future for the betterment of all who live, work, and play in Minneapolis.

# Comprehensive Plan

Minneapolis Park & Recreation Board



2007 - 2020

Approved October 17, 2007

#### **President**

Jon Olson, District 2

#### **Vice President**

Tracy Nordstrom, District 4

#### Commissioners

Mary Merrill Anderson, At Large
Walt Dziedzic, District 1
Bob Fine, District 6
Carol Kummer, District 5
Tom Nordyke, At Large
Scott Vreeland, District 3
Annie Young, At Large

#### Superintendent

Jon Gurban

#### Secretary to the Board

Don Siggelkow

#### **Administrative Offices**

2117 West River Road Minneapolis, MN 55411 phone 612-230-6400 fax 612-230-6500 www.MinneapolisParks.org



**Mission** The Minneapolis Park and Recreation Board shall permanently preserve, protect, maintain, improve, and enhance its natural resources, parkland, and recreational opportunities for current and future generations.

The Minneapolis Park and Recreation Board exists to provide places and recreation opportunities for all people to gather, celebrate, contemplate, and engage in activities that promote health, well-being, community, and the environment.

In 1883, the Minneapolis Park and Recreation Board was created by an act of the Minnesota State Legislature and a vote of Minneapolis residents. It serves as an independently elected, semi-autonomous body responsible for governing, maintaining, and developing the Minneapolis park system. Every four years, nine commissioners are elected to this Board – one from each of the six park districts within the city and three that serve at-large. In 2008, the Minneapolis Park and Recreation Board will celebrate 125 years of providing outstanding park and recreation services to residents and visitors of Minneapolis. As this milestone is achieved, the future is envisioned through this document.

The Board's governance structure is unique and reflects the commitment residents have made to parks and recreation in Minneapolis. Credited in part for the success of the park system, the Board's structure affords it the ability to focus on permanently preserving and protecting natural resources, parkland, and recreational opportunities for current and future city residents and visitors. Its governance powers include, but are not limited to, the ability to levy taxes and own land within and outside the City of Minneapolis.

The Minneapolis Park and Recreation Board engages many partners including government agencies, non-profit organizations, and for-profit organizations to provide an outstanding park and recreation system. A primary partner is the City of Minneapolis. The Park Board's comprehensive plan provides the City of Minneapolis with information it will need to address Metropolitan Council requirements for parks in the City's 2008 comprehensive plan update.



Dear friend of the Minneapolis park system,

The early visionaries of the Minneapolis park system made no small plans; they dared to dream. More than a century later, we still marvel at their vision as we provide ongoing stewardship of one of the finest park systems in the country. We emulate the dedication, uncompromising will to succeed, and the value they placed on providing relevant park and recreation opportunities. We continue the tradition of shaping the character of the city and enhancing the quality of life for its residents through quality parks and recreation.

As Minneapolis and the lifestyles of its residents and park visitors continue to change, the park system will also evolve, sparking new development and providing parks, programs, and services that are relevant to peoples' lives. To ensure that future generations have an opportunity to enjoy an outstanding park and recreation system, we approach the future with a focus on sustainability. It is with great pride that we set forth a direction for the Minneapolis park system in this Minneapolis Park and Recreation Board Comprehensive Plan. It is with even greater pride that we invite you to enjoy the Minneapolis park system.

"Look forward for a century, to the time when the city has a population of a million, and think what will be their wants. They will have wealth enough to purchase all that money can buy, but all their wealth cannot purchase a lost opportunity, or restore natural features of grandeur and beauty, which would then possess priceless values."

H. W. S. CLEVELAND

Sincerely,

gar Com

Commissioner Jon Olson, President

Superintendent Jon Gurban

Jon R Surbon



(Front, left-right)
Annie Young, At Large; Bob Fine, District 6;
Mary Merrill Anderson, At Large; Walt Dziedzic,
District 1
(Back, left-right)
Vice President Tracy Nordstrom, District 4;
Scott Vreeland, District 3; President Jon Olson, District 2;
Carol Kummer, District 5, Tom Nordyke, At Large

The Minneapolis Park and Recreation Board's vision for the future continues the long tradition of preserving land and emphasizes connecting people to the land and to each other. The Minneapolis park system will continue to enhance the quality of life for city residents and will play a significant role in shaping the character of the city through quality parks and recreation.

Direction from park commissioners and insights from residents, visitors, staff, and elected officials shaped the ambitious direction set forth in this comprehensive plan.

#### The Commitment and Outreach

In 2005, a two-year commitment was made to complete the comprehensive plan. The five-phase development process for the comprehensive plan is:

- Phase I Assessment
  Where are we today?
- Phase II Community Outreach and Research
  What are the current demands and needs, and what are the evolving trends?
- Phase III Comprehensive Plan Development

  Based on what is known, what outcomes are desirable?
- Phase IV Priority Setting and Decision Making
  What priorities and short- and long-term actions are in the best interests of the public?
- Phase V Implementation
  What resources should be allocated to accomplish goals?

This comprehensive plan marks the completion of the first three phases of the comprehensive planning process. Nearly 4,000 residents, visitors, and elected officials contributed to the development of this plan, and more than 100 staff have been involved in one or more phases of the comprehensive planning process.

During Phase I, staff teams collected information regarding infrastructure, demographics, and programs and services. Each team focused on creating methods or tools that could be updated regularly and would increase the park system's capacity to use this information for future planning. Six

additional teams were established during the assessment phase – information management, sustainability, planning, community outreach and research, evaluation, and art and history. Many of these teams will continue beyond the development of the plan. The focus of these teams ranges from completing inventories of artistic and historic elements of the park system to developing a sustainability plan.

When Phase II began in the fall of 2006, the community outreach and research team launched a process that gave all city residents, park users, and local elected officials the opportunity to share their thoughts about the community's park and recreation needs. The process included a questionnaire mailed to 172,300 Minneapolis households, seven town meetings, twenty focus groups, three appointed community leader workshops, and a statistically valid phone survey. The goal was to determine top community park and recreation needs.

After careful listening and analysis of comments received, the following top community needs emerged:

- Involving children and youth in positive activities
- Protecting and spending time in the natural environment
- Pursuing health and physical fitness
- Keeping parks clean and well maintained
- Providing safe parks

#### **The Direction**

Throughout the first two phases, commissioners participated in working sessions. During these sessions they articulated their vision for the future of the park system and the values that depict what the organization stands for and the manner in which it carries out its activities. The direction they set was guided by the results of the community outreach and research process. Key directions include:

Be a sustainable organization When considering how work will be conducted at the Minneapolis Park and Recreation Board, sustainability tops the list. This will require meeting current park and recreation needs without sacrificing the ability of future generations to meet their own needs by balancing environmental, economic, and equity concerns. This comprehensive plan calls for the development and implementation of a sustainability plan that will further articulate how sustainability will be integrated into the everyday work of the park system.

Provide urban forests, natural areas, and waters that endure and captivate Land, trees, and water - the foundation of the park system – require long-term investment and care. Parks are protected to benefit the entire city; therefore, all residents have a stake in the future of these resources and bear responsibility for their stewardship. The Minneapolis Park and Recreation Board is committed to providing leadership in natural resource management, connecting people to their natural environment, and fostering a sense of stewardship. The plan articulates goals and strategies that call for outstanding management of the park system's natural resources, programming that connects people with the natural environment, protection and care of boulevard trees, and development of partnerships that will further the goals of protecting natural resources and connecting people to them. It also calls for balancing the distribution of natural areas throughout the city, giving particular focus to north and northeast Minneapolis.

Deliver recreation that inspires personal growth, healthy lifestyles, and a sense of community The future calls for leadership that inspires all people to engage in recreation. In this plan, recreation includes all activities that make leisure time more interesting, enjoyable, and personally

satisfying. Furthermore this plan recognizes that the benefits of quality recreation are astonishing, ranging from the development of life-long skills to fostering community and crime prevention. The Minneapolis Park and Recreation Board is committed to enriching the lives of individuals, families, and the entire community through positive and fulfilling recreation experiences, and to offering physical, artistic, environmental, and social activities tailored to the diverse communities throughout the city. The plan calls for the development of a new community center service model that is relevant to community members, provides the personal touch and easy access of the current model, creates a social gathering space for the community, and is delivered from a sustainable number of community center hubs. The plan also sets forth goals and strategies to support the health and fitness goals of residents and to connect people to each other through recreation.

Create dynamic parks that shape city character and meet diverse community needs As the city's demographics evolve, the Minneapolis Park and Recreation Board must create parks and amenities that are flexible, sustainable, and aesthetically beautiful, and with which residents and visitors can identify. This includes recruiting and retaining a diverse workforce that reflects the city's demographics. Achieving this vision requires that the organization listen carefully, anticipate future needs, explore new operating models, and obtain new funding sources. The Park Board will continue to be a strong leader by retaining an independent focus on parks and recreation, stretching the imagination for shaping the city, and seeking partners to fulfill the mission of the organization. The plan calls for the development of park plans for areas where the city's population is growing or expected to grow. Similarly, the plan articulates a need to fill service gaps throughout the system, especially in north and northeast Minneapolis. The plan also calls for determining the service and delivery goals of existing and new recreation activities through thoughtful examination. This will allow the park system to be proactive in offering new facilities, removing outdated or under-utilized facilities, and partnering with other service providers to prevent duplication.

Maintain a safe place to play, celebrate, contemplate, and recreate Keeping the parks safe requires a long-term commitment to people and places by the Minneapolis Park and Recreation Board and its many partners. Safety, both real and perceived, is achieved through a combination of preventive and corrective measures. Delivering consistently safe parks also requires that they are well maintained and designed to prevent accidental injury. The plan calls for bolstering preventive measures that include developing ongoing relationships with park visitors, setting clear expectations of appropriate behavior in the park system, providing training to staff and visitors, and providing parks and park facilities that are safe by design.

#### The Research

The plan recognizes the need of the organization to evolve to meet the changing park and recreation needs of Minneapolis residents. The directions set in the plan are guided by the insights gained through the community outreach and research process. They are also guided by knowledge of changes in the city since the last major system-wide study, the 1965 Brightbill Study. The changes in the city that are most significant to future park and recreation delivery include:

- Demographic shifts The number of households with individuals living alone has increased from 27.6% in 1960 to 40% in 2000. During the same time period, the number of households with children has declined from 34.8 % to 25% of households. The city has also become more diverse and home to an increasing number of foreign-born residents.
- Recreation trends Adults, especially Baby Boomers, are staying active longer. Young adults raised on youth athletics are seeking to maintain active lifestyles. In addition, interest in non-traditional and self-directed recreation is rising.
- Health trends Nationally, research shows obesity and related health concerns are rising along with health care costs. Parks and recreation play an important role in supporting the active lifestyles that can reduce health concerns and bolster preventive care.

#### **Guiding Statements**

The mission, vision, and values are the guiding statements for the Minneapolis Park and Recreation Board. These statements will be connected to the work of the organization through annual budgets, work plans, and a five-year implementation plan. Progress toward achieving the vision set forth in the plan will be evaluated at an individual, organizational, and community level. The guiding statements are as follows:

The mission statement articulates why the organization exists:

The Minneapolis Park and Recreation Board shall permanently preserve, protect, maintain, improve, and enhance its natural resources, parkland, and recreational opportunities for current and future generations.

The Minneapolis Park and Recreation Board exists to provide places and recreation opportunities for all people to gather, celebrate, contemplate, and engage in activities that promote health, well-being, community, and the environment.

**The values statements** identify how the organization performs its work:

Sustainability Meet current park and recreation needs without sacrificing the ability of future generations to meet their own needs by balancing environmental, economic, and equity concerns.

**Environment** Sustain and enhance parklands, waters, and urban forests.

*Economic* Develop short-term and long-term financial stability of the park system.

*Equity* Provide residents with the opportunity to improve their quality of life and well-being through outstanding parks and recreation services that are suited to their respective needs.

- Visionary Leadership Respect the vision and leadership that built the park and recreation system and recognize the need for ongoing leadership in achieving excellence.
- *Safety* Work safely to support a thriving work environment and an outstanding park experience for visitors.

- Responsiveness and Innovation Anticipate and thoughtfully respond to the diverse needs of the city's communities, continually seeking ways to better deliver park and recreation services.
- Independence and Focus Independence allows the Minneapolis Park and Recreation Board to focus on providing and obtaining the resources necessary to accomplish its mission and form effective, responsible partnerships.

**The vision statement** describes what the organization hopes to become by 2020:

In 2020, the Minneapolis park system is a premier destination that welcomes and captivates residents and visitors. The park system and its beauty are part of daily life and shape the character of Minneapolis. Natural, cultural, artistic, historical, and recreational resources cultivate outstanding experiences, health, enjoyment, fun, and learning for all people. The park system is sustainable, well-maintained and safe, and meets the needs of individuals, families, and communities. The focus on preserving land continues, with a strong emphasis on connecting people to the land and each other. Aware of its value to their lives, residents are proud stewards and supporters of an extraordinary park and recreation system.

#### **The Promise**

This plan embraces innovation. It also communicates that ongoing learning and community outreach and research is required to provide the best park and recreation services to Minneapolis residents and visitors. The success of this vision is tied to the commitment of the Park Board, its employees and partners, and the value the public places on maintaining and improving the Minneapolis park system.

As the plan is implemented, residents and park visitors can look forward to an exciting future in which services are continually evaluated and improved to ensure community needs are met, facilities are renewed, connection with the natural environment is strengthened, sustainable practices are expanded, and parks are safe for everyone.



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#### Minneapolis residents deeply value their parks.

Founders of the system understood that parks play an essential role in a healthy, livable, and balanced city.

The Minneapolis Park and Recreation Board envisions not only preserving land, but also enhancing people's connection to the land and to each other.

Commissioners, staff, residents, and local leaders had the opportunity to share their impressions of the park system.

Setting direction until 2020, this comprehensive plan ensures the Minneapolis park system will continue to be essential to quality of life in Minneapolis.

Residents often remark that the Minneapolis park system is essential to their quality of life and to the identity of the city. Founders of the system understood the role parks play in a healthy, livable, and balanced city. They made preserving land for future generations a priority. Their success shaped the character of Minneapolis and continues to improve people's lives. This comprehensive plan builds on this strong foundation: it boldly envisions a sustainable park system that continues to be integral to the health and well-being of the city, its residents, and its communities.

Current trends suggest that the health and well-being of future generations are threatened by obesity, minimal leisure time, concerns about safety, social isolation, and separation from nature. While technology and new discoveries open up marvelous new opportunities for future generations to fulfill their dreams, they will not replace or diminish the need for personal wellness and connection to nature and one's community. Therefore, the Minneapolis Park and Recreation Board envisions not only preserving land, but also enhancing people's connection to the land and to each other.

Since 1883, the independent Park Board has and continues to serve as the guardian and advocate for parklands and natural areas throughout the City of Minneapolis. It builds and maintains a wide range of parks and recreation facilities. It also invites people of all ages and abilities to engage in a host of recreation activities, to attend community celebrations and events, and to reconnect with nature. It extends park-like beauty into every residential street through the planting and maintenance of boulevard trees. It attracts more than 14 million visitors a year, helping to support a strong local and regional economy.

In 2005, a two-year commitment was made to complete a comprehensive plan for the Minneapolis park system. Throughout 2006, commissioners, staff, residents, and local leaders had the opportunity to share their impressions of the park system, including its strengths and areas needing improvement. The vision, goals, and strategies put forth in this plan were shaped by this outreach process. Setting direction until 2020, this comprehensive plan and the organization's commitment to implementing it, ensure the Minneapolis park system will continue to be essential to quality of life in Minneapolis, and play a vital part in supporting the health and well-being of Minneapolis residents and visitors.

The vision statement and the four vision themes will guide future development, operations, and maintenance of the Minneapolis park system into 2020. A series of goals and strategies for each vision theme further guides the work of the Minneapolis Park and Recreation Board.

**Vision Statement** In 2020, the Minneapolis park system is a premier destination that welcomes and captivates residents and visitors. The park system and its beauty are part of daily life and shape the character of Minneapolis. Natural, cultural, artistic, historical, and recreational resources cultivate outstanding experiences, health, enjoyment, fun, and learning for all people. The park system is sustainable, well-maintained and safe, and meets the needs of individuals, families, and communities. The focus on preserving land continues, with a strong emphasis on connecting people to the land and each other. Aware of its value to their lives, residents are proud stewards and supporters of an extraordinary park and recreation system.



**Vision Themes** As a renowned and award winning park and recreation system, the Minneapolis Park and Recreation Board delivers:

VISION THEME I

Urban forests, natural areas, and waters that endure and captivate

VISION THEME 2

#### Recreation

that inspires personal growth, healthy lifestyles, and a sense of community

VISION THEME 3

### Dynamic parks

that shape city character and meet diverse community needs

VISION THEME 4

### A safe place

to play, celebrate, contemplate, and recreate

### Urban forests, natural areas, and waters

### that endure and captivate

"For in the end we will conserve only what we love. We will love only what we understand.

We will understand only what we are taught."

BABA DIOUM 1970 Land, trees, and water – the foundation of the park system – require long-term investment and care. Parks are protected to benefit the entire city; therefore, all residents have a stake in the future of these resources and bear responsibility for their stewardship. The Minneapolis Park and Recreation Board is committed to providing leadership in natural resource management, connecting people to their natural environment, and fostering a sense of stewardship.

#### Connection, Leadership, Stewardship

Preserving, managing, and enhancing the city's natural lands, waters, and urban forests is a core responsibility of the Minneapolis Park and Recreation Board. For more than a century, the Board has protected and preserved natural areas for future generations; monitored the quality of lakes, streams, ponds, and wetlands; and managed trees throughout parks, natural areas, and boulevards. The Park Board creates opportunities for people to experience the beauty of nature through a variety of gardens, environmental programs, and self-guided explorations. All of these efforts attract people to the natural environment and foster the next generation of stewards.



FINDINGS The following findings helped shape the goals and strategies for Vision Theme 1:

## Community Outreach and Research\*

Minneapolis residents value the natural environment and seek opportunities to preserve and spend time in nature. When asked to rate the importance of various park system amenities, residents rank natural areas and boulevard trees highest. Related amenities such as trails and environmental programming also receive high rankings. When comparing resident satisfaction and the level of importance they place on amenities and activities in the park system, the satisfaction level was significantly lower than the importance level for boulevard trees and environmental programming. This indicates additional focus is needed for these areas.

Within the natural environment, residents indicate they enjoy walking, biking, viewing nature, and picnicking. Residents indicate they want more focus on keeping parks clean, improving water quality, providing environmental programming, and preserving natural areas and boulevard trees.

## Impact of the Built Environment

As the Twin Cities area continues to grow, access to natural areas

decreases and open space becomes increasingly fragmented. Minneapolis' natural areas become refuges within otherwise developed settings. Consequently, natural areas within the Minneapolis park system are more susceptible to invasive species. Lakes, streams, creeks, wetlands, and other water bodies are especially affected by flooding, shoreline erosion, and other storm water impacts. Applying best practices in land and water management will help mitigate the impact on natural areas. Those best practices require stable, adequate funding to be effective.

#### **Sustainability**

Sustainability is most commonly associated with the protection and management of the natural environment. The Minneapolis Park Board supports the perspective that the environment, economics, and equity are equally important when considering sustainability. Therefore, sustainability is integrated throughout this document and featured specifically in the values section. A sustainability plan for the organization will further articulate how sustainability will be incorporated into the entire system.

### Disconnected from Nature

Nationally, there is growing concern that people, especially children, are losing their connection to nature. Some cite technology as directly competing for their leisure time, while others fear that technology is replacing hands-on learning with indirect learning. There is also concern that immigrant populations and people of color are not pursuing nature-based activities in their leisure time. Forging a connection between people and natural areas will help ensure the long-term stewardship of the park system and build valuable life lessons.

## **Changing Conditions and Regulations**

The park system is affected by local, regional, national, and even global changes, many of which demand the commitment of significant resources. Over the past 30 years, the park system has fought invasive species, managed specific tree diseases, and adapted to new regulatory requirements. Looking to the future, new invasive species, diseases, regulations, and the effects of pollution and climate change will require increased commitment and financial investment in managing the park system's natural resources.

<sup>\*</sup>This is a summary of the key community outreach and research results as they relate to this vision theme. Please see the Comprehensive Planning Process in Review section for more details about the outreach and research process.

## Urban forests, natural areas, and waters that endure and captivate

#### GOAL

Sound management techniques provide healthy, diverse, and sustainable natural resources.

#### STRATEGIES

- Develop and implement a natural area management plan that ensures natural areas (prairies, shorelines, and woodlands) are ecologically diverse, sustainable, and managed with scientifically-based methods, giving preference to remnant native plant communities (see Map II, page 15).
- Develop and implement management plans for all lakes and water bodies within the Minneapolis park system that ensure these resources will be protected and enhanced.
   Outline in the plan the partnerships with cities and watershed organizations that will aid in managing these resources.
- Develop and implement a land management plan for the grounds, trees, and gardens of parks and golf courses in the Minneapolis park system.
- Work with and advise the City of Minneapolis as necessary to develop an integrated tree canopy plan that is consistent with the specified roles of each governing unit in existing agreement and policy documents.
- Provide leadership and coordination with area partners and regulatory agencies in monitoring, regulating, and improving water quality and the ecological integrity of water bodies throughout the park system. Enforce regulations and policies as necessary.
- Collaborate with local, state, and federal organizations to plan for and fund ongoing ecological management and restoration.



Healthy boulevard trees connect all city residents to their park system.

- Revise and maintain the master planting plan for boulevard trees.
- Plant boulevard trees that complement the park system's natural areas and are appropriate for the conditions of the boulevard.
- Formalize a boulevard tree management plan that promotes a pleasant and safe street environment and focuses on scientifically-based methods of planting and caring for boulevard trees.
- Maximize every opportunity to reforest city boulevards.
- Work with the city to ensure that boulevard conditions and designs heighten tree longevity.







#### GOAL

Residents and visitors enjoy and understand the natural environment.

#### STRATEGIES

- Encourage people to experience the natural environment by providing and maintaining, where feasible, trails and access points that serve people of all ranges of ability.
- Provide environmental education, and naturebased recreation that encourages all people, especially children and new populations, to explore, protect, understand, and become stewards of natural areas.
- Develop a strong connection between community/neighborhood center programming and the natural areas in the regional parks.
- Provide or support other entities in providing programming that teaches residents to reduce their individual negative impact on the natural environment.

#### GOAL

People and the environment benefit from the expansion and protection of natural resources.

- Ensure day-to-day operations and construction does not damage natural resources within parklands, and require replacement when loss or damage occurs.
- Within the park system, protect natural resources recognized as significant city, regional, or national resources due to historical, ecological, or aesthetic value.
- Enforce leash laws and use of designated trails to protect sensitive ecosystems and wildlife.
- Balance public access to natural areas throughout the city, giving priority to acquiring, developing and/or restoring areas in north and northeast Minneapolis.
- Enhance natural features in neighborhood and community parks to increase residents' awareness and enjoyment of the natural environment.



## Urban forests, natural areas, and waters that endure and captivate

#### GOAL

Knowledgeable stewards and partners generously support the system's natural resources.



- Develop programming to educate residents and park visitors of the importance of preserving and properly managing natural resources for health, water, and air quality, and general environmental benefits.
- Be a resource for residents and visitors seeking information about the park system's natural resources and urban forests.
- Engage volunteers in the restoration, maintenance, and preservation of the system's natural resources.
- Lead efforts to establish public and private partnerships that enhance the Minneapolis Park and Recreation Board's management of natural areas, waters, and urban forests. Sponsor programs and events that promote exploring, protecting, and enhancing these resources.
- Strengthen opportunities for research and cooperative exchange of information with universities, state and federal agencies, and recognized experts.
- Participate in efforts sponsored by local partners that enhance the Minneapolis Park and Recreation Board's goals for managing natural areas, waters, and urban forests within the park system.



# Recreation that inspires personal growth, healthy lifestyles, and a sense of community

"Inspiration adds spice and zest to our lives and allows them to be lives not just existences".

ANNE WILSON SCHAAF

The future calls for leadership that inspires all people to engage in recreation. Recreation includes all activities that make leisure time more interesting, enjoyable, and personally satisfying. The benefits of quality recreation are astonishing, ranging from the development of life-long skills to fostering community to crime prevention. The Minneapolis Park and Recreation Board is committed to enriching the lives of individuals, families, and the entire community through positive and fulfilling recreation experiences. This will require offering physical, artistic, environmental, and social activities tailored to the diverse communities throughout the city.

#### **Healthy Fun**

Whether one wishes to walk along the river, coach a sport, help restore a park area, picnic under an oak tree, have fun on a playground, join a hockey team, create a ceramic figurine, attend a concert, or watch nature unfold, the Park Board provides a wide range of healthy recreation choices. The park system's numerous recreation and volunteer opportunities inspire people to make a difference in their own lives, in the lives of others, and to their surroundings.



#### FINDINGS The following findings helped shape the goals and strategies for Vision Theme 2:

## Community Outreach and Research\*

Overall, residents feel the Minneapolis Park and Recreation Board is doing a good job of providing for their household's park and recreation needs. Residents say it is important for the Minneapolis Park and Recreation Board to provide health and physical fitness opportunities and positive recreation activities for children and youth. They frequently mention the need for additional or improved programming, especially for children. The main barriers to participating in recreation activities and programs were lack of time and concerns about personal safety.

Residents rank recreation centers, athletic fields, programming (all ages), and athletic courts as moderately important. Program recommendations focus on providing more programming for each age group. Arts and crafts and physical fitness classes were common requests for all age groups. When considering recreation centers, some residents felt gaps exist between what recreation centers provide and what their community needs. Suggestions to improve recreation centers include:

- Heightened security
- Better or improved access to information about available programs and activities

- Cleaner, better maintained, and updated centers
- Expanded evening and weekend hours
- Restrooms open longer

Trails and environmental programming rank as very important to residents. Residents commonly request more trails of all types and emphasize the importance of keeping them well-maintained. Strategies for trails are included in Vision Theme 3 and strategies for environmental programming are in Vision Theme 1.

#### **Community Center Model**

Minneapolis residents enjoy a greater diversity of recreational interests and lifestyles than in the 1960s when the current recreation center model was designed for the park system (see Key Challenges and Opportunities section for demographic and recreation trends). The small size of existing park centers adequately served that earlier era, but no longer supports the extensive recreation needs of today's children, youth, young adults, single adults, adults, older adults, and families, making it difficult to foster community among diverse lifestyles. A new model is needed; one that retains the personal touch and easy access of the 1960s model, while effectively

meeting the recreation needs of today's diverse communities. As current centers are increasingly in need of upgrading, it is vital that this new model be sustainable, be cost-efficient, and maximize the value of existing development, operations, and maintenance resources.

(See Diagram I, page 21.)

### Health, Physical Fitness, and Wellness

Since their creation, parks have been viewed as key to the health and well-being of Minneapolis residents and visitors. The challenges facing society today may be different, but the expectations of the park system have not changed. Today's park system continues to be a positive influence by aiding individual health and fitness, and by countering obesity and related complications, isolation from community, and the stress of hectic lifestyles. Increasingly, people recognize the relationship between health care costs and lifestyle choices. Parks and recreation are a link to the active lifestyles that can have a profound affect on community wellness.

"We do not cease to play because we grow old. We grow old because we cease to play."

GEORGE BERNARD SHAW

<sup>\*</sup>This is a summary of the key community outreach and research results as they relate to this vision theme. Please see the Comprehensive Planning Process in Review section for more details about the outreach and research process.

## Recreation that inspires personal growth, healthy lifestyles, and a sense of community



People play, learn, and develop a greater capacity to enjoy life.



- Provide programming, especially for children, youth, and teens, in four key areas – physical, artistic, environmental, and social – at a level where high quality can be ensured.
- Adapt programming to busy lifestyles and make it easy for individuals and families to participate.
- Enrich physical, artistic, environmental, and social program delivery by partnering with other agencies, professionals, and providers.
- Identify and reduce physical and financial barriers to participation in programming.
- Develop connections between programming in the community/neighborhood park system and the regional park system.
- Provide opportunities to interpret the park system's history and historic features through venues that are engaging and fun for park visitors.

#### GOAL

Residents, visitors, and workers enjoy opportunities to improve health and fitness.

- Provide access and encouragement for children and youth to participate in fundamental-level athletics.
- Provide team sports for all age groups.
- Provide opportunities for self-directed recreation on land and water throughout the park system.
- Form or encourage groups and clubs that help motivate individuals to reach their health and fitness goals.
- Explore ways to integrate non-traditional recreation opportunities for all ages into the park system.
- Provide recreation opportunities that support active lifestyles for workers before, after, and/or during their workday.
- Ensure recreation opportunities are available for persons with disabilities.



#### GOAL

### People connect through parks and recreation.

#### STRATEGIES

- Offer a culturally rich selection of programs, expanding cross-cultural programming and interpretive opportunities.
- Be the source of information about recreation opportunities city-wide.
- Develop programming partnerships with groups and organizations that provide life-long learning or work readiness skills, such as community education.
- Encourage opportunities that nurture relationships, develop an understanding of differences, and develop team-building skills.
- Encourage the use of parks for public cultural, art, and history events, giving priority to those that support local artists or foster an understanding of local cultures and history.
- Create and support events, concerts, festivals, athletic events, and celebrations that can be enjoyed by the entire community.
- Tell the story of the park system through interpretive displays and programming, and by celebrating key milestones in park history.

#### GOAL

## Volunteers make a vital difference to people, parks, and the community

- Provide volunteer opportunities that are meaningful to individuals of all ages and families and further the work of the Minneapolis Park and Recreation Board.
- Promote volunteer opportunities in each park.
- Recruit neighborhood adults to be positive role models in the lives of youth through mentoring and coaching.
- Encourage and manage large scale volunteer projects that accommodate the desire of local businesses and corporations to volunteer in the community.
- Initiate, sponsor, and support city-wide volunteer projects and events.





## Recreation that inspires personal growth, healthy lifestyles, and a sense of community





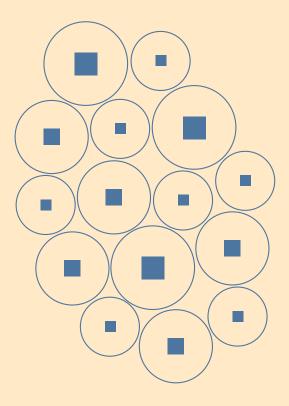
#### GOAL

Parks provide a center for community living.

- Design and implement a community center service model that is relevant to community members, provides a personal touch and easy access for all residents, creates a social gathering space for the community, and is delivered from a sustainable number of community center hubs (also a component of Vision Theme 3).
- Provide programs for family members to enjoy within the same location.
- Tailor programs and services to the demographics and needs of the community.
- Deliver programming that connects individuals to the land and to each other.

#### Diagram I:

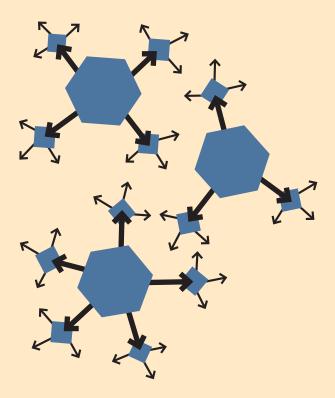
### Minneapolis Past to Present: Changing Recreation and Community Needs



#### 1960: Free-standing Recreation Centers

#### Minneapolis Characteristics at a Glance

- Relatively homogenous population (see Chart IV, page 44)
- Similar park and recreation needs in each neighborhood
- Building schools
- 34.8% of households have children (1960 Census)
- 27.6% of households have individuals living alone (1960 Census)
- No digital communications or media
- Primarily detached single family housing



#### 2007: Community Center Hub Model

#### Minneapolis Characteristics at a Glance

- More diverse population (see Chart IV, page 44)
- Larger and more diverse range of park and recreation needs across the city
- Closing schools
- 25.0% of households have children (2000 Census)
- 40.0% of households have individuals living alone (2000 Census)
- Explosion of digital world
- Increased housing in previously industrial or commercial areas of the city

# Dynamic parks that shape city character and meet diverse community needs

"...it is the duty of a Park
Commission to open the way
to new, not to follow old
customs; to lead public
opinion, and not to tag after
it."

FREDERICK LAW OLMSTED
1886

As the city's demographics evolve, the Minneapolis Park and Recreation Board must create parks and amenities that are flexible, sustainable, and aesthetically beautiful, and with which residents and visitors can identify. Achieving this vision requires careful listening, anticipating future needs, exploring new operating models, and obtaining new funding sources. The Minneapolis Park and Recreation Board will continue to be a strong leader by retaining an independent focus on parks and recreation, stretching the imagination for shaping the city, and seeking partners that will help fulfill the mission of the organization.

#### Vision, Leadership, Renewal

A rich history of visionary leadership created a legendary park system that shapes the character of Minneapolis and the quality of life for its residents. The central Mississippi riverfront is a prime example of how new development and private investment frequently follow public investment in park amenities. Plans are in place to expand this success into the upper Mississippi River area. Similarly, plans to realize a century-old vision of completing the Grand Rounds through northeast Minneapolis are in progress. To support the park system, a diverse range of funding sources, such as a park dedication ordinance and private partnerships, are being explored. Increased emphasis is being placed on sustainable practices, communication, demographic trends, and effective outreach to ensure new and renewed facilities meet the needs of current and future generations.



#### FINDINGS The following findings helped shape the goals and strategies for Vision Theme 3:

## Community Outreach and Research\*

According to residents, parks define the city and are very important to the quality of life in Minneapolis. Residents want more investment in the care and upkeep of park and recreational facilities and enhanced communication, as well as a greater connection between community needs and the services provided by the park system. They emphasize a desire for greater development and maintenance of all types of trails. Residents encourage the development of partnerships with public and private entities that further the goals of the Park Board. When considering the private sector, they recommend partnerships with local businesses and those that do not commercialize the park system.

#### State of the Park System

The Minneapolis park system is over 6,400 acres and is comprised of both regional (75% of the park system – see Map III, page 28) and neighborhood and community parks (25% of the park system). It equates to approximately 16% of the land and water in Minneapolis, and includes land in Edina, Hopkins, Golden Valley, St. Louis Park, Robbinsdale, St. Anthony, and Fridley. Significant changes to the park

system since 1920 include land acquisition along the Mississippi River to develop the central riverfront, to implement sections of the Above the Falls master plan, and to provide the first permanent headquarters for the Park Board; reconfiguration of Minnehaha Park; Leonard H. Neiman Sports Complex and Fred Wells Tennis Center; land acquisition for the Cedar Lake Trail; and the purchase and lease of land for Edward C. Solomon Park.

## Growth of the Minneapolis Park System

Future growth of the park system is anticipated in two areas - filling existing service gaps and serving new growth areas of the city. To reduce existing service gaps, the system will focus on providing parkland within walking distance for each resident and better distribution of significant amenities, especially in north and northeast Minneapolis. Growth areas of the city are typically former non-residential areas that are not well served by park amenities. Park development will focus on serving and helping to spark additional growth in these re-development areas.

#### **Funding Fluctuations**

Traditional capital improvement funding sources have diminished

for the Minneapolis park system in recent years. In 1999, the Minneapolis Park and Recreation Board developed an "Infrastructure Replacement Model" that replicated a model used by the City of Minneapolis. At that time, the assets of the neighborhood park system totaled \$147 million, resulting in an annual capital funding need of \$6 million, based on an average useful life of 20 years. A 2000 agreement between the City of Minneapolis and the Park Board was designed to increase funding for the neighborhood park system. This would have provided \$8 million from net-debt bonds and property taxes in 2004, with property tax-based funding anticipated to increase with inflation after that point.

In 2003, the City reduced the annual funding by \$4.2 million to meet other funding priorities and to cope with budget deficits it faced. Since that time, the funding commitments of the 2000 agreement have not been met. Based on current projections, neighborhood park system capital funding from 2003 to 2011 will be significantly less than the 2000 agreement (Charts I and II). Unpredictable funding levels make it difficult to project capital improvements for the system. Cultivating a diverse range of consistent funding sources will help assure a sustainable and well maintained park system.

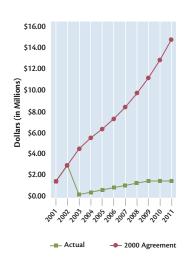
Chart I:

Actual and 2000 Agreement
for Proposed Net-Debt Bonding
for Neighborhood Parks



Source: Minneapolis Park & Recreation Board Finance Department

# Chart II: Actual and 2000 Agreement for Property Taxes for Neighborhood Parks



Source: Minneapolis Park & Recreation Board Finance
Department

<sup>\*</sup> This is a summary of the key community outreach and research results as they relate to this vision theme. Please see the Comprehensive Planning Process in Review section for more details about the outreach and research process.

## Dynamic parks that shape city character and meet diverse community needs

#### GOAL

#### Parks shape an evolving city.





- Continue to expand physical access to the Mississippi River in a manner that is aesthetically compatible with the riverfront and sensitive to ecological function, giving priority to implementing the Above the Falls Master Plan.
- Provide a well-maintained, safe, and continuous trail system (see Map III, page 28), giving priority to completing the "missing link" of the Grand Rounds Parkway (see Map IV, page 29), and providing trail connections in north and northeast Minneapolis.
- Balance the distribution of premier park and recreation features across the city, giving priority to adding features to north and northeast Minneapolis (see Map IV, page 29).
- Help shape the built form of the city by developing and/or implementing park plans to acquire parkland and build amenities in current or projected growth areas of the city: Bassett Creek Valley, Hiawatha LRT Corridor, Downtown, Southeast Minneapolis Industrial, Midtown Greenway Corridor, Upper River, Northeast Industrial, North Loop, and Central Riverfront (see *Map IV*, *page 29*). Periodically examine trends in household and population growth or shifts, and identify additional study areas as necessary.

- Ensure park access for all residents by providing parks within an easy walk from their homes (no more than six blocks) and achieving a ratio of .01 acres of parkland per household (see Map IV, page 29 for service gap study areas).
- Work with the City of Minneapolis and other entities to identify and support multi-mode transportation corridors between parks, with preference given to routes that encourage nonmotorized linkages between parks.



#### GOAL

## Park facility renewal and development respects history and focuses on sustainability, accessibility, flexibility, and beauty.

- Integrate sustainable practices, ecological design for landscapes, and green building techniques into new construction and renewal of all amenities, giving priority to those practices that meet or exceed established standards, improve ecological function, and minimize long-term maintenance and operating costs.
- Design and implement a community center hub model that serves community members, is sustainable, and taps the resources of area neighborhood, community, and regional parks (also a component of Vision Theme 2).
- Implement a sustainable, long-term renewal plan based on a complete inventory of the system, life-cycle cost analysis, and condition assessment of all park facilities.
- Systematically develop activity plans that outline the delivery goals, benefits, facilities, operations, and maintenance required to provide each major recreation activity (or group of similar activities) in the park system. Use these plans to guide capital improvement and facility maintenance programs.

- Build or renew facilities to meet or exceed standards for accessibility.
- Build quality facilities that can be adapted to new uses as community needs change.
- Maintain an inventory of historic structures, documents, landscapes, features, and archeological sites that includes site analysis, evaluation of integrity, and historic significance. Develop a management and interpretive plan for significant historic resources.
- Beautify the park system by integrating gardens and art into park designs, and provide strategically placed gardens and art displays throughout city parklands and facilities.



## Dynamic parks that shape city character and meet diverse community needs

#### GOAL

## Focused land management supports current and future generations.

#### STRATEGIES

- Maintain a vital park system for city residents with a thoughtful acquisition and disposition plan and practice.
- Acquire land that meets one or more of the following criteria (in priority order): fulfills park needs for growing areas or implements adopted park plans, meets the needs of areas underserved due to poor access or insufficient parkland acreage per household, provides trail connections or natural areas, establishes clear park boundaries, eliminates easements and leases, promotes ecological function, and secures unique sites or facilities.
- Ensure parcels considered for disposition meet one or more of the following criteria: removing the parcel does not diminish recreation or environmental function of the park system, the parcel is not accessible by the public, the parcel does not serve the needs of individuals within a growth area of the city or is not part of an adopted park plan, and the parcel is too small for future park or natural area development.
- Monitor and update lease and joint-use agreements to meet current and anticipated park and recreation needs.
- Pursue public and private partnerships to acquire, or promote access to, land for parks, open space, and recreation.
- Pursue land trades when the trade will result in equal or more parkland that will provide greater function to the park system.

#### GOAL

## Financially independent and sustainable parks prosper.

- Increase revenue and develop sustainable spending practices throughout the park system that consider the short- and long-term costs and priorities for projects, programs, or services.
- Work with necessary partners to enact and implement a park dedication ordinance to ensure new city development is adequately served with park and recreation facilities.
- Prepare for future opportunities by increasing funding reserves and establishing a park endowment fund.
- Obtain grants that further the work of the Minneapolis Park and Recreation Board.
- Engage local businesses, corporations, foundations, and individuals in sustainable partnerships that build on the value of the system without jeopardizing aesthetics or overcommercializing the public realm.
- Create opportunities for entrepreneurs, both non-profit and for-profit, to enrich the park experience and implement innovative approaches to revenue generation.
- Work with all levels of government to secure consistent, dedicated funding for park development, maintenance, and operation.
- Develop and maintain a five-year financial plan that includes disaster recovery provisions.





#### GOAL

Through outreach and research, park and recreation services are relevant today and tomorrow.

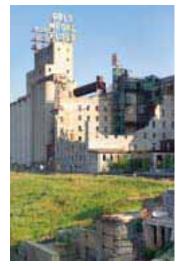
#### STRATEGIES

- Create a community outreach and research plan that focuses on identifying the park and recreation needs of the city's dynamic populations.
- Evaluate current facility and program delivery based on key indicators and park visitation to determine the best way to meet the park and recreation needs of residents and visitors.
- Regularly review social and demographic trends that affect service delivery. Be the first to identify and address new recreational needs and to reposition those recreational facilities that are no longer relevant.
- Ensure staff are prepared to engage a diverse public by training staff to be sensitive to the park system's users, recruiting bilingual staff, and recruiting and retaining people of color for staff and volunteer positions.
- Engage and involve residents in identifying the program, service, and facility needs of their respective communities.
- Anticipate and respond to the cultural diversity of the population.

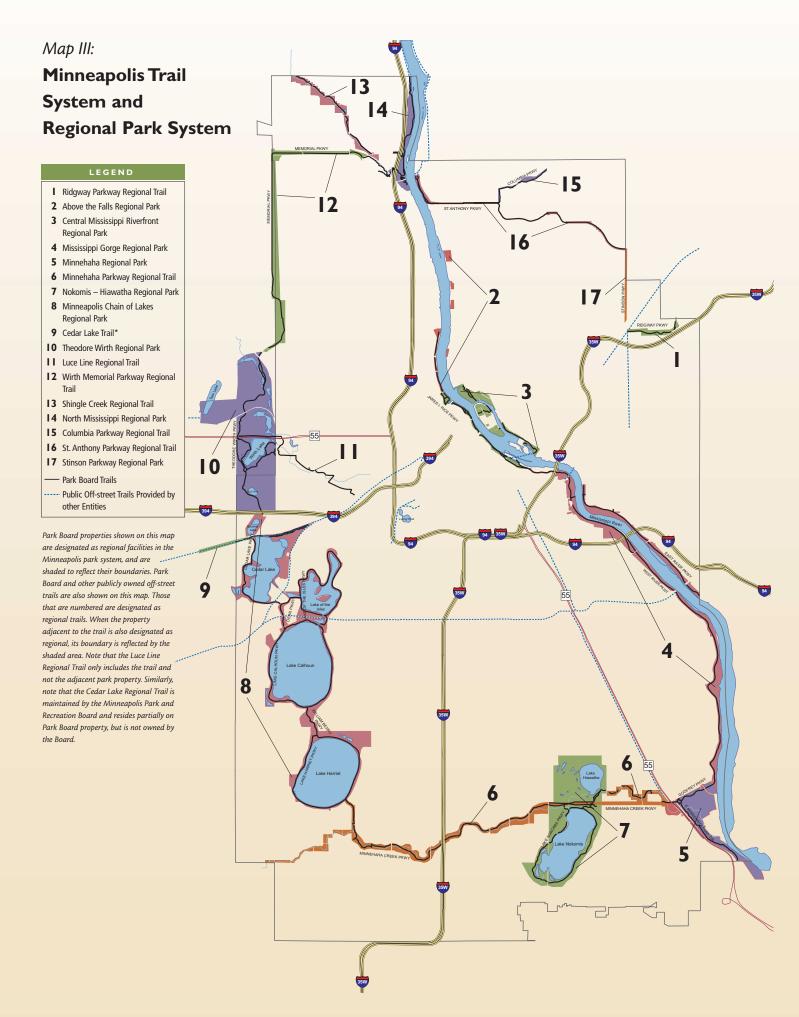
#### GOAL

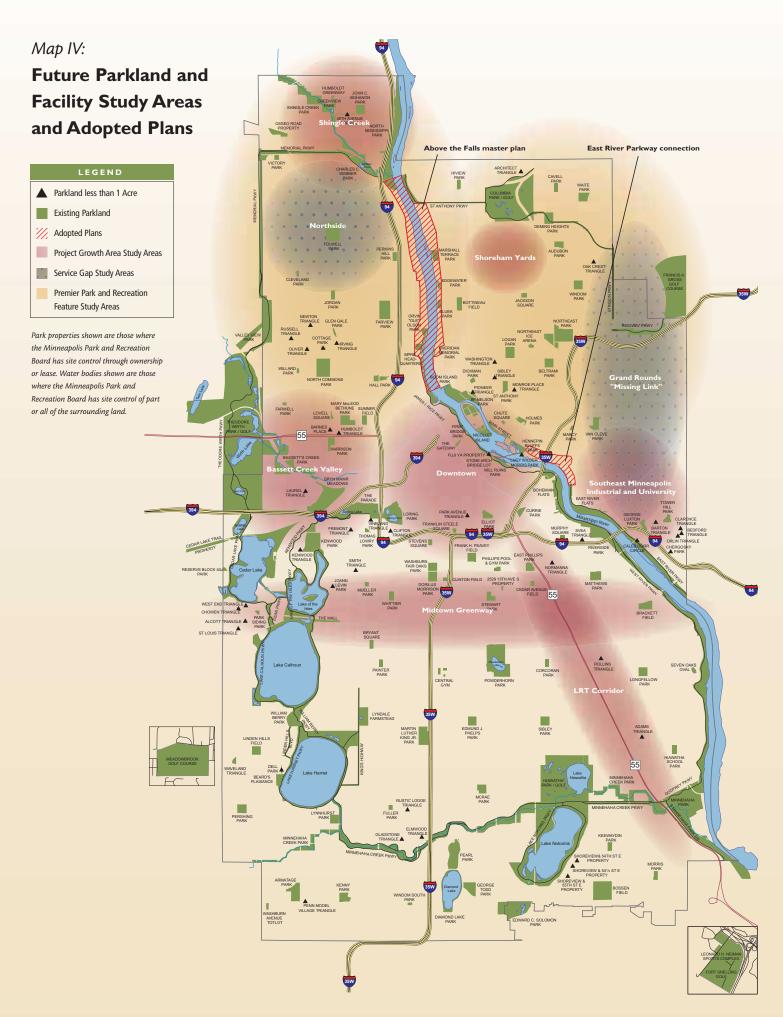
Easily accessible information supports enjoyment and use of the park and recreation system.

- Implement communication strategies to provide timely, accurate information to Minneapolis residents and park visitors, including those who do not speak English.
- Enhance technology to share information effectively and efficiently across the organization and with the community.
- Cultivate open communication with the city, county, Metropolitan Council, and other elected officials or appointed groups.
- Develop and implement a customer service program, including training, to ensure customer service techniques are applied effectively and consistently across the organization.
- Effectively utilize technology to make program registration and enjoyment of services easy.







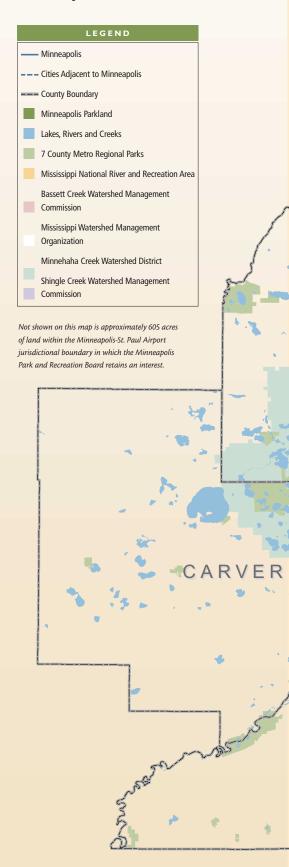


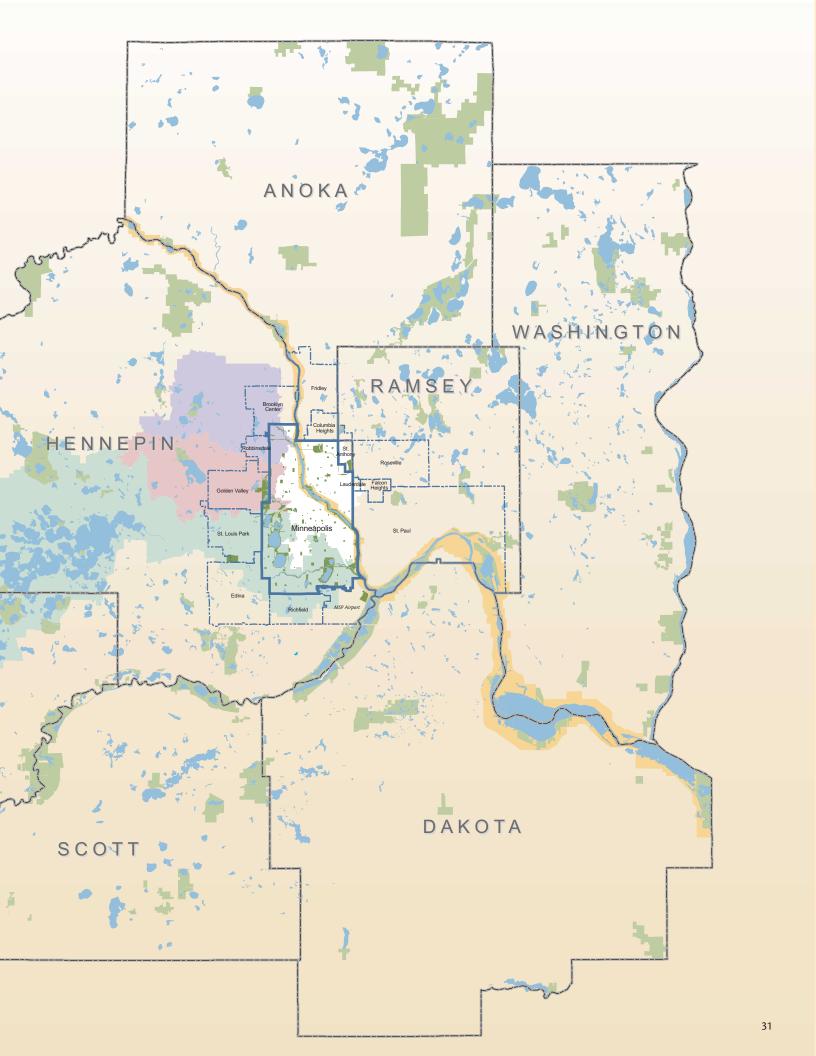
#### **Regional Connections and Pressures**

The Minneapolis Park and Recreation Board is one of ten implementing agencies that provide regional parks in the metropolitan area. Since 2000, the regional parks of the Minneapolis park system have received approximately 13.8 million visits annually: 26.8% or approximately 3.7 million of those visits are made by non-residents. As regional development and growth continues, the demand on the Minneapolis park system is expected to grow. Several watersheds and the Mississippi National River and Recreation Area also span across the Minneapolis park system, underscoring its significance regionally, as well as nationally, in providing high quality parks and recreation and protecting natural resources.

#### Мар *V*:

## Seven County Metropolitan Area





# A safe place to play, recreate, contemplate, and celebrate

"...It is my earnest desire to make the parks of Minneapolis useful and safe for the people."

THEODORE WIRTH 1921 Keeping the parks safe requires a long-term commitment to people and places by the Minneapolis Park and Recreation Board and its many partners. Safety, both real and perceived, is achieved through a combination of preventive and corrective measures. Delivering consistently safe parks also requires that they are well maintained and designed to prevent accidental injury. The Minneapolis Park and Recreation Board is committed to making choices that foster the safety and well-being of its park visitors and staff.

#### **Prevent, Protect, Welcome**

Safety within the Minneapolis park system is a core responsibility of the Minneapolis Park and Recreation Board. While its independent police force is a key factor in fulfilling this responsibility, all staff members play a vital role in keeping parks safe. Park programs inspire youth to engage positively in their communities. High standards for removing graffiti, addressing vandalism, and keeping the parks in good condition set high expectations for behavior. Park police build relationships with youth and communities, and redirect behavior through education instead of arrests and citations whenever possible. Renewal and development of new amenities are designed with safety in mind.



FINDINGS The following findings helped shape the goals and strategies for Vision Theme 4:

## Community Outreach and Research\*

Aside from lack of time, Minneapolis residents and park visitors report that their concerns about safety are the greatest barrier to using the park system. Their concerns include both personal and property safety and range from fears about offleash animals to gang activity. People want to see more police presence in parks, enhanced lighting, and a more visible staff role in park and recreation center safety.

Additional recommendations for improving the safety of the parks include:

- Greater adult presence
- Well-maintained facilities
- Clear expectations for park users
- Well-designed facilities
- Multi-cultural and bilingual staff
- Walking and activity groups
- Community dialogue about safety needs within the parks

#### **An Integrated Approach**

Park police alone cannot provide a safe park system. Each employee and park visitor plays a role in fostering a safe, welcoming environment. An approach is needed that integrates prevention through safe design, well-maintained facilities, proper training of park visitors and all park staff, clear communication, and swift modification of inappropriate behavior.

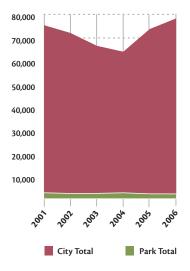
#### **City-wide Trends**

Fluctuations in crime statistics across the city play a large role in the real and perceived safety of the park system. Between 2001 and 2006, reported crimes across the city ranged from a low of 60,767 in 2004 to 76,361 in 2006. These numbers included crimes ranging from vandalism to homicides. On average 2.5% of all crimes committed in the city each year occurred in the parks (Chart III). Similar to crimes reported in the city as a whole, crimes most commonly reported in parks are vandalism and theft.

#### **Work Place Safety**

Safety at work is also important to the Minneapolis Park and Recreation Board. Staff that work safely are more likely to provide a safe environment for park visitors. Considerable time and resources are required to adequately train staff and provide a safe working environment. Work place safety is further discussed in the values section.

Chart III:
Crimes Reported in the
City of Minneapolis 2001-2006



Source: Minneapolis Park Police, Uniform crime report summary of offenses on park property 2001 to 2006

<sup>\*</sup>This is a summary of the key community outreach and research results as they relate to this vision theme. Please see the Comprehensive Planning Process in Review section for more details about the outreach and research process.

## A safe place to play, recreate, contemplate and celebrate

#### GOAL

Positive recreation experiences and welcoming parks prevent crime.



- Get to know and positively influence youth.
- Communicate clear expectations of behavior to park visitors.
- Train all staff to recognize and divert dangerous activity within the park system.
- Balance the ratio of children to adults at neighborhood, community, and regional parks by engaging all in positive activities.
- Implement a safety first policy in which programs are cancelled when established minimum safety standards are not met.
- Ensure that all staff are visible, welcoming, and positive.
- Set park hours to promote safe use of the parks and safety in the community.
- Ensure facilities are well-maintained (see park facilities renewal goal of Vision Theme 3).

#### GOAL

Residents, park visitors, and staff make safe choices in the parks.

- Educate park visitors on personal safety and actions they can take to avoid being a target of crime.
- Install clear signage that instructs park visitors to safely use or access park amenities.
- Teach drivers, pedestrians, and bicyclists the rules of the road and path safety.
- Educate residents and park visitors about the negative impacts of feeding or interacting with wild animals.
- Dedicate staff time to safety training and risk assessment to prevent accidents that can lead to injuries and lost staff time.







#### GOAL

Intervention and communication reduces safety concerns.

#### STRATEGIES

- Identify recurring safety concerns and devise new prevention plans using available resources. Eliminating a service or facility will happen only when attempts to modify the problematic behavior have failed.
- Increase visibility of park police officers.
- Modify behavior that may cause harm to persons, the environment, or property within the park system.
- Warn park visitors and staff of one-time, seasonal, and periodic hazards related to natural occurrences, environment, operating and maintenance practices, and property damage.
- Facilitate quick emergency response by installing distinguishable markers and building addresses that are recognized by 911.
- Develop and maintain a disaster recovery plan for the park system.

#### GOAL

Parks are safe and welcoming by design.

- Design parks to meet or exceed safety standards, building codes, and Crime Prevention through Environmental Design (CPTED) principles.
- Develop and implement lighting standards by park amenity to promote a safe, welcoming environment while respecting natural habitats.
- Provide access to restrooms, drinking water, bike racks, and shade throughout the park system.
- Monitor park amenities to ensure safety standards and codes are continually met, and develop plans to meet standards or remove facilities that do not meet minimum safety requirements.
- Adopt new technology proven to effectively enhance safety throughout the system.
- Work with communities and the city to provide safe pedestrian and bicycle routes to and within parks.



## **VISION THEME 4: GOALS AND STRATEGIES**

# A safe place to play, recreate, contemplate and celebrate

#### GOAL

Communities, public and private partners, and staff cooperate to promote safety.

#### STRATEGIES

- Ensure at least two adult staff are present during open building hours within neighborhood and community parks.
- Support community policing efforts.
- Cooperate with other agencies to develop an integrated approach to chronic issues within and beyond park borders.
- Work with communities to identify necessary safety improvements within parks.
- Pursue public and private partnerships to promote safety in the parks and expand available resources.



## Values guide how commissioners, staff, and volunteers do their work.

Applying the values of good conduct – respect, integrity, fairness, and dignity – sets an example for behavior within the park system.

The Minneapolis Park and Recreation Board has identified five additional values to apply to all of the work in the park system. These values are:

**Sustainability** Meet current park and recreation needs without sacrificing the ability of future generations to meet their own needs by balancing environmental, economic, and equity concerns.

**Visionary Leadership** Respect the vision and leadership that built the park and recreation system and recognize the need for ongoing leadership in achieving excellence.

**Safety** Work safely to support a thriving work environment and an outstanding park experience for visitors.

**Responsiveness and Innovation** Anticipate and thoughtfully respond to the diverse needs of the city's communities, continually seeking ways to better deliver park and recreation services.

**Independence and Focus** Independence allows the Minneapolis Park and Recreation Board to focus on providing and obtaining the resources necessary to accomplish its mission and form effective, responsible partnerships.

## Values guide how commissioners, staff, and volunteers do their work.

## **Sustainability**

Meet current park and recreation needs without sacrificing the ability of future generations to meet their own needs by balancing environmental, economic, and equity concerns.

**Environment** Sustain and enhance parklands, waters, and urban forests.

**Economic** Develop short-term and long-term financial stability of the park system.

**Equity** Provide residents with the opportunity to improve their quality of life and well-being through outstanding parks and recreation services that are suited to their respective needs.

Sustainability is a high priority for the Minneapolis Park and Recreation Board. It cannot, however, succeed in isolation as the environmental, economic, and equity concerns it faces require action on a broad scale. A sustainability plan for the system will be prepared and implemented to make sure that sustainable practices are integrated throughout the organization. This commitment to sustainability will create a diverse workforce ready to actively and creatively respond to local issues and allow the Minneapolis park system to be a role model and resource for residents and partners.

#### ACTIONS:

- Identify opportunities to test and/or showcase best practices throughout the system.
- Provide park system infrastructure at a sustainable rate.
- Reduce energy use in buildings, vehicles, and equipment.
- Purchase "green" products made from high recycled and post-consumer waste material content and focus on quality versus quantity.
- Choose economically sustainable options, taking into consideration staff time, resource use, and life span costs with the understanding that initial costs might be greater than other methods.
- Balance the economic and environmental costs and benefits of providing parks and recreation across the city.
- Reduce the release of human-made chemicals into the environment.
- Build a diverse workforce at all levels of the organization that reflects city demographics.

## **Visionary Leadership**

Respect the vision and leadership that built the park and recreation system and recognize the need for ongoing leadership in achieving excellence.

A visionary sees the future and a leader gets you there. The Minneapolis park system is the product of both vision and leadership. To further this tradition the system must recruit bright, talented staff and volunteers. It must also cultivate new leadership, encourage implementation of best practices, and provide opportunities to explore new ideas.

#### ACTIONS:

- Learn and apply best practices.
- Participate in training opportunities.
- Openly explore new ideas and trends.
- Foster new leadership.
- Share knowledge with co-workers.
- Encourage bold, effective ideas.
- Increase training opportunities.

## **Safety**

Work safely to support a thriving work environment and an outstanding park experience for visitors.

It is important to the Minneapolis Park and Recreation Board that the work of the organization be done safely. Setting and achieving high goals for safety in the workplace is essential to reducing the cost of injury and loss of staff time. Commitment to this value means that staff are trained to safely complete their work and that the working environment will be safer. As a result, it will be possible to place more focus on providing outstanding programs, services, and facilities for residents and park visitors.

#### ACTIONS:

- Dedicate staff time to safety policy development, risk management, and safety training.
- Participate in periodic safety trainings and share safety information with co-workers and park visitors.
- Support the work of the staff safety committee.
- Report and address safety concerns promptly to ensure safety of visitors and staff.
- Be visible, welcoming, and professional.
- Implement and revisit safety agreements developed by recreation, operations, and park police staff to provide safe, clean, welcoming parks.
- Eliminate on-the-job injuries by staying informed and following safety guidelines.

## **Responsiveness and Innovation**

Anticipate and thoughtfully respond to the diverse needs of the city's communities, continually seeking ways to better deliver park and recreation services.

A successful park system is relevant to the community it serves. This requires acting on knowledge of the park and recreation needs of the community, as well as providing visitors with customer service that maximizes their experience. The Minneapolis Park and Recreation Board must not only react to change, but anticipate and address it with ingenuity, creativity, and innovation.

#### ACTIONS:

- Research and report observations on the changing needs of residents, visitors, and workers.
- Provide excellent customer service with every visitor interaction.
- Stay informed and provide visitors with accurate park information.
- Systematically research and respond to trends, opportunities, and external influences.
- Look for innovative ways to better provide park and recreation services.

## **Independence and Focus**

Independence allows the Minneapolis Park and Recreation Board to focus on providing and obtaining the resources necessary to accomplish its mission and form effective, responsible partnerships.

The semi-autonomous governing structure of the Minneapolis Park and Recreation Board guarantees strong, ongoing advocacy for the park system. By continuing this governing structure, the Minneapolis Park and Recreation Board will maintain its focus on permanently preserving and protecting the parks for future generations.

#### ACTIONS:

- Understand the history of the park system and the significance of its independence.
- Ensure all work is consistent with the mission and vision for the park system.
- Seek funding to maintain the system.
- Periodically revisit and refresh the mission, vision, values, and goals of the organization to maintain a clear focus.

A unified approach to decision-making will swiftly propel the organization toward a common direction. The following decision principles will be considered when making decisions that have a district or system-wide impact.

Research conducted for this comprehensive plan reinforces the importance of basing program and facility decisions on specific community needs and the demographics of the city.

Overbuilt or under-utilized facilities will be removed and replaced with sustainable options or other amenities that better meet the needs of the community.

Decision-making will embrace technology to better serve the community.

## **Identified Community Need and Demographics**

The 2005 reorganization of the Minneapolis Park and Recreation Board better positioned staff to address the needs or requests of individual communities. The new geographically based structure brings decision-making closer to the community. The research conducted for this comprehensive plan reinforces the importance of basing program and facility decisions on specific community needs and demographics, since recreation needs vary across the city. Moving forward, emphasis will be placed on researching community need and demographics of the area. Equity, therefore, will be measured by how well a community's needs are addressed.

## **Quality versus Quantity**

The amenities provided to meet the park and recreation needs of communities will be high quality and sustainable. Overbuilt or under-utilized facilities will be removed and replaced with sustainable options or other amenities that better meet the needs of the community. Amenities that have completed their useful life-cycle, especially those with a blighted appearance, will be removed and, as funding becomes available, replaced with new amenities.

## **Embracing Technology**

Beyond gadgets, video games, and cyberspace, technology is transforming the delivery of meaningful park and recreation experiences: new artificial turf technology provides hours of play on a single surface, new playground equipment enhances a child's experience, new modes of communication increase information sharing, and renewable energy sources reduce operating costs. Decision-making will embrace technology to better serve the community.

## Fostering a New Face for Partnerships

Partnerships are commonplace for the Minneapolis Park and Recreation Board, often resulting in enhanced service delivery. Some, however, are less mutually beneficial. In the future, the Park Board will evaluate partnerships on an ongoing basis and will actively seek a new contingent of partners. The decision to enter or rejuvenate a partnership will be based on how it contributes to the organization's mission, vision, goals, and strategies. Non-traditional partners that provide new opportunities for residents and are consistent with the organization's mission will be encouraged.

## Focusing on the Activity, Then the Infrastructure

In the 1960s and 1970s, when much of the park system's infrastructure was built, the demographics of the city were considerably more homogenous than they are today. In that era, evenly spacing infrastructure across the city was an effective delivery model. Today, new recreation trends, shifting demographics, and more private recreation options highlight the need for a new model. Infrastructure decisions will begin by determining the need for a particular recreation activity and the value and service it delivers. After thorough evaluation of what the Park Board currently provides, the status of other service providers, and existing infrastructure, infrastructure will be provided to meet the service goals for that activity. Service goals for an activity will be based on demographics of an area, identified community need, and the identified target audience for the activity. See Table I (page 42) for additional details.

## Sustainable Rate

Increasing operational costs, environmental regulations, expanding requests for services, land use pressures, environmental degradation, and social disparity can create a sense of scarcity and compromise the long-term vitality of an organization. An alternative is to provide services at a sustainable rate, such as providing infrastructure that can be reasonably maintained, setting realistic program and service delivery targets, or modifying land management techniques to increase efficiency. Future decisions will support a sustainable park system that prevents crisis situations, protects the land for future generations, and actively balances services across the city.

Non-traditional partners that provide new opportunities for residents and are consistent with the organization's mission will be encouraged.

Infrastructure decisions will begin by determining the need for a particular recreation activity and the value and service it delivers.

An alternative is to provide services and infrastructure at a rate that can be reasonably maintained.

# Guidelines for Activity Delivery or Opportunities Within the Minneapolis Park System

Focusing first on the activity and then the infrastructure needed to deliver or accommodate that activity opens up new opportunities to form partnerships and to maximize the use of the resources available within the park system. It also introduces residents and visitors to new expectations for services and activities. Service goals for an activity will be based on demographics of an area, identified community need, and the identified target audience for the activity. Then, after thorough evaluation of what the Park Board currently provides, the status of

other service providers and partners, and existing infrastructure, infrastructure will be provided to meet the service goals. The guidelines below provide direction regarding the point of access residents and park visitors can expect for a particular activity. The point of access is the minimum level at which an activity is provided, with the most concentrated level being activities that people access within their neighborhood. In this model, some activities may shift between points of access over time due to changes in popularity of the activity, community needs, demographics, and funding sources.

# Table 1: Guidelines for Activity Delivery or Opportunities Within the Minneapolis Park System

# Examples: 1) Lacrosse is an emerging sport in Minneapolis. Initially a resident may be able to access this sport within the park service district in which they live. An increase in popularity may cause it to be offered at a more concentrated level such as within a resident's community or neighborhood. 2) Kayaking, canoeing, and sailing are

2) Kayaking, canoeing, and sailing a limited to areas of the park system that have publicly accessible water. A resident, therefore, can expect to access this activity within the city.

Point of Access	Guidelines
Within the city	■ The activity draws participants from across the city.
	<ul> <li>Infrastructure needed for the activity can be delivered at a sustainable rate at a city-wide level.</li> <li>The activity requires natural, artistic, or historic resources that are only available in specific locations.</li> </ul>
	■ The activity serves both local and regional park visitors.
	■ Parkland or water limitations restrict activity to one or two locations.
	■ Participants have transportation or can access transportation.
Within one or	■ The activity draws participants from across the district.
more of the three park	■ The activity is new or emerging and needs to be tested before further integration into the system.
service districts	■ The activity addresses a specific need of a park district.
	<ul> <li>Infrastructure needed for the activity can be delivered at a sustainable rate at a district-wide level.</li> </ul>
	Participants have transportation or can access transportation.
Within a	■ The activity draws participants from across the community.
community	■ The activity can help create community cohesion.
	■ The activity is well-established and in high demand.
	• Infrastructure needed for the activity can be delivered at a sustainable rate at a community-wide level.
	The activity addresses specific needs of the community.
	Participants have transportation or can access transportation.
Within a	■ The activity draws participants from across the neighborhood.
neighborhood	■ The activity is focused on children and youth.
	• Infrastructure needed for the activity can be delivered at a sustainable rate at a neighborhood-wide level.
	■ The activity addresses specific needs of the neighborhood.
	Participants do not have easy access to transportation.

This section outlines how the Minneapolis Park and Recreation Board will use this plan to guide the system to 2020. A complete review of the comprehensive plan is recommended to begin in 2018.

## **Planning for Change**

The comprehensive plan consists of a number of key elements that complement and support each other to provide simple, concise direction. Each part of the plan has a function. The mission articulates why the organization exists. This is supported by the values, which identify how the organization performs its work. Vision statements follow, describing what the organization hopes to become by 2020. Goals represent incremental steps toward accomplishing the vision, and strategies set out long-term plans or specific directions that lead to the goals. The pyramid (*see Figure I, page 45*) indicates how these separate statements support each other. Organizational implementation commitments are the base of the pyramid.

Three primary processes will ensure that the work of the commissioners and staff reflects the direction provided in the comprehensive plan. These processes are:

**Five-year Implementation Plan** The Minneapolis Park and Recreation Board will rely on a five-year implementation plan, updated yearly, as a blueprint for achieving the strategies, goals, and ultimately the vision of the comprehensive plan. This implementation plan will reflect the specific tactics, measures of success, timetables, and resources required for a five-year period.

Work Plans Each department, district, and work group will develop annual work plans that tie to the strategies, goals, and visions outlined in the comprehensive plan. Developed annually, these plans will include indicators and will help manage workflow and ensure that daily work corresponds to the direction set forth in the comprehensive plan. The actions set forth in these plans will be specific, measurable, achievable, relevant, and time-framed.

**Annual Budget** Annual budget requests by each department, district, and work group will be tied to the strategies, goals, and visions outlined in the comprehensive plan. The budgeting process will allow spending across the organization to relate to both the implementation plan and the comprehensive plan. Financial reporting will correspond to the plan's strategies, goals, and vision statements.

The implementation plan will reflect the specific tactics, timetables, and resources required for a five-year period.

Annual work plans will help manage workflow and ensure that daily work corresponds to the direction set forth in the comprehensive plan.

The budgeting process will tie spending across the organization to the implementation plan and the comprehensive plan.

Details about park management, future park development, and the goals, objectives, and strategies for providing specific recreation opportunities will be captured in separate complementary plans. These documents are:

Careful monitoring will allow commissioners and staff to determine if a selected course of action is achieving desired outcomes.

Measuring the impact of a program or project becomes increasingly important in a tightfunding climate.

An organizational performance review will measure the overall success of the organization in achieving its vision.

Future Development of Planning Documents As an overarching guiding document, the comprehensive plan calls for additional planning in several areas. This future planning will allow for greater exploration, evaluation, and community research on several topics. The resulting plans will also provide greater detail of the Board's goals and objectives in these areas. Plans identified for development in the comprehensive plan include (not an exhaustive list): a land management plan, a natural area management plan, a sustainability plan, park plans for growth areas, a communications plan, an overall physical system plan, and a recreation activity plan. These plans will be structured so they can easily be updated as social trends change, population grows and shifts, and as research reveals new best practices. Each plan will stipulate how frequently it should be reviewed and updated.

## **Measuring Progress**

Each direction suggested in the comprehensive plan may be achieved by numerous methods. The professional expertise and experience of commissioners and staff will enable the organization to achieve the vision set forth in the plan. Careful monitoring will allow commissioners and staff to determine if a selected course of action is achieving desired outcomes, allowing corrections to be made and successful outcomes celebrated. To comprehensively monitor the progress of the Minneapolis Park and Recreation Board, evaluation will be viewed from three perspectives: impact on community, organization performance reviews, and individual performance reviews.

**Community Impact** Measuring the Park Board's community impact helps determine if the community's park and recreation needs are being met. Measuring the impact of a program or project becomes increasingly important in a tight funding climate and is a key to judging the effectiveness of the comprehensive plan. Key indicators that anticipate program and project outcomes will be identified and monitored over time. The information obtained from these measurements will allow the five-year implementation plan and work plans to be adjusted appropriately to achieve the vision of the organization.

**Organizational Performance Reviews** An organizational performance review will measure the overall success of the organization in meeting its vision. Key indicators relating to the goals, vision, and values will be selected and monitored on a yearly basis. The results of the review will allow appropriate changes to be made to the five-year implementation plan and work plans.

Individual Performance Reviews Employees move the organization toward the vision set by commissioners and they will be evaluated on the work they do to achieve that vision. Employees will also be evaluated on how their work upholds the values of the organization. This tool will be used to effectively direct the skills of individuals and teams toward achieving the vision of the organization and will include opportunities for personal growth. Reviews will help identify when adjustments should be made and when achievements should be celebrated. Individual performance reviews will also help supervisors monitor workflow and keep their annual work plans on target.

Employees move the organization toward the vision set by commissioners and they will be evaluated on the work they do to achieve that vision.

## **Relationship to Other Guiding Documents**

The comprehensive plan sets a direction for the Minneapolis Park and Recreation Board through 2020. It will help apply resources to best meet the park and recreation needs of residents, visitors and workers. The Park Board's policies, ordinances, and laws pre-date this plan and address topics ranging from park classification to operating hours. These policies will be systematically updated to assure consistent direction is provided throughout the life of the plan.

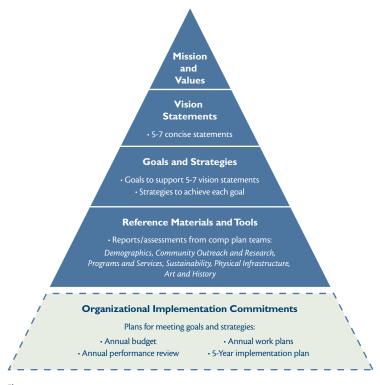


Figure 1

# The development of the comprehensive plan revealed several challenges and opportunities for the Minneapolis Park and Recreation Board. The

following circumstances will have the greatest impact on the future of the park system.

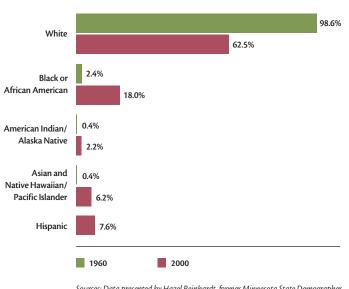
## Minneapolis is a Built City

Unlike the late 1800s when the park system was created, Minneapolis is a fully developed urban city: its boundaries are established, re-development commonly transforms former industrial space into residential, and few parcels remain that are suitable for parkland. Consequently, the high cost of land will limit the ability to add new parks to the system. At the same time, demand on the parks is expected to grow as residents and visitors throughout the region rely on them for the recreation amenities and natural resources they offer as the metropolitan area expands.

Chart IV:

Race and Ethnicity in the City of Minneapolis: 1960 and 2000

As a Percentage of Total Population\*



Sources: Data presented by Hazel Reinhardt, former Minnesota State Demographer, March 2004

## **Demographic Shifts in the City**

At a population of approximately 382,000, the city's population is smaller than it was at its 1950s peak, even though its total number of households has increased slightly. Changes in the city's population include:

- Higher number of individuals living alone (27.6% of households in 1960 to 40% of households in 2000)
- Fewer households with children (34.8% of households in 1960 to 25% of households in 2000)
- Broader race and ethnic composition (*Chart IV*)

Current projections show that households will increase by 15.2% by 2030 which is estimated to add 24,650 people to the city. Much of the development will occur in former industrial areas and along the commercial and community corridors defined by the City of Minneapolis. An evaluation of the park and recreation needs for these growing areas will be necessary.

## **Environmental Pressures**

Today, due to invasive species, tree diseases, and pollution, the management of natural areas, trees, and water bodies requires a new level of investment of both time and finances. Furthermore, the need is expected to grow as development outside of the city reduces natural resources in the metro area and as new invasive species and diseases are introduced into the parklands.

## **Regional Connections and Pressures**

Within Minneapolis, some parks are designated as regional parks (see map III, page 28). The development and maintenance of these parks are partially funded by the Metropolitan Council. The Minneapolis Park and Recreation Board is one of ten implementing agencies that provide regional parks in the metropolitan area. Since 2000, the

<sup>\*</sup> Based on one race alone except for Hispanics who are of any race.

regional parks of the Minneapolis park system have received approximately 13.8 million visits annually: 26.8% or approximately 3.7 million of those visits are made by non-residents. As regional development and growth continues, the demand on the Minneapolis park system is expected to grow. Several watersheds and the Mississippi National River and Recreation Area also span across the Minneapolis park system, underscoring its significance regionally, as well as nationally, in providing high quality parks and recreation and protecting natural resources (*see map V, page 30*).

## Signs of the Times

Local, state, national, and world events also shape the perceptions and needs of city residents and park visitors. Key factors include:

- Trends toward global conflict have led to greater interest in emergency preparedness. Park facilities provide a possible resource to city emergency preparedness plans.
- Economic trends including rising health care costs, anti-tax movements, and increasing fuel and material costs are reducing the resources available to provide park and recreation services.
- A greater understanding of the environment and recognition of climate change will increase the need for park operations and facilities to continue focusing on issues like carbon dioxide emissions and chemical use in parks.
- An increase in the appeal of public and private partnerships, which was well documented in the community outreach and research, presents an opportunity for the Minneapolis Park and Recreation Board to expand service delivery in cooperation with local businesses, and public and private entities.

## Heritage and Historic Preservation

As the park system ages, its features gain historic importance. This opens up opportunities for greater historic interpretation as well as new programming or creative new use of existing facilities. It can also increase maintenance costs and limit the introduction of new facilities into the park system. These limitations can be minimized or eliminated by integrating historic preservation into early planning stages.

## **New Recreation Trends**

Recreation is shaped by a number of factors, from shifting demographics to the introduction of new activities. Local, state, and national trends influencing recreation in Minneapolis include:

- Greater numbers of young adults are pursuing active lifestyles.
- The introduction of club sports for youth is leading to greater sport specialization and year-round engagement in one sport versus a rotation of sports throughout the year.
- Interest in traditional sports, including baseball, softball, golf, and football, is declining while interest in nontraditional sports such as skateboarding, mountain biking, soccer, disc golf, lacrosse, and cricket is increasing.
- Older adults, primarily Baby Boomers, are re-writing the script for aging by participating in active recreation decades longer than previous generations. They also have more discretionary income than previous generations, and are increasingly applying those funds toward programming and activities for their grandchildren.
- New technology is enhancing performance and delivery of existing recreation activities.
- Self-directed sports such as running and biking are popular among adults.
- More leisure time, especially among youth, is spent enjoying a multitude of media, technology, and entertainment options.
- Hobbies, gardening, history, and other self-directed activities are increasingly popular among adults.
- An increase in foreign-born residents requires focus on reducing language barriers and gaining better understanding of the recreational needs for these individuals.

While several trends indicate a growth in recreation or leisure activities, especially among adults, competition for leisure time requires greater attention to delivering programs and services that residents value. It is especially important to maintain strong public support for the park system during challenging economic periods.

# In 2005, a two-year commitment was made to complete the comprehensive plan.

A goal of the process was to identify or cultivate the expertise among staff to develop the plan, utilizing the talents of consultants as necessary. More than 100 staff have been involved in one or more phases of the comprehensive planning process. The five-phase development process for the comprehensive plan is:

- Phase I Assessment
  Where are we today?
- Phase II Community Outreach and Research
  What are the current demands and needs, and what are the evolving trends?
- Phase III Comprehensive Plan Development

  Based on what is known, what outcomes are desirable?
- Phase IV Priority Setting and Decision Making
  What priorities and short- and long-term actions are in the best interests of the public?
- Phase V Implementation

  What resources should be allocated to accomplish goals?

Phases I and II are integral to developing the plan and are highlighted below. Phase III was the actual writing of this plan and phases IV and V will be part of its implementation.

#### Phase I - Assessment

Staff teams that focused on infrastructure, demographics, and programs and services were developed during this phase. The infrastructure team conducted an inventory of park amenities. The programs and services team developed a method of categorizing the programs and services delivered in the park system and made recommendations to improve existing data collection methods. The demographics team identified demographics of the city that most impact park and recreation service delivery. Each team focused on creating methods or tools that could be updated regularly and would increase the park system's capacity to use this information for future planning.

Six additional teams were initiated during the assessment phase - information management, sustainability, planning, community outreach and research, evaluation, and art and history. The information management team continues to work to heighten the capacity of the organization to collect, store, and use the information collected by the assessment teams. The sustainability team is writing a sustainability plan that will integrate sustainability - environment, economics, and equity - throughout the park system. The planning team developed a process for reviewing and analyzing new projects or program proposals relative to the comprehensive plan. The community outreach and research team coordinated the community outreach and needs assessment for the comprehensive plan. The evaluation team is developing the processes to evaluate the park system's progress toward achieving the directions set forth in the comprehensive plan. Finally, the art and history team is developing an inventory of the artistic and historic features of the park system.

# Phase II – Community Outreach and Research

In September 2006, the community outreach and research team launched a program to give all city residents, park users, and local officials the opportunity to share their thoughts about the community's park and recreation needs. A summary of key findings as they relate to each vision theme can be found in the vision section of the document. The outreach and research process included the following:

Town Meetings The Minneapolis Park and Recreation Board invited city residents and park visitors of all ages to attend one of seven town meetings held throughout the city in September and October. The meetings were promoted through a mailing to 172,300 households, news releases to Minneapolis newspapers, neighborhood association newsletters, and the Minneapolis Park and Recreation Board website. More than 229 residents attended the meetings. Children and teens also participated in the town meetings. Park staff, with assistance from Minneapolis Institute of Art staff, provided fun, engaging, age-appropriate activities designed to capture kids' thoughts and ideas about parks. Language interpreters were provided at three town meetings and available at the other meetings upon request.

**Questionnaire** Community members and park visitors were also encouraged to complete a brief questionnaire. The questionnaire was available online, at golf courses, and at all 49 recreation centers from September 15 to October 15. In early September, all Minneapolis households were mailed an informational map about the park system that featured the questionnaire and town meeting dates. The questionnaire was interpreted into other languages upon request. In total, 2,728 questionnaires were received.

Focus Groups In order to gather input from the broadest spectrum of community perspectives, focus groups were conducted with individuals from communities who were not heavily represented through the questionnaires and town meetings. When forming the focus groups, Minneapolis Park and Recreation Board staff took into consideration communities that experience language, cultural, or physical barriers to traditional community participation formats. In total, 20 focus groups were conducted. Pre-existing Park

Board databases were used to mail questionnaires to seven additional groups. Focus groups were aimed at individuals or individuals representing groups that included the following: teens, single parents, elected officials, racial and ethnic communities\*, foreign-born communities\*, people with disabilities, vulnerable teens and adults, university students, environmental groups, local history and arts communities, active older adults, local business owners, and downtown workers and residents. Questionnaires were mailed to the following: Rec Plus parents, coaches, faith-based community groups, park facility reservation groups, sports councils, volunteers, and neighborhood organizations.

\* As defined by the 2000 U.S. Census

**Community Leader Workshops** The Park Board sought the input of people who are recognized leaders in their communities to discuss not only community needs but to provide input on some of the broad themes articulated in questionnaires and town meetings. Each Park Board Commissioner nominated three community leaders to participate in three workshops.

Phone Survey A phone survey was undertaken in order to gather statistically valid information. Questions for the phone survey were developed from responses to questionnaires, town meetings, and focus groups. The survey was conducted during December 2006 by an external market research firm. Efforts were made to ensure the survey takers closely reflected citywide demographics as detailed in the 2000 U.S. Census. The survey was administered in other languages as needed to reach foreign-born residents.



## **Activity Plans**

Plans that outline the delivery goals, benefits, facilities, operations, and maintenance required to provide each major recreation activity (or group of similar activities) in the park system.

## **Baby Boomers**

People born between (and including) 1946 and 1964.

## **Community Park**

These parks are a minimum of two blocks (6 acres) in size and provide facilities for an entire community.

## Land Management Plan

A plan that sets management guidelines for the grounds, trees, and gardens of parks and golf courses, excluding natural areas.

## **Natural Areas**

Sites that have been planted as part of a landscape plan to restore a native landscape or habitat, stabilize shorelines, reduce mowing, or improve water quality.

## **Natural Resources**

The urban forests, natural areas, and water bodies within the Minneapolis park system.

## Natural Area Management Plan

A plan that sets out the management guidelines for natural areas.

## Neighborhood Park

Parks that are one block or less in size and provide basic facilities within a neighborhood.

## **Open Space**

An undeveloped piece of land that is accessible to the public and is suitable for future development as a park, natural area, or recreation facility.

#### Recreation

Activities that a person or group chooses to do to make their leisure time more interesting, enjoyable, and personally satisfying. These activities may promote personal growth, healthy lifestyles, developing new skills, and a sense of community. Not confined solely to sports and physical activities, it includes artistic, social, and environmental activities.

## **Regional Park**

These parks are owned, operated, and maintained by the Minneapolis Park and Recreation Board, but they are also designated as part of the Metropolitan Council System of Regional Parks and Trails. These parks are usually large in size, often over 100 acres, and contain most of the natural areas in the Minneapolis park system. These parks serve regional visitors as well as Minneapolis residents. As such, they are eligible for regional funding through the Metropolitan Council. (See Map III, page 28.)

## **Remnant Native Plant Communities**

Plant communities that existed prior to European settlement. While they might be altered by invasive species and urbanization, a semblance of the original native plant community remains.

## **Sustainability**

Meeting current park and recreation needs without sacrificing future needs, by balancing environmental, economic, and equity concerns.





## Deep gratitude is extended to all those who contributed to this process. Your work will shape the future of the Minneapolis park system.

The dreams of many are captured in the Minneapolis Park and Recreation Board Comprehensive Plan. Thousands of people, including residents, park visitors, elected officials (city, county, and state), and commissioners, participated in the comprehensive planning process. The time and talent of more than 100 staff was instrumental throughout this process. Completion of this plan is the result of dedicated leadership by the Minneapolis Park and Recreation Board of Commissioners and its Superintendent.

The sincerity, dedication, team-work, and "can do" nature of those involved in developing this plan is reflective of their deep commitment to improving the lives of those who work, live, and play in Minneapolis. The effect of this type of dedication is reflected in a thank you received during the process from a local resident.

"I've always wanted to thank the park system for helping me bring up my son. We moved next to Longfellow Park when he was four. He played hockey, baseball, football, and soccer. The park staff were his mentors. They helped shape his character."

While park and recreation needs of a community will change over time, the desire and commitment to positively impact the lives of Minneapolis residents will persist. This focus on meeting the ever-changing needs of the community brought together individuals from across the city.

Selected photos provided by:
Constance Bergstedt
David Larson - MN/DOT
Paul Stafford
Peter Schmidt





# Appendix G: Heritage Preservation

## Legal Basis for Preservation

The National Historic Preservation Act (NHPA), enacted in 1966, provides the legal framework for most state and local preservation laws. Administered through the Department of the Interior – National Park Service, the NHPA established the National Register of Historic Places, authorized funding for state preservation programs with participation by local government, created the Advisory Council on Historic Preservation, and established a review process for protecting cultural resources. The NHPA provided for historic preservation offices in every state to lead state preservation initiatives and help carry out the nation's historic preservation program. Minnesota's State Historic Preservation Office (SHPO) was created by state statute in 1969 to provide statewide leadership. The director of the Minnesota Historical Society serves as State Historic Preservation Officer.

The National Register of Historic Places is the official list of national cultural resources worthy of preservation. It is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources.

A city, county or township with a qualifying heritage preservation ordinance and commission may become a Certified Local Government (CLG) by applying to the SHPO. CLG status enables the local government to apply for federal matching grants for identification, preservation, and education activities for historic properties. This local-state-federal partnership encourages the integration of historic preservation into local government policy. In order to become certified, a local government must meet several requirements, chief of which are to have enacted an historic preservation ordinance and appointed a qualified Heritage Preservation Commission. CLG responsibilities include:

- Establishing and maintaining a qualified HPC,
- Maintaining a system for identifying historic properties,
- Enforcing appropriate legislation for the designation and protection of historic properties,
- Providing for public participation in the local preservation program,
- Playing an expanded role in nominating properties to the National Register and
- Performing other agreed-upon functions delegated by the SHPO.



The City of Minneapolis established the Heritage Preservation Commission (HPC) in 1972 as an advisory body to the City Council. A year prior to that, the State of Minnesota established the St. Anthony Falls Historic District in 1971 through the Minnesota Historic District Act. The newly created HPC was charged with overseeing the St. Anthony Falls Historic District and to make recommendations to the Council for further designations and preservation of historic sites. In addition to designating properties, the HPC headed up a city-wide survey of historic sites, which resulted in list of properties recommended for designation as well as a list of properties determined to be potentially significant. Many of the locally designated landmarks and districts were designated in the early 1980s. The most recent update of the preservation ordinance was adopted in 2001.

## **HPC Regulations and Programs**

HPC regulations and programs range from the Minneapolis Preservation Ordinance to Design Guidelines to review of federally funded projects and more.

## **Historic Preservation Plans**

The City's comprehensive plan now includes a chapter dedicated to historic preservation policies and implementation steps. Prior plans included policies and implementation steps, but these policies were interspersed throughout the document.

The Preservation Plan for the City of Minneapolis, completed in 1990, is as framework for decision making about historic resources in the city. It is a guide to retain historic properties in the city and it sets policy direction for preservation objectives and implementation. The Preservation Plan helps evaluate, designate, and plan for preserving historic resources in Minneapolis. The Preservation Plan identifies broad themes, or contexts that provide for a framework in which to evaluate, designate, and plan for preserving cultural resources in Minneapolis.

## Table 1. Historic Contexts and period of significance

- 1. Architecture, 1855 to Present
  - a. Architects
  - b. Style and Technology
- 2. Business and Industry, 1821 to Present
  - a. Lumber and Flour Milling, early period
  - b. Early Lumber Milling, 1848-1899



- c. Early Flour Milling, 1821-1890
- 3. Civic, 1872 to Present
- 4. Culture, Fine and Applied Arts, 1883 to Present
- 5. Education, 1836 to Present
  - a. Public School Education, 1849 to 1942
- 6. Residential Development, 1847 to Present
- 7. Religious and Social Organization, 1830 to Present
- 8. Transportation, 1823 to Present
  - a. Railroads, 1857 to 1948

In addition to the Comprehensive Plan and Preservation Plan, the City also completes plans related to specific districts or areas with significant historic resources, such as the Minneapolis Warehouse Preservation Action Plan.

## **Minneapolis Preservation Ordinance**

The Heritage Preservation Ordinance, first adopted in 1972, outlines the regulatory and administration systems for preservation in Minneapolis. The ordinance outlines application types and processes for minor and major alternations to designated properties as well as the application process for new designations and demolitions of historic resources. The ordinance was last updated in 2001.

## **Historic Preservation Design Guidelines**

Design guidelines are in place for historic districts, individual landmarks, and signs which aid in analyzing changes to historic resources. Individual landmarks are less likely to have specific guidelines, but alterations must adhere to the Secretary of the Interior's Standards for Rehabilitation. Design guidelines identify significant building features and the appropriate treatment for their modification. District guidelines also identify appropriate design treatment for new building construction in historic districts.

## Potential Historic Resources, Historic Surveys, and Context Studies

The way in which the City of Minneapolis fulfills it role as a CLG includes conducting reconnaissance surveys, completing context studies, and maintaining records of potential historic resources. A city-wide reconnaissance surveys was originally undertaken in the last 1970s and early 1980s to document the properties deemed to be historic. Many of the existing landmarks and districts were a result of that survey. In the 2000, the City began a new survey; to document historic



resources that had "come of age" in the intervening 20 years since the original survey. Approximately half of the city has been re-surveyed.

As the city ages, newer historic resources are eligible for preservation protection. Currently, the City is completing a re-survey of potential historic resources. One of the driving forces behind the current survey is to balance the designated properties. The re-survey of the city attempts to balance the historic properties by investigating properties from the recent past, variety of geographic locations in the City, and land uses. Certain areas, such neighborhoods in and around downtown, have a wealth of designated properties. Other parts of the city have historic resources; however, many have not been identified through historic surveys. Although buildings and resources constructed after World War II are now eligible for listing on the National Register of Historic Places, there are few city landmarks representing mid-20th century history in the built environment. In addition to preserving the recent past, resources once considered unimportant, are being hailed as contributing to our City's significant history. The Midtown Greenway, a once abandoned railroad trench has experienced a rebirth as a bike and pedestrian corridor and is now on the National Register of Historic Places.

Potential historic resources are properties eligible for designation, but have not been formally designated. Throughout the year, the list of potential historic resources has been given the name the "800 List". At one time, there were approximately 800 properties listed as being potential historic resources. However in reality, the list is in the thousands and as the City ages more properties can be listed because of age or renewed interested in contexts. Properties identified in surveys and context studies are add to the Cultural Resource Management (CRM) Database.

# State and Federal Reviews (EAs, EAWs, EIS and Section 106 Reviews)

Section 106 of the National Historic Preservation Act requires federal agencies to consult with interested parties, including heritage preservation commissions, about the affects of their activities on historic properties. These evaluations can also be part of Environmental Assessments. Environmental Assessment Worksheets (EAW) and Environmental Impact Statements (EIS) are required by federal law for major projects and for the destruction of property listed on the National Register of Historic Places or the State Register of Historic Places. The City and developers are responsible for completing these all these reviews.

# City Adopted Neighborhood and Small Area Plan Policies Related to Preservation

Many neighborhood and small area plans adopted by the City have historic preservation components. Neighborhoods such as Marcy-Holmes and Whittier partially or completely contain historic districts or landmarks and include policies and implementation steps related to the continue maintenance of historic resources and guidelines for infill development. In addition, City led plans have historic



components, such as the Midtown Exchange (Sears, Roebuck & Co. Mail Order Warehouse and Retail Store) and the Grain Belt Brewery Redevelopment.

### **Education and Outreach**

Citizens from all walks of life need to be involved in efforts to communicate with each other about the value of historic resources in our community. Exchanging ideas about how to preserve the city's natural and built past should incorporate a range of approaches, from education about the importance of maintaining historic buildings to recognition and designation of previously unaccounted for historic wealth in the city. Other approaches important to success in historic preservation projects rely on technical support and citizen involvement in designation campaigns. The role of residents and property owners in identifying, preserving, protecting and adaptively reusing these buildings, is critical to keeping Minneapolis' heritage strong.

The City of Minneapolis provides a variety of preservation related education and outreach programs:

The HPC Preservation Awards Ceremony and Luncheon are held every May, in celebration of National Historic Preservation Month. Co-sponsored by the HPC and the Minneapolis Chapter of the American Institute of Architects, the awards recognize individuals, projects and community groups that promote and enhance heritage preservation in Minneapolis.

The HPC continued its long-standing tradition of offering summer walking tours. The consistently popular tours are not only a way to educate the public about the architecture and history of the city; they are also a way to instill pride in owners of historic buildings. The tours explored areas ranging from landmarks such as City Hall, to historic districts and unique non-designated historic neighborhoods to remnants of the city's once extensive streetcar system.

The HPC office, located in Minneapolis City Hall, is the depository for landmark nominations and survey forms. Survey forms typically contain a brief description of the resource/building, an approximate date of construction, a statement of significance and a photograph. For locally designated properties, the HPC office maintains records on applications for HPC approvals and minutes from HPC meetings. The HPC also maintains a collection of publications concerned with Minneapolis area history and development.

Survey, research, and rehabilitation information is available to the public during normal business hours. Those interested in researching any potential or known historic resource are encouraged to make an appointment with HPC staff to discuss their specific needs and view the HPC records.



## Criteria for Designation

Local and national criteria used to evaluate the value of historic resources and the potential for designation. While criteria for both designations are similar, there are more criteria for local designations which are location specific. Properties may be designated both local and nationally, or designated separately. Locally designated individual properties are called landmarks and nationally designated properties are listed on the National Register of Historic Places (NRHP).

The Minneapolis Heritage Preservation Ordinance establishes criteria to be considered in determining whether a property is worthy of designation as a local landmark or included in an historic district because of its historical, cultural, architectural, archaeological or engineering significance. To be eligible for local designation, a property must meet at least one of the following criteria:

- 1. The property is associated with significant events or with periods that exemplify broad patterns of cultural, political, economic or social history.
- 2. The property is associated with the lives of significant persons or groups.
- 3. The property contains or is associated with distinctive elements of city identity.
- 4. The property embodies the distinctive characteristics of an architectural or engineering type or style, or method of construction.
- 5. The property exemplifies a landscape design or development pattern distinguished by innovation, rarity, uniqueness or quality of design or detail.
- 6. The property exemplifies works of master builders, engineers, designers, artists, craftsmen or architects.
- 7. The property has yielded, or may be likely to yield, information important in prehistory or history.

To be eligible for the National Register of Historic Places, the following factors are considered: the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess several aspects of integrity: location, design, setting, materials, workmanship, feeling, and association The resource must also be associated with one or more criteria:

- 1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- 2. That are associated with the lives of persons significant in our past; or



- 3. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- 4. That have yielded, or may be likely to yield, information important in prehistory or history.

## **Preservation Partners**

In addition to local, state and federal government involvement in preservation, many other organizations are involved in preservation. Active partners in the preservation community includes agencies and organizations at the national, tribal, state and local levels as well as individuals. Private architectural and historic consulting firms also play a large role in working with property owner in redevelopment projects as well as providing research services in historic resource surveys and studies.

## **Commission Membership**

The Heritage Preservation Commission consists of eleven members who reside in Minneapolis. In addition to demonstrating knowledge and interested in historic preservation, there are specific types of representation required by the preservation ordinance. Ten members are appointed by the City Council, and one appointed by the mayor. The following professions or membership is to be represented on the HPC:

- registered architects (two members),
- real estate agent or appraiser (one member),
- resident of a registered landmark or a property in a historic district (one member),
- member of the Minneapolis Committee on Urban Environment (one member), and
- member of the Hennepin County Historical Society (one member),

## **Revenues and Expenditures**

There are limited programs available for financial assistance for property owners of historic resources. Locally designated properties generally are eligible for a federal historic preservation rehabilitation tax credits through the federal government when the property also is listed in the National Register of Historic Places or has been certified by the National Park Service as essentially meeting National Register criteria. After the 2007 legislative session, the State of Minnesota did not have a state



tax credit program and the City of Minneapolis does not offers business loans or home buying assistance based on historic status.

## Historic Districts and Landmarks

There are eleven locally designated historic districts and thirteen National Districts in Minneapolis. Buildings and other features within districts share a past which is significant either historically, culturally, architecturally, archaeologically or by virtue of engineering. Some districts are both locally and nationally designated. The number of properties within a district varies from hundreds, such as the St. Anthony Falls and Warehouse Historic District, or a few dozen, as in the Healy Block or Fifth Street Southeast Historic District. Districts are composed of buildings which contribute to the significance and integrity of the district and those that do no contribute. A number of infrastructure projects, such as bridges and watertowers, are also listed as historic, both locally and on the National Register.

## **District Details**

St. Anthony Falls Historic District is the oldest district, as well as the geographically largest. It encompasses a variety of buildings and settings, including commercial and industrial warehouses, historic milling facilities along the Mississippi River, residential Nicollet Island as well as historic and new residential areas. The Warehouse Historic District and the Harmon Place Historic District, located in Downtown Minneapolis, are in close proximity to the St. Anthony Falls Historic District and are comprised of mostly commercial buildings.

Emanating out from the area of first settlement-the central business district-residential development is represented in the Ninth Street Historic District, the Fifth Street Southeast Historic District, the Healy Block Historic District, Milwaukee Avenue Historic District, and Washburn Fair Oaks Historic District. The Steven Square Historic District represents apartment building living in the 1910's and 1920's.

The University of Minnesota Greek Letter Chapter House Historic District embodies the group living experience of fraternities and sororities surrounding the University of Minnesota. The Minnehaha Historic District encompasses Minnehaha Park including the Minnehaha Falls, and the confluence of Minnehaha Creek and the Mississippi River, an area which exemplify significant pre-history and cultural landscapes.

In addition to the local designated historic districts, Minneapolis also has historic districts only on the National Register. The Nokomis Knoll Residential Historic District, located in South Minneapolis is comprised of Tudor Revival single family dwellings, built in the 1920's and 1930's. The Minnesota Soldiers' Home Historic District is the buildings and grounds of the Veterans' Administration medical center campus. The Chicago, Milwaukee & St. Paul Railroad Grade Separation, also known as the Midtown Greenway, is also listed on the National Register. Of the locally



designated districts, seven are also on the National Register of Historic Places.

## **Local Landmarks**

There are one hundred forty-six (146) individually designated local landmarks and their historic use, location architectural style and date of construction widely vary. Many of the individual landmarks in Downtown Minneapolis are commercial, institutional or cultural, such as the Foshay Tower or the State Theater. In residential neighborhoods, many landmarks are residential, commercial, civic or religious.

While historic districts are tied together with shared characteristics, landmarks in Minneapolis span a variety of architectural styles and architects. Architectural styles popular from the 1880's through the 1930's are represented by the locally designated properties. Architects such as Frank B. Long, Frederick Kees, Serenus Colburn, William Channing Whitney, Frank Lloyd Wright and William Gray Purcell are some of the architects whose lasting designs are preserved through preservation work by the City.



Table G.1: Historic Districts in Minneapolis

Historic District Name	Local designation	State designation	National Register of Historic Places
Fifth Street Southeast Historic District	Yes		
Harmon Place Historic District	Yes		
Healy Block Historic District	Yes		Yes
Milwaukee Avenue Historic District	Yes		Yes
Minnehaha Historic District	Yes		Yes
Minnesota Soldiers' Home Historic District			Yes
Minneapolis Brewery Company Historic District	Yes*		Yes
Nokomis Knoll Residence Historic District			Yes
North Loop Warehouse Historic District**	Yes		Yes
South Ninth Street Historic District	Yes		
St. Anthony Falls Historic District***	Yes		Yes
Stevens Square Historic District	Yes		Yes
University of Minnesota Greek Letter Chapter House Historic District	Yes		
University of Minnesota Old Campus Historic District			Yes
Victory Memorial Drive Historic District		Yes	
Washburn Fair-Oaks Historic District	Yes		Yes



<sup>\*</sup>The properties in the Minneapolis Brewery Company Historic District are listed as locally designed landmarks.

Table G.2: Individual Historic Landmarks in Minneapolis

Historic Name	Address	Neighborhood
Hollywood Theater (interior)	2815 Johnson Street	Audubon Park
Smith, Lena O. House*	3905 5th Avenue S.	Bryant
Montefiore Cemetery and Chapel	4153 3rd Avenue	Bryant
White Castle #8*	3252 Lyndale Avenue S.	Carag
Adath Jeshurun Synagogue	3400 Dupont Avenue S.	Carag
Widstrom, John A., Tenement	617-21 19th Avenue S.	Cedar Riverside
Augsburg Old Main*	731 21st Avenue S.	Cedar Riverside
Kaufman, V.M.S., House	20 Park Lane	Cedar-Isles-Dean
Friedell, Aaron and Naomi, House	2700 Chowen Avenue S.	Cedar-Isles-Dean
Neils, Henry, House*	2801 Burnham Blvd.	Cedar-Isles-Dean
Hosmer Library*	347 36th Street E.	Central
Fournier House*	3505 Sheridan Avenue N.	Cleveland
Shoreham Yards Roundhouse	2800 Central Avenue	Columbia Park
Cattanach, Donald, House	1031 13th Avenue S.E.	Como
Northern Implement Company*	616 3rd Street S.	Downtown East
Advance Thresher/Emerson-Newton Co.*	700-08 3rd Street S.	Downtown East
Soo Line Building	105 5th Street S.	Downtown West

<sup>\*\*</sup>The boundaries of the National Register Warehouse District is larger than the locally designated North Loop Warehouse District.

<sup>\*\*\*</sup>The St. Anthony Falls District includes two National Register Landmarks: The Pillsbury "A" Mill and the Washburn "A" Mill Complex.



Second Church of Christ Scientist		
Tower	1115 2nd Avenue	Downtown West
Farmers and Mechanic Bank	115 4th Street S.	Downtown West
Gluek Building	14 6th Street N.	Downtown West
Smith, Alden H., House*	1400-10 Harmon Place	Downtown West
Forum Cafeteria (interior only)	18 7th Street S.	Downtown West
Milwaukee Road Depot and Freight House (interior)*	300 Washington Avenue S.	Downtown West
Flour Exchange Building*	310 4th Avenue S.	Downtown West
Minneapolis City Hall/ The Municipal Building (interior)*	315 4th Street S.	Downtown West
YMCA Central Building*	36 9th Street S.	Downtown West
Grain Exchange Building (interior)*	400-12 4th Street S.	Downtown West
Lumber Exchange Building*	423-25 Hennepin Avenue	Downtown West
Shubert Theater*	516 Hennepin Avenue	Downtown West
Masonic Temple*	524-30 Hennepin Avenue	Downtown West
Rand Tower (interior)*	527-29 Marquette Avenue	Downtown West
Ogden Apartment Hotel*	66-69 12th Street S.	Downtown West
Pantages Theater (interior only)	78 Hennepin Avenue	Downtown West
State Theater (interior)	805 Hennepin Avenue	Downtown West
Foshay Tower*	821-37 Marquette Avenue	Downtown West
Handicraft Guild Building	89-91 10th Street S.	Downtown West
Gethsemane Episcopal Church*	901 4th Avenue S.	Downtown West
Young-Quinlan Department Store (interior)	901 Nicollet Mall	Downtown West
Orpheum Theatre (interior)	910 Hennepin Avenue	Downtown West
Melrose Flats	13-23 5th Street N.E.	East Bank
Lakewood Memorial Chapel (interior)*	3600 Hennepin Avenue	East Harriet
1	·	



Wirth, Theodore, House*	3954 Bryant Avenue S.	East Harriet
Keyes, Charles Frederick, House	2225 Lake of the Isles Parkway E.	East Isles
Purcell, William Gray, House*	2328 Lake Place	East Isles
Uptown Theater (interior)	2900 Hennepin Avenue	East Isles
Old Walker Library*	2901 Hennepin Avenue	East Isles
Suburban World Theater (interior)	3022 Hennepin Avenue	East Isles
Layman's Cemetery (Pioneers & Soldiers Memorial Cemetery)	2925 Cedar Avenue	East Phillips
Moorsih Mansion Apartments	3028 James Avenue	ECCO
Legg, Harry F., House*	1601 Park Avenue S.	Elliot Park
Madison School	501 15th Street E.	Elliot Park
First Church of Christ Scientist*	614-20 15th Street E.	Elliot Park
Hinkle, William H., House	619-21 10th Street S.	Elliot Park
Band Box Diner	729 10th Street S.	Elliot Park
Fire Station #13	4201 Cedar Avenue	Ericsson
Bremer, Fredrika Intermediate School*	1214 Lowry Avenue N.	Folwell
Linden Hills Methodist & Episcopal Church	3118 49th Street W.	Fulton
Walling, Benjamin B., House*	4850 Lake Harriet Parkway W.	Fulton
Garlick-Magney House	5329 Washburn Avenue S.	Fulton
Maternity Hospital*	300 Queen Avenue N.	Harrison
Baker-Emerson House	2215 Dupont Avenue N.	Hawthorne
Concrete Block House	2611 3rd Street N.	Hawthorne
Concrete Block House	2617 3rd Street N.	Hawthorne
Concrete Block House	2619 3rd Street N.	Hawthorne
Concrete Block House	2705-07 3rd Street N.	Hawthorne



Concrete Block House	2826 4th Street N.	Hawthorne
Concrete Block House	2828 4th Street N.	Hawthorne
Concrete Block House	2831 3rd Street N.	Hawthorne
Concrete Block Rowhouse	300-14 1/2 26th Avenue N.	Hawthorne
Philander Prescott House	4458-60 Snelling Avenue S.	Hiawatha
Kenwood Water Tower	1724 Kenwood Parkway	Kenwood
Franklin, Benjamin and Cora, House	2405 22nd Street W.	Kenwood
Owre, Dr. Oscar, House*	2625 Newton Avenue S.	Kenwood
Kinnard-Haines Press Company	826 44th Avenue N.	Lind-Bohanon
Chadwick Cottages*	2617 40th Street W.	Linden Hills
Fire Station #28*	2724 43rd Street W.	Linden Hills
Linden Hills Library*	2900 43rd Street W.	Linden Hills
Lake Harriet Park Picnic Pavilion, and Women's and Men's Rest Buildings	4525 Upton Avenue S.	Linden Hills
Como-Harriet Streetcar Line*	Queen Ave. S. & 42nd St. W.	Linden Hills/CARAG
Old East Lake Library	2916 Lake Street E.	Longfellow
Christ Lutheran Church*	3244 34th Avenue S.	Longfellow
El Largo Theater	3500-06 Lake Street E.	Longfellow
Wesley Methodist Church (interior)*	101 Grant Street E.	Loring Park
MacPhail School of Music	1128 LaSalle Avenue S.	Loring Park
West Fifteenth Street Rowhouses	115-29 15th Street W.	Loring Park
Architects and Engineers Building*	1200-08 2nd Avenue	Loring Park
Swinford Townhouses/Apartments*	1213-21, 1225 Hawthorne Avenue	Loring Park
Loring Theater	1407 Nicollet Avenue S.	Loring Park
Carpenter, Eugene J., House*	300 Clifton Avenue	Loring Park



Carpenter, Elbert L., House*	314 Clifton Avenue	Loring Park
Bovey, Charles C., House	400 Clifton Avenue	Loring Park
Woman's Club of Minneapolis	410 Oak Grove	Loring Park
Basilica of St. Mary (interior)*	88 17th Street N.	Loring Park
Martin, Charles J., House*	1300 Mount Curve	Lowry Hill
Winton, C., House	1324 Mount Curve	Lowry Hill
Nott, William S., House	15 Groveland Terrace	Lowry Hill
Lind, John, House	1775 Colfax Avenue S.	Lowry Hill
Scottish Rite Temple (interior)*	2011 Dupont Avenue S.	Lowry Hill
Long, Frank B., House	25 Groveland Terrace	Lowry Hill
Gluek, John G., House & Carriage House*	2447 Bryant Avenue S.	Lowry Hill East
Stewart Memorial Church*	116 32nd Street E.	Lyndale
Backus, Charles T., House	212 36th Street W.	Lyndale
Olson, Floyd B., House*	1914 49th Street W.	Lynhurst
Wakefield, Lyman E., House	4700 Fremont Avenue S.	Lynnhurst
Parker, Charles and Grace, House	4829 Colfax Avenue S.	Lynnhurst
Grove, Frank M., House	4885 Lake Harriet Parkway E.	Lynnhurst
Florence Court	1022 University Avenue S.E.	Marcy Holmes
Cutter, B.O., House	400 10th Avenue S.E.	Marcy Holmes
Cream of Wheat Building	730 Stinson Parkway	Mid-City Industrial
Avalon Theater (interior)	1500 Lake Street E.	Midtown Phillips
Sears, Roebuck & Co. Mail Order		
Warehouse and Retail Store*	2843 Elliot Avenue S.	Midtown Phillips
Mikro Kodesh Synagogue	1000 Oliver Avenue N.	Near North
Sharei Zedeck Synagogue	1119 Morgan Avenue N.	Near North
Case-Lang House	1508 Dupont Avenue N.	Near North
	1	<u>I</u>



Lohmar, John, House*	1514 Dupont Avenue N.	Near North
Mpls. Public Library, North Branch*	1834 Emerson Avenue N.	Near North
Sumner Library (interior)*	611 Emerson Avenue N.	Near North
Bardwell-Ferrant House*	2500 Portland Avenue S.	Phillips West
Harrington, Charles M., House (interior)	2540 Park Avenue S.	Phillips West
Turnblad, Swan, House*	2600 Park Avenue S.	Phillips West
Brooberg, Frank and Karen, Residence	727 24th Street E.	Phillips West
Crowell Block	614 Lake Street W.	Powderhorn
Hafstad, Jacob, House	159 Arthur Street S.E.	Prospect Park
Fire Station #19	2001 University Avenue S.E.	Prospect Park
Willey, Malcolm, House*	255 Bedford Street S.E.	Prospect Park
Prospect Park Water Tower "Witch's Hat"*	55 Malcolm Avenue S.E.	Prospect Park
Nordstrom, John, Store	2110 24th Avenue S.	Seward
Cappelen Memorial Bridge*	Franklin Avenue Bridge	Seward/Prospect Park
Minneapolis Brewing and Malting Company*	1215 - 1220 Marshall Street N.E.	Sheridan
Little Sisters of the Poor Home for the Aged*	215 Broadway Street N.E.	Sheridan
Lein, P.W., Duplex	444-46 Madison Street N.E.	St. Anthony East
Roosevelt Library	4026 28th Avenue S.	Standish
Semple, Anne C. and Frank B., House*	100-04 Franklin Avenue W.	Steven's Square
Hewitt, Edwin H., House*	126 Franklin Avenue E.	Steven's Square
Coe, Amos B. House*	1700 3rd Avenue	Steven's Square
Menage, Louis, Cottage	1808 4th Avenue S.	Steven's Square
Newell, George R., House*	1818 LaSalle Avenue S.	Steven's Square
Van Dusen, George W., Mansion*	1900 LaSalle Avenue S.	Steven's Square



Northwester Knitting Co. (Munsingwear)*	718 Glenwood Avenue	Sumner/Glenwood
Washburn Park Water Tower*	401 Prospect Avenue	Tangletown
Harrington Beard House	5100 Nicollet Avenue S.	Tangletown
Jones, Harry W., House (Elmwood)*	5101 Nicollet Avenue S.	Tangletown
Franklin Library*	1314 Franklin Avenue E.	Ventura Village
Morse, Elisha, House (Cupola House)*	2325-27 Pillsbury Avenue S.	Whittier
Calvary Baptist Church	2608 Blaisdell Avenue S.	Whittier
Despatch Laundry Building	2611 1st Avenue	Whittier

<sup>\*</sup>Properties also on the National Register of Historic Places

Table G.3: Potential Historic Districts in Minneapolis

The City is re-surveying thanks in part to matching grant fund from the Minnesota State Historic Preservation Office. The following potential districts have been identified through reconnaissance surveys of the City. These surveys have also identified potential individual landmarks; however, due to staff concerns for private properties, this list has been omitted from this appendix. Please consult staff for more information.

Key to Map 8.2: Historic Survey Areas and Potential Historic Districts

Map ID	Potential Historic District Name
1	Oak Park Jewish Community Building Historic District
2	Purcell and Strauel Speculative Home Residential Historic District
3	Motor Place Transportation Historic District
4	Lynnhurst Residential Historic District
5	Church of the Incarnation Complex
6	Red Cedar Lane Residential Historic District
7	Washburn Park Residential Historic District



8	Lustron House Historic District
9	Homewood Historic District
10	Ascension Church Complex
11	Golden Valley Apartments Historic District
12	Prospect Park Historic District
13	Northwest Terminal Historic District
14	Minnehaha Parkway Historic District
15	Lake of the Isles Historic District
16	Greater University of Minnesota Plan Historic District
17	Mount Curve Avenue Potential Historic District
18	Groveland Addition Potential Historic District
19	Franklin/Hennepin Avenue Apartment Building Potential Historic District
20	The Mall Apartment Building Potential Historic District
21	Northeast Worker Housing Potential Historic District
22	22nd Avenue NE Brick Worker Housing Potential Historic District
23	3rd Street NE Worker Housing Potential Historic District
24	Lyndale Corners Historic District
25	Franklin/Hennepin Avenue Historic District
26	Lowry Hill East Historic District
27	Northrup King & Company
28	Potential Worker Housing Concentration



# Appendix H: Implementation

# Comparison With Other City Goals

The comprehensive plan is part of the City's larger framework of decision making and planning. As such, it is important that it is consistent with other City goals. To address this issue, a comparison was made of how the comprehensive plan addresses two major compilations of high-level goals:

- The priorities established by the Mayor to pursue during his term in office
- The <u>Minneapolis 2020 goals and strategic directions</u> adopted by the City Council, and linked to departmental business plan goals and objectives in the 2009 budget.

A summary of these comparisons is included in this appendix. The analysis shows that these approaches and goals are quite consistent with one another, although they may have some differences in scope and approach.

# Capital Improvement Program

The City has a five-year capital improvement program (CIP). Annually, City departments and independent boards and commissions prepare new and/or modify existing capital improvement proposals. The Finance Department, the CPED Planning Division and the Capital Long-Range Improvement Committee (CLIC) review the capital improvement proposals.

Participants in the process rate all proposals using a rating system with several specific criteria to create a numerical ranking for each project. Ranking criteria include conformance of the project with The Minneapolis Plan. Highest-ranking priorities are then balanced against available resources by year to arrive at a cohesive five-year capital improvements program recommendation to the Mayor. The Mayor takes the CLIC recommendations into consideration for his proposed budget that is submitted to the City Council. Finally, the City Council modifies and adopts its capital improvement program.

# Areas Funded by CIP

Funding through the city's CIP supports city policies as established in The Minneapolis Plan, including the statutory requirements for funding transportation, wastewater, water supply, and parks and open space facilities. Included in the 2009-2013 CIP are funds for:

Municipal Building Commission (city facilities)



- Library commitments to Hennepin County
- Park Board
- Public Works, including:
  - Facility improvements
  - Street paving
  - Sidewalk program
  - Bridges
  - Traffic control and street lighting
  - Bicycle trails
  - Stormwater sewers
  - Sanitary sewers
  - Water
  - Parking
  - Solid waste
- Miscellaneous other projects, including:
  - Public art
  - Information technology
  - Public safety

# **Current CIP**

A copy of the current Capital Improvement Program for 2009-2013, as shown in the City's adopted and revised 2009 budget, is included in this appendix. This is meant to be representational of current City funding priorities. However, this plan is subject to amendment and will be updated at least annually throughout the life of the comprehensive plan.

# City of Minneapolis FY 2009 Council Revised Budget

# **Capital Program**

>	Capital Budget Narrative Overview	
>	Five-Year Capital Investment Allocation	
>	Five-Year Capital Funding Summary292	
>	Accelerated Infrastructure Program	
>	2009-2013 Council Revised Capital Resources	
>	2009 Bond Redemption Levy for Capital Program	
>	Property Tax Supported Capital Allocation	
>	2009-2013 Council Revised Capital Budget	
>	2009-2013 Capital Program Descriptions	
>	Operating Cost Implications for 2009 Projects	
>	Council Revised Capital Program by Commission/Board/Department (This section shows project and funding source details as well as summary total information. All numbers are expressed in thousands.)	
>	Public Works Department Five-Year Capital Funding Summary	
>	Council Adopted Utility Rates	
>	BIS Technology Projects in the Five-Year Capital Program	
>	Miscellaneous Projects in the Five-Year Capital Program	
>	2009-2013 Capital Budget Decision Summary	
>	Glossary of Terms & Abbreviations for the Capital Program	

#### City of Minneapolis

## 2009 - 2013 Capital Program

# Capital Budget Narrative Overview

#### CAPITAL IMPROVEMENT BUDGET DEVELOPMENT

The City has a five-year capital improvement plan (CIP). Annually, City departments & independent boards and commissions prepare new and/or modify existing capital improvement proposals. The Finance Department, the Planning Division of the Community Planning & Economic Development department (CPED) and the Capital Long-Range Improvement Committee (CLIC) review the capital improvement proposals.

CLIC is a citizen advisory committee to the Mayor and City Council. The committee is authorized to have 33 appointed members, composed of two members per Council Ward and seven at-large members appointed by the Mayor. The committee elects a Chair and Vice Chair and breaks itself into two programmatic task forces of approximately the same number of members. Each task force elects a Chair and Vice Chair. Collectively, these six elected members form the Executive Committee and represent CLIC in meetings with the Mayor and City Council.

The two task forces are currently titled "Transportation" and "Human Development". The task forces receive and review all Capital Budget Requests (CBRs) for their program areas as submitted by the various City departments, independent boards and commissions.

During several half-day or full-day meetings, departments and boards formally present their needs and offer explanations for their requests. Task force members then rate all proposals using a rating system with specific criteria and create a numerical ranking for each project. Highest-ranking priorities are then balanced against available resources by year to arrive at a cohesive five-year capital improvements program recommendation to the Mayor and City Council.

For this five-year plan covering years 2009 - 2013, there were 89 CBRs reviewed and rated. The total requested capital budget for the five years was \$529.2 million.

CLIC's recommendations serve as the basis from which the Mayor and City Council's decisions are made. The Mayor makes recommendations on the capital budget as well as the operating budget. The Council adopts the five-year capital plan simultaneously with the operating budget.

#### HIGHLIGHTS OF THE 2009-2013 CAPITAL IMPROVEMENT PLAN

**Five-Year Capital Program Totals:** For 2009 – 2013, the five-year capital program for City departments, independent boards and commissions totals \$521.7 million including all funding sources. The 2009 portion of this program is \$107.6 million. Property tax supported net debt bonds (NDB) help to leverage many funding sources in the five-year plan. Below are highlights of certain NDB totals (in millions) - more details are contained later in this document.

Accelerated Infrastructure Program: In addition to the property tax supported funding indicated, this budget includes an accelerated infrastructure program of \$31.85 million over the five years to provide additional investment in paving projects, street lighting, parkway paving, parkway lighting, pavement and bikeway maintenance and park infrastructure improvements. Funding for this accelerated program is coming from the use of Hilton Trust funds, net debt bonds and related assessments – see details later in the document. Park Board is receiving 10% of the new accelerated program funding because their assets are approximately 10% of the City's total assets.

	2009	2010	2011	2012	2013	<b>Totals</b>
Paving	\$4.85	\$4.85	\$4.85	\$4.85	\$4.15	\$23.55
Lighting	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$5.30
Bike Trail Maintenance	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.50
Park Infrastructure	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$2.50
Total Accelerated Infrastructure Program	\$6.51	\$6.51	\$6.51	\$6.51	\$5.81	\$31.85

**Property Tax Supported – Public Works:** The 2009 budget includes \$12.47 million in property tax supported (NDB) funding for Public Works capital. Below is a summary of the 2009 -2013 NDB allocation for the Public Works infrastructure program, including some Park related assets.

	2009	2010	2011	2012	2013
Net Debt Bond funding	\$12.47	310.41	\$9.81	\$14.05	13.97

Park Board Infrastructure Funding: The 2009 budget includes \$2.14 million for Park Board Infrastructure improvements including \$1.5 million of Park capital levy dollars, \$.14 million of net debt bonds and \$.50 million of capital expansion funding. Also shown are \$2.99 million of net debt bonds, assessments and expansion funding programmed in the public work's capital budget for parkway paving and parkway lighting programs. Below is a summary of the total 2009–2013 funding for park board capital improvements. The Park Capital Infrastructure line includes \$1.5 million of capital levy, \$.5 million of expansion funding and the balance for each year is net debt bonds.

	2009	2010	2011	2012	2013
Park Capital Infrastructure	\$2.14	\$2.35	\$2.40	\$2.00	\$2.00
Parkway Paving	\$2.71	\$0.16	\$0.16	\$0.71	\$0.71
Parkway Lighting	\$0.29	\$0.30	\$0.30	\$0.30	\$0.30
Total Park Board Capital Improvements	\$5.14	\$2.81	\$2.86	\$3.01	\$3.01

**Property Tax Supported – Miscellaneous and BIS Technology Projects:** The 2009 budget includes \$4.50 million in property tax supported funding for these categories. Projects include public art, technology related improvements and physical building, office space and security improvements for Police, Fire and other City buildings. Capital spending in these areas impact the City's capacity to maintain and improve the transportation network. These categories utilize 22.3% of the available net debt bond funds in the five-year plan. Below is a summary of the 2009 -2013 net debt funding for miscellaneous and technology projects.

	2009	2010	2011	2012	2013
Net Debt Bond funding	\$4.50	\$3.21	\$5.28	\$3.42	\$3.91

*Utility Fee Supported Capital:* The 2009 - 2013 budget includes funding for additional water and sewer related infrastructure expenditures. The utility rates proposed for 2009 – 2013 are higher than last year's adopted plan primarily due to increasing the inflation assumption for future operating cost increases from 3% to 4% to reflect the unique cost increases in these activities. In addition, the rate recommendations accelerate improvement of the cash positions in the enterprise funds to be in compliance with City financial policies. Sanitary sewer fee increases were primarily due to increased capital expenditures required in response to Metropolitan Council demands for less "clean" water in the Sanitary System and increased treatment costs. Rate details for the Sewer and Water funds can be found later in this document.

Relationship between the Capital and Operating Budgets: As part of each capital budget request, departments and independent boards are required to identify whether the capital request will result in an increase or decrease in annual operating costs. The CLIC ranking process provides for adding or subtracting up to 25 points out of 310 for operating cost implications. Proposals indicating an increase in operating costs without a clear definition of how the costs will be funded stand to lose points and those that reduce annual operating costs or have a responsible strategy to pay the increased costs may receive positive points in the project rating process.

#### CITY DEBT

Minneapolis' total general obligation debt decreased from \$1.146 billion at 12/31/2007 to \$1.094 billion at 12/31/2008.

#### 2008 Bond & Note Issuances – amounts in thousands

In 2008, the City of Minneapolis issued bonds & notes totaling \$76,513. Of this amount, \$12,360 was issued to refund existing debt. Below are details of the 2008 debt issuances.

In March 2008, the City issued \$2,770 of General Obligation Tax Increment Bonds (Midtown Exchange), Series 2008 to finance certain public redevelopment costs associated with Midtown Exchange mixed-use redevelopment project. The bonds were used to provide financial assistance to the developer of the rental housing component of the project. The bonds are tax exempt and were issued in fixed rate mode with interest rates ranging from 4.00% to 5.00% and a final maturity date of March 1, 2032.

In March 2008, the City also issued \$12,360 of Taxable General Obligation Tax Increment Refunding Bonds (Laurel Village), Series 2008. Proceeds of the refunding bonds were used to advance refund \$11,880 of principal for the General Obligation Tax Increment Refunding Bonds, Series 2003 (Laurel Village) leaving \$7,100 of the 2003 series outstanding. This refunding was not performed for interest savings but rather to convert a portion of the outstanding debt from tax exempt to taxable mode to be in compliance with IRS regulations. The taxable bonds were issued in fixed rate mode and had interest rates ranging from 4.00% to 4.85% and a final maturity date of March 1, 2018.

In May 2008, the City issued \$38,810 of General Obligation Various Purpose Bonds, Series 2008 to support the five-year capital plan. These bonds were issued for a variety of public works infrastructure improvements, park, library, municipal building commission, technology and sewer, water and parking ramp improvements. The 2008 Series, Various Purpose Bonds were issued in fixed rate mode and had interest rates ranging from 4.00% to 5.00% and a final maturity date of December 1, 2015.

In May 2008, the City also issued \$11,605 of General Obligation Library Bonds, Series 2008 to provide resources for improvements to Community Libraries as part of a voter approved referendum in the fall of 2000. With this issuance, the City has completed it's commitment of \$110 million for the Central Library and \$30 million for the community library system. The Minneapolis Public Library system was transferred to Hennepin County effective January 1, 2008. As part of the merger agreement, the city is obligated to provide a prescribed level of funding through 2011 for improvements to the previously city owned libraries. The Library bonds were issued in fixed rate mode and had interest rates ranging from 3.00% to 3.50% and a final maturity date of December 1, 2016,

In November 2008, the City issued \$7,725 of General Obligation Improvement Bonds, Series 2008 for construction of various special assessment projects including street reconstruction, renovation and resurfacing, alley improvements, streetscape improvements and areaway removals. The Improvement Bonds were issued in fixed rate mode and had interest rates ranging from 3.25% to 4.75% and a final maturity date of December 1, 2028.

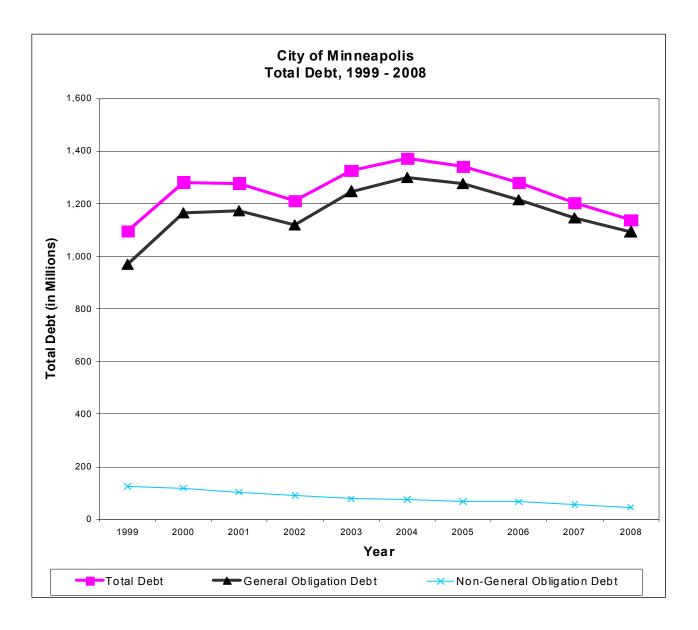
#### 2008 Notes Issued

In December 2006, the City issued a \$13,500 General Obligation Water Revenue Note to the Minnesota Public Facilities Authority as part of a federally sponsored below market financing program related to the Safe Drinking Water Act. The note subsidy program is being used to finance construction of two ultrafiltration water plants. The subsidized interest rate is 2.60% with a final maturity date of August 20, 2026. During 2008, the City received additional note proceeds of \$3,243 to reimburse project expenses. With principal payments and new draws, this note had an ending balance at December 31, 2008 of \$7,744. At December 31, 2008, the outstanding debt on the four notes in this program was \$68,294.

#### **Debt Trends**

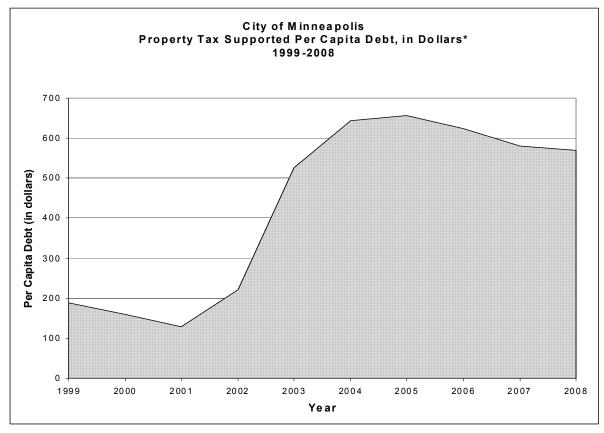
Management of the City's debt involves consideration not only of the absolute amount of debt, but also attention to yearly trends in the relationship of the debt to other financial measures. For purposes of the charts below, Mortgage Revenue bonds and General Agency Reserve Fund System bonds of CPED are not included as City Debt.

The accompanying chart shows a ten-year history of the total City debt level for years 1999 - 2008. The total includes general obligation debt, backed by the full faith and credit of the City, and non-general obligation debt, which currently includes only tax increment revenue bonds.



#### PER CAPITA DEBT

The chart below showing general obligation debt per capita shows progress in reducing debt supported by property taxes from 1998 through 2001. Part of the reduction in 2000 is due to the census revision in the reported population from 358,610 to 382,618. From 2002 - 2005, the City issued significant tax supported debt to fund the Library Referendum capital program and to pay unfunded pension obligations for the City's three closed pension funds - the Minneapolis Police Relief Association (MPRA), Minneapolis Fire Relief Association (MFRA) and Minneapolis Employee Retirement Fund (MERF) resulting in a spike in the debt per capita. The reductions in 2006 and 2007 are partially due to the City using one-time resources to accelerate the pay down of all categories of property tax supported debt including net debt infrastructure bonds and library referendum and pension bonds.



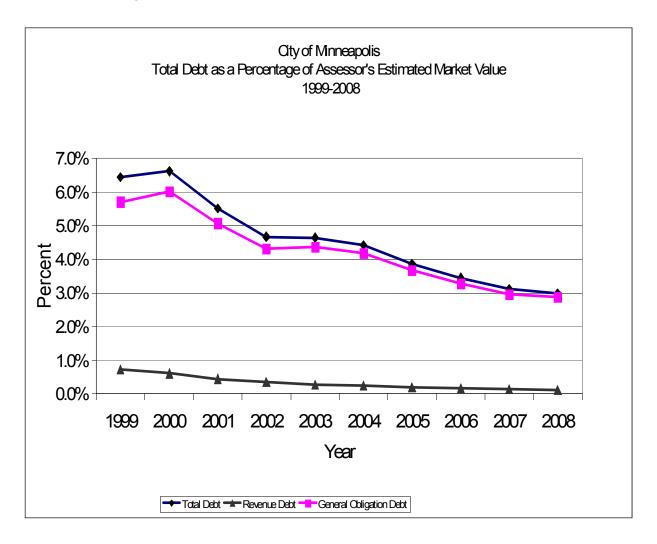
<sup>\*</sup> Figures shown are adjusted indebtedness, which represents the total general obligation indebtedness of the City less that indebtedness supported by revenues other than general property taxes. Funding from self-supporting enterprises of the City offset a portion of the property tax supported pension related debt included above. Population figures used in this graph come from the official census in 2000 or from data provided by the Metropolitan Council for the other years.

#### **DEBT CAPACITY - TOTAL DEBT**

The primary goal of the City's debt management effort is to maintain ability to incur debt at low interest rates without endangering ability to finance essential City services.

The key management ratio used in monitoring total debt is total debt outstanding as a percent of estimated full market value of Minneapolis' taxable property. The ratio of total outstanding debt to the Minneapolis City Assessor's market value of taxable property equaled an estimated 3.0 percent in 2008, 0.1 percent lower than the previous year and the Total Debt applicable to this calculation declined by approximately \$62 million during the last year.

The chart below shows 2000 as the highest total debt/market ratio due to one of the higher total debt levels coupled with lower property values. Total Debt levels continued to increase from 2000 to 2004, with the exception of 2002 but the impact of these higher debt levels were more than offset by a continuing increase in the market value of the City's taxable property. The peak debt level was reached in 2004 at \$1.37 billion and has been falling each year to \$1.14 billion by the end of 2008, a \$230 million decrease. Property valuations grew during the 2004 – 2007 period continuing the favorable trend line.



# COMPUTATION OF THE CITY'S LEGAL DEBT MARGIN

The following is the estimated computation of the legal debt margin to be reported in the City's Comprehensive Annual Financial Report for December 31, 2008.

	Dollars in Thousands
Real Property (2008 Market Value)	\$ 38,254,250
Personal Property (2008 Market Value)	391,881
Adjustment for Exempt Personal Property (1966 Market Value)	298,030
Adjustment for Net Fiscal Disparities (Contribution)/Distribution	241,645
Total Assessed Value	39,185,806
Debt Limit (3-1/3% of Market Value Applicable to Debt Limit)	\$ 1,306,194
General Obligation Bonds Subject to Debt Limit:	
Supported by Property Tax Levy Supported by Special Assessments:	247,525
Park Diseased Trees	1,080
Self-Supporting (Supported by Internal User Charges):	
Management Information Systems	34,415
Park Board - Land acquisitions & athletic field development	10,170
Public Works Fleet and Equipment	29,835
Property Fund	7,415
Self-Insurance Fund	- 200 440
Total General Obligation Bonds Subject to Debt Limit	330,440
Less: Estimated Assets in Debt Service Fund at 12/31/08	 (27,668)
Total Debt Applicable to Debt Limit	 302,772
Legal Margin for New Bonds Subject to Debt Limit	\$ 1,003,422

## **SUMMARY OF OUTSTANDING CITY DEBT**

Long-term liabilities at December 31, 2008 are detailed below.

									Amounts
	Balanc	е				Bala	ance	Dι	ue Within
Governmental activities:	1/1/200	8	Additions	Re	etirements	12/31/2	2008	(	One Year
Bonds and Notes									
Property Tax Supported GO Bonds*	\$ 248,30	5 \$	28,970	\$	29,750	\$ 247	,525	\$	17,750
Self Supporting GO Bonds	242,40	0	-		8,425	233	,975		8,810
GO Improvement Bonds	44,43	5	8,225		5,850	46	,810		6,120
Tax Increment GO Bonds	166,21	0	15,130		25,370	155	,970		10,555
Revenue Bonds	56,30	6	-		10,659	45	,647		9,667
Revenue Notes	22,73	4	-		443	22	,291		465
Internal Service Fund Related GO Bonds	76,03	5	1,560		5,930	71	,665		11,220
Total Governmental Bonds and Notes	856,42	5	53,885		86,427	823	,883		64,587
Business-type activities:									
Bonds and Notes									
Stormwater Fund GO Bonds	33,62		3,635		8,620		,635		7,096
Sanitary Sewer Fund GO Bonds	6,03		5,500		1,200		,336		1,689
Water Fund GO Bonds	24,17	7	10,250		5,630	28	,797		4,926
Water Fund GO Note	66,35	1	3,243		1,300	68	,294		1,925
Municipal Parking Fund GO Bonds	238,15	0	-		36,025	202	,125		16,065
CPED Related Non GO Fund									
General Agency Reserve Fund System	63,69	5	-		2,965	60	,730		2,455
Revenue Notes	83	8			120		718		127
Total Bonds and Notes	432,86	7	22,628		55,860	399	,635		34,283
Grand Total Bonds & Notes	\$ 1,289,29	2	\$ 76,513	\$	142,287	\$ 1,223	,518	\$	98,870

<sup>\* -</sup> This category includes debt issued for the City's general infrastructure capital program, the library referendum and unfunded pension liabilities.

## **Amortization of Outstanding Governmental City Debt**

As of December 31, 2008 annual debt service requirements for Governmental activities\* (in thousands) to maturity are as follows:

Governmental Activities - Non-Proprietary

Year Ending		Bonds			Notes	
Dec 31:	Principal		Interest	Principal		Interest
2009	\$ 52,902	\$	60,981	\$ 465	\$	576
2010	41,610		32,894	537		551
2011	38,585		30,985	3,072		472
2012	38,600		29,172	708		374
2013	37,921		27,338	447		338
2014 – 2018	203,220		110,569	2,632		1,334
2019 – 2023	192,779		56,444	3,250		682
2024 – 2028	100,730		18,328	1,410		106
2029 – 2032_	23,580		2,102	9,770		18
	729,927		368,813	22,291		4,451

						Total	Gove	ernmental
Year Ending		Fund Bonds		Activity	Bon	ds & Notes		
Dec 31:		Principal	al Interest			Principal		Interest
2009		11,220		3,340		64,587		64,897
2010		11,205		2,825		53,352		36,270
2011		11,770		2,304		53,427		33,761
2012		11,345		1,755		50,653		31,301
2013		3,010		1,224		41,378		28,900
2014 – 2018		15,275		4,080		221,127		115,983
2019 – 2023		7,840		769		203,869		57,895
2024 - 2028		-		-		102,140		18,434
2029 - 2032_		-		-		33,350		2,120
_	\$	71,665	\$	16,297	\$	823,883	\$	389,561

<sup>\* -</sup> Governmental activities include the basic infrastructure assets required to provide services to the residents such as parks, libraries, streets, roads, bridges, traffic signals, lighting, police and fire stations, public buildings, technology platforms, fleet equipment, etc. Governmental activities are supported primarily by property taxes and other governmental aids received.

# **Amortization of Outstanding Business Type City Debt**

As of December 31, 2008, annual debt service requirements for Business-type activities\* (in thousands) to maturity are as follows:

Year Ending_	Bonds			Notes			Total	Total		
Dec 31:		Principal		Interest		Principal		Interest	Principal	Interest
2009	\$	32,966	\$	18,400	\$	2,052	\$	2,047	\$ 35,018	\$ 20,447
2010		31,020		16,972		2,161		1,987	33,181	18,959
2011		28,906		15,626		3,419		1,923	32,325	17,549
2012		26,530		14,530		3,273		1,826	29,803	16,356
2013		21,255		13,526		3,512		1,736	24,767	15,262
2014 – 2018		76,172		47,936		23,201		7,173	99,373	55,109
2019 – 2023		43,615		26,836		29,894		3,064	73,509	30,738
2024 – 2028		46,920		13,631		1,500		78	48,420	13,709
2029 - 2033		20,385		4,304		-		-	20,385	4,304
2034 – 2035_		2,854		272		-		<u> </u>	2,854	272
Total	\$	330,623		172,033	\$	69,012	\$	19,834	\$ 399,635	\$ 192,705

<sup>\* -</sup> Business-type activities include those City functions that operate similar to a private business such as Water and Sewer Services, Solid Waste Collection and Parking Ramps. Business-type activities are supported by user fees charged for services provided. Business activities also include some economic development activities that help spur private development, the debt of which is paid for by the private businesses benefited.

# CITY OF MINNEAPOLIS FIVE-YEAR CAPITAL INVESTMENT ALLOCATION COUNCIL REVISED BUDGET

COMMISSION/BOARD/DEPARTMENT	2009-2013 TOTAL*	PERCENT OF TOTAL
	(in thousands)	
MUNICIPAL BUILDING COMMISSION	4,283	0.8%
LIBRARY COMMITMENTS TO HENNEPIN COUNTY	11,905	2.3%
PARK BOARD	13,391	2.6%
PUBLIC WORKS DEPARTMENT - FACILITY IMPROVEMENTS - STREET PAVING - SIDEWALK PROGRAM - HERITAGE PARK INFRASTRUCTURE - BRIDGES - TRAFFIC CONTROL & STREET LIGHTING - BIKE TRAILS - STORMWATER SEWERS - SANITARY SEWERS - WATER - PARKING PUBLIC WORKS DEPARTMENT TOTAL	6,909 140,155 14,400 700 32,074 35,042 9,144 70,774 36,976 118,850 6,800 471,824	1.3% 26.9% 2.8% 0.1% 6.1% 6.7% 1.8% 13.6% 7.1% 22.8% 1.3% 90.4%
TECHNOLOGY PROJECTS MISCELLANEOUS PROJECTS	4,772 15,539	0.9% 3.0%
TOTAL COUNCIL REVISED CAPITAL PROGRAM	521,714	100.0%

<sup>\* -</sup> Represents the total Five-Year Council Revised Capital Budget from all City funding sources for projects where the City is the lead agency.

# CITY OF MINNEAPOLIS FIVE-YEAR CAPITAL FUNDING SUMMARY COUNCIL REVISED BUDGET

GENERAL INFRASTRUCTURE IMPROVEMENTS					CITY	NON
FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	20,050	8,591	12,050	19,129	59,820	5,257
2010	16,665	6,930	11,305	21,510	56,410	800
2011	17,365	2,689	8,755	27,873	56,682	3,567
2012	18,310	5,033	9,200	26,795	59,338	21,840
2013	18,675	12,534	10,625	14,230	56,064	800
Total General Infrastructure Improvements	91,065	35,777	51,935	109,537	288,314	32,264

ENTERPRISE FUND CAPITAL*	ENTERPRISE	ENTERPRISE					CITY	NON
FUNDING SUMMARY BY YEAR	BONDS	REVENUES	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	32,676	8,420				6,713	47,809	0
2010	34,600	8,654				14,515	57,769	0
2011	35,252	8,520				10,525	54,297	0
2012	28,400	8,635				5,000	42,035	0
2013	16,270	10,220				5,000	31,490	0
Total Enterprise Fund Capital	147,198	44,449	0	0	0	41,753	233,400	0

<sup>\* -</sup> Enterprise funds include Stormwater & Sanitary Sewers, Water & Parking.

CONSOLIDATED CITY-WIDE CAPITAL FUNDING SUMMARY BY YEAR	ENTERPRISE BONDS	ENTERPRISE REVENUES	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	32,676	8,420	20,050	8,591	12,050	25,842	107,629	5,257
2010	34,600	8,654	16,665	6,930	11,305	36,025	114,179	800
2011	35,252	8,520	17,365	2,689	8,755	38,398	110,979	3,567
2012	28,400	8,635	18,310	5,033	9,200	31,795	101,373	21,840
2013	16,270	10,220	18,675	12,534	10,625	19,230	87,554	800
Total City-Wide Capital - All Sources	147,198	44,449	91,065	35,777	51,935	151,290	521,714	32,264
Funding Breakdown by Major Revenue Sources	28 21%	8 52%	17 45%	6 86%	9 95%	29 00%	100 00%	

(City Funding & Grant Sources where the City is the lead agency)

# ACCELERATED INFRASTRUCTURE PROGRAM COUNCIL REVISED BUDGET

	PROJECT						CITY	NON
YEAR	ID	TITLE*	NDB	MSA	ASSM	OTHER**	TOTAL	APPROP
2009		Enhanced Pavement Mgmt &	3,000	0	1,000	700	4,700	0
2010		Resurfacing Program	0	0	1,000	3,700	4,700	0
2011		- Arterial Resurfacing	0	0	1,000	3,700	4,700	0
2012		- Preventive Maintenance	0	0	1,000	3,700	4,700	0
2013		- Concrete St & Alley rehab	0	0	1,000	3,000	4,000	0
Total		,	3,000	0	5,000	14,800	22,800	0
2009		Signal/Street Light Pole	900	0	0	0	900	0
2010		Replacement & Painting	0	0	0	900	900	0
2011		- Signal/Light Pole replacement	0	0	0	900	900	0
2012		- Painting of Signal/ Light Poles	0	0	0	900	900	0
2013		on arterial streets	0	0	0	900	900	0
Total			900	0	0	3,600	4,500	0
2009		Bike Trail Maintenance	0	0	0	100	100	0
2010		- general maintenance	0	0	0	100	100	0
2011		- preventive maintenance program	0	0	0	100	100	0
2012		of crack repair & surface sealing	0	0	0	100	100	0
2013			0	0	0	100	100	0
Total			0	0	0	500	500	0
2009		Parkway Paving - Expanded	150	0	0	0	150	0
2010		Program	0	0	0	150	150	0
2011		- expansion of the net debt program	0	0	0	150	150	0
2012		identified as PV001	0	0	0	150	150	0
2013			0	0	0	150	150	0
Total			150	0	0	600	750	0
2009		Parkway Street Light	150	0	10	0	160	0
2010		Replacement - Expanded Pgm	0	0	10	150	160	0
2011		- expansion of the net debt program	0	0	10	150	160	0
2012		identified as TR008	0	0	10	150	160	0
2013			0	0	10	150	160	0
Total			150	0	50	600	800	0
2009		Park Capital Infrastructure -	0	0	0	500	500	0
2010		Expanded Program	0	0	0	500	500	0
2011		- per Park priorities	0	0	0	500	500	0
2012		(Amount represents 10% of new City	0	0	0	500	500	0
2013		capital resources)	0	0	0	500	500	0
Total			0	0	0	2,500	2,500	0

<sup>\*</sup> These project titles convey the general programs that will be expanded. The detailed projects receiving accelerated funding are shown in various projects for Park Board, Public Works Street Paving, Traffic Control & Street Lighting and Bike Trails.

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	4,200	0	1,010	1,300	6,510	C
2010	0	0	1,010	5,500	6,510	0
2011	0	0	1,010	5,500	6,510	0
2012	0	0	1,010	5,500	6,510	0
2013	0	0	1,010	4,800	5,810	0
Total Accelerated Infrastructure	4,200	0	5,050	22,600	31,850	0

<sup>\*\*</sup> Primary funding for the capital expansion program is coming from Hilton Trust fund resources.

# 2009 - 2013 Council Revised Capital Resources For Property Tax Supported Infrastructure Improvements

Recommended Resources by Category	2009	2010	2011	2012	2013	Totals
						(000's)
Available Resources - Base Program:						
Net Debt Bond (NDB) Authorizations	17,250	17,600	17,950	18,310	18,675	89,785
Prior Year Adjustments made by Mayor and Council*	-1,400	-935	-585	0	0	-2,920
2009 - 2013 Council Revised NDB Resources	15,850	16,665	17,365	18,310	18,675	86,865
Accelerated Infrastructure Program:	4 000					4.000
Net Debt Bonds	4,200					4,200
Hilton Trust Funds	1,300	5,500	5,500	5,500	4,800	22,600
Assessment Funds _	1,010	1,010	1,010	1,010	1,010	5,050
Total Accelerated Infrastructure Program _	6,510	6,510	6,510	6,510	5,810	31,850
2009 - 2013 Council Revised Capital Resources	22,360	23,175	23,875	24,820	24,485	118,715

#### Notes:

This resource summary represents the City's commitment for General Infrastructure assets. General Infrastructure assets include parks, public buildings, streets, bridges, bike trails, traffic signals and any other capital assets that are used for providing basic city services.

# 2009 Bond Redemption Levy for Capital Program

	Amount Notes (000's)
Tax Levy Certified for Bond Redemption in 2008	18,355 For supporting Capital Program only
Bond Redemption Levy Increase for 2009 - 2025	1,660 Includes Prior Year Debt Commitments
Bond Redemption Levy Increase for 2009 only	2,229 One-time increase
Tax Levy Certified for Bond Redemption in 2009	Example 22,244 For supporting New Capital Programs & Debt Service

<sup>\* -</sup> Adjustments represent dollars advanced to or from projects in the Capital programs for prior years.

# Property Tax Supported Capital Allocation - Council Revised Budget Net Debt Bonds Summarized by Major Type of Infrastructure

Description of Category	2009	2010	2011	2012	2013	Totals
				•	Amounts in	thousands
Municipal Building Commission - City Hall	800	800	840	840	800	4,080
Percentage allocated to MBC	4.0%	4.8%	4.8%	4.6%	4.3%	4.5%
Library Commitment to Hennepin County Library System	2,130	1,900	1,040	0	0	5,070
Percentage allocated to Libraries*	10.6%	11.4%	6.0%	0.0%	0.0%	5.6%
Park Board Capital Program**	141	350	400	0	0	891
Percentage allocated to Park Board	0.7%	2.1%	2.3%	0.0%	0.0%	1.0%
Public Works Department						
Facility Improvements	1,200	700	1,950	1,659	1,400	6,909
Street Paving	8,255	4,351	3,419	8,775	9,375	34,175
Sidewalk Program	195	205	215	225	235	1,075
Heritage Park	0	200	500	0	0	700
Bridges	300	2,195	2,465	2,270	1,290	8,520
Traffic Control & Street Lighting	2,271	1,000	1,259	1,125	820	6,475
Bike Trails	255	1,754	0	0	850	2,859
Subtotal Public Works	12,476	10,405	9,808	14,054	13,970	60,713
Percentage allocated to Public Works	62.2%	62.4%	56.5%	76.8%	74.8%	66.7%
BIS Technology Projects	1,500	1,000	700	700	872	4,772
,	7.5%	6.0%	4.0%	3.8%	4.7%	5.2%
Miscellaneous Projects	3,003	2,210	4,577	2,716	3,033	15,539
·	15.0%	13.3%	26.4%	14.8%	16.2%	17.1%
Percentage allocated to City Departments	84.7%	81.7%	86.9%	95.4%	95.7%	89.0%
Grand Total - Property Tax Supported Capital	20,050	16,665	17,365	18,310	18,675	91,065

<sup>\*</sup>These amounts will be transferred to Hennepin County for capital needs for libraries located in the City of Minneapolis.

<sup>\*\*</sup>This amount is only the net debt bond portion of Park Board Capital funding. They also have a Capital Levy and a share of the expanded capital funding - see Park Board funding details later in the document.

Project ID	Project Title	2009	2010	2011	2012	2013	TOTAL
	•					(in the	ousands)
	BUILDING COMMISSION						
MBC01	Life Safety Improvements	300	300	340	340	300	1,580
MBC02	Mechanical Systems Upgrade	500	500	500	500	500	2,500
MBC04	MBC Elevators	95	0	0	0	0	95
MBC06	Clock Tower Upgrade	0	0	0	0	0	0
MBC09	Critical Power Capital Project	0	0	0	0	0	0
MBC10	City Hall Green Roof (actual amount is \$107,500)	108	0	0	0	0	108
CTY01	Restoration of Historic Reception Room	0	0	0	0	0	0
	Total Municipal Building Commission	1,003	800	840	840	800	4,283
LIBRARY C	OMMITMENT TO HENNEPIN COUNTY LIBRARY SYSTEM						
	Funding Commitments by Year	5,055	5,810	1,040	0	0	11,905
PARK BOA	RD						
PRK16	Parkway and Adjacent Parkland Lighting Replacement	0	0	0	0	0	0
PRK18	Folwell Parking Lot Improvement	0	0	0	0	0	0
PRK19	Phillips Pool & Gym Building Improvements	0	0	0	0	0	0
PRK20	Farview Lot, Trail, Court and Lighting Improvements	0	0	0	0	0	0
PRK21	Pedestrian Bridges	141	350	400	0	0	891
PRKCP	Park Capital Infrastructure	2,000	2,000	2,000	2,000	2,000	10,000
PRKDT	Diseased Tree Removal	500	500	500	500	500	2,500
	Total Park Board	2,641	2,850	2,900	2,500	2,500	13,391
DUDI IO W							
_	ORKS DEPARTMENT MPROVEMENTS						
PSD01		900	400	1 200	1 150	000	4 550
	Facilities - Repair and Improvements	900	400	1,200 250	1,159 0	900	4,559 250
PSD06 PSD11	Pioneer & Soldiers Memorial Cemetery Fencing Rehab Energy Conservation and Emissions Reduction	300	300	500	500	0 500	2,100
FSDTT	Total Facility Improvements	1,200	700	1,950	1,659	1,400	6,909
	Total Lacinty improvements	1,200	700	1,300	1,000	1,400	0,303
STREET PA	AVING						
PV001	Parkway Paving	2,710	160	160	710	710	4,450
PV003	Street Renovation Program	2,480	3,055	3,755	8,330	1,390	19,010
PV004	CSAH Paving Program	975	1,070	1,525	1,600	1,525	6,695
PV005	Snelling Ave Extension	0	0	0	1,200	0	1,200
PV006	Alley Renovation	250	486	599	250	250	1,835
PV007	University Research Park/Central Corridor	500	0	7,000	7,550	475	15,525
PV008	I-35W & Lake St Interchange Reconstruct Phase 4	125	80	0	0	0	205
PV019	6th Ave N (5th St N to Dead End N of Wash Ave)	0	0	0	0	0	0
PV021	33rd Ave SE and Talmage Avenue	0	0	0	0	0	0
PV028	Franklin/Cedar/Minnehaha Improvement Project	0	0	910	0	0	910
PV029	Chicago Ave S (8th St S to 28th St E)	9,565	9,275	0	0	0	18,840
PV035	TH121/Lyndale Ave S	0	0	0	0	4,830	4,830
PV038	Winter St NE Residential/Commercial	0	0	0	0	4,480	4,480
PV041	Glenwood Ave (2nd Ave N) Reconstruction	800	0	0	0	0	800
PV047	3rd Ave N Reconstruction	495	790	0	0	0	1,285
PV049	1st Ave One-way to Two-way (1st to 9th St S)	1,260	0	0	0	0	1,260
PV050	Hennepin Ave One-way to Two-way(1st to 12th St S)	895	0	0	0	0	895
PV056	Asphalt Pavement Resurfacing Program	5,225	5,225	5,225	5,225	5,225	26,125
PV057	Nicollet Ave (31st St E to 40th St E)	0	0	0	0	9,020	9,020
PV058	Cottage Park Traffic Calming	90	0	0	0	0	90
PV059	Major Pavement Maintenance	700	1,000	1,000	1,000	800	4,500

STREET PAVING - continued   PV060   Central Corridor Light Rail Transit Study   700   3.500	Project ID	Project Title	2009	2010	2011	2012	2013	TOTAL
PV000	CTDEET D	AVIING continued					(in th	ousands)
Proposition			700	0	0	0	Λ	700
SIDEWALK PROGRAM   SWK01   Defective Hazardous Sidewalks/Complete Gaps   2,605   2,735   2,880   3,020   3,160   14,400								
SIDEWALK PROGRAM   SWK01   Defective Hazardous Sidewalks/Complete Gaps   2,605   2,735   2,880   3,020   3,160   14,400	FVOOR							
Defective Hazardous Sidewalks/Complete Gaps		Total Street Laving Libjects	30,270	24,041	25,014	23,303	32,203	140,133
	SIDEWALK	PROGRAM						
Part	SWK01	Defective Hazardous Sidewalks/Complete Gaps	2,605	2,735	2,880	3,020	3,160	14,400
Part	HERITAGE	PARK INFRASTRUCTURE						
BRIDGES           BR101         Major Bridge Repair and Rehabilitation         300         300         300         300         400         1,600           BR105         Fremont Ave S Bridge         0         0         0         1,800         0         1,800           BR109         Camden Bridge Rehabilitation         0         4,204         0         0         0         4,204           BR110         St. Anthony Bridge over BNSF         0         0         10,207         250         0         10,457           BR111         10th Ave SE Bridge Arch Rehabilitation         0         0         0         6,700         0         5,723           BR112         Midtown Corridor Bridge Preservation Program         0         0         0         1,450         6,313         32,074           TRAFFIC CONTROL & STREET LIGHTING           TRAGE ET LIGHTING			0	200	500	0	0	700
BR101   Major Bridge Repair and Rehabilitation   300   300   300   300   400   1,600   BR105   Fremont Ave S Bridge   0								
BR105   Fremont Ave S Bridge	BRIDGES							
BR109   Camden Bridge Renabilitation   0   4,204   0   0   0   4,204   BR110   St. Anthony Bridge over BNSF   0   0   0   10,207   250   0   10,457   BR111   10th Ave SE Bridge Arch Rehabilitation   0   0   0   6,700   6,700   BR112   Nicollet Ave Reopening   0   0   0   0   0   5,723   5,723   BR114   Midtown Corridor Bridge Preservation Program   0   0   0   0   1,400   190   1,590	BR101	Major Bridge Repair and Rehabilitation	300	300	300	300	400	1,600
BR110   St. Anthony Bridge over BNSF   0 0 10,207   250 0 10,457	BR105	Fremont Ave S Bridge	0	0	0	1,800	0	1,800
BR111	BR109	Camden Bridge Rehabilitation	0	4,204	0	0	0	4,204
BR112   Nicollet Ave Reopening   0   0   0   0   5,723   5,723   5,723   BR114   Midtown Corridor Bridge Preservation Program   0   0   0   1,400   190   1,590     Total Bridge Projects   300   4,504   10,507   10,450   6,313   32,074     TRAFFIC CONTROL & STREET LIGHTING     TR003	BR110	St. Anthony Bridge over BNSF	0	0	10,207	250	0	10,457
BR112   Nicollet Ave Reopening   0   0   0   0   5,723   5,723   5,723   BR114   Midtown Corridor Bridge Preservation Program   0   0   0   1,400   190   1,590     Total Bridge Projects   300   4,504   10,507   10,450   6,313   32,074     TRAFFIC CONTROL & STREET LIGHTING     TR003	BR111	10th Ave SE Bridge Arch Rehabilitation	0	0	0	6,700	0	6,700
Total Bridge Projects   300   4,504   10,507   10,450   6,313   32,074	BR112	Nicollet Ave Reopening	0	0	0	0	5,723	5,723
TRAFFIC CONTROL & STREET LIGHTING   TRO03   LED Replacement Program   200   50   0   200   200   650   TR005   Controller Conversion   0   0   0   3,530   3,530   0   7,060   TR006   Priority Vehicle Control System   0   0   0   0   0   0   0   0   0	BR114	Midtown Corridor Bridge Preservation Program	0	0	0	1,400	190	1,590
TR003   LED Replacement Program   200   50   0   200   200   650   TR005   Controller Conversion   0   0   3,530   3,530   0   7,060   TR006   Priority Vehicle Control System   0   0   0   0   0   0   0   0   0		Total Bridge Projects	300	4,504	10,507	10,450	6,313	32,074
TR003   LED Replacement Program   200   50   0   200   200   650   TR005   Controller Conversion   0   0   3,530   3,530   0   7,060   TR006   Priority Vehicle Control System   0   0   0   0   0   0   0   0   0								
TR005   Controller Conversion   0   0   3,530   3,530   0   7,060								
TR006   Priority Vehicle Control System   0   0   0   0   0   0   0   0   0								
TR007   Traffic & Pedestrian Safety Improvements   586   461   458   850   920   3,275								•
TR008								
TR010		· · ·						•
TR011   City Street Light Renovation   1,000   1,000   1,000   1,000   1,000   1,000   5,000								
TR013   Railroad Crossing Safety Improvements   1,574   448   551   933   491   3,997								
TR014         LRT TOD Improvements         400         0         0         0         400           TR015         Safe Routes to School         50         50         50         50         50         250           TR017         Pedestrian Signals with Count-down Timers         0         30         0         0         0         30           TR018         Ballpark Area Pedestrian Improvements         1,575         0         0         0         0         0         1,575           TR019         Hiawatha LRT Signal Improvements         0         2,125         0         0         0         0         2,125         0         0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td>								•
TR015         Safe Routes to School         50         50         50         50         50         250           TR017         Pedestrian Signals with Count-down Timers         0         30         0         0         0         30           TR018         Ballpark Area Pedestrian Improvements         1,575         0         0         0         0         0         1,575           TR019         Hiawatha LRT Signal Improvements         0         2,125         0         0         0         0         2,125         0         0         0         0         2,125         0         0								•
TR017         Pedestrian Signals with Count-down Timers         0         30         0         0         0         30           TR018         Ballpark Area Pedestrian Improvements         1,575         0         0         0         0         1,575           TR019         Hiawatha LRT Signal Improvements         0         2,125         0         0         0         0         2,125         0         0         0         0         2,125         0         0         0         0         2,175         0         0         0         0         <		·						
TR018         Ballpark Area Pedestrian Improvements         1,575         0         0         0         0         1,575           TR019         Hiawatha LRT Signal Improvements         0         3,000         2,125         0         0         0         0         2,125         0         0         0         0         2,125         0         0         0         0         2,125         0         0         0         0         2,175         0         0         <								
TR019         Hiawatha LRT Signal Improvements         0         0         0         0         0           TR00R         Reimbursable Transportation Projects         600         600         600         600         600         3,000           Total Traffic Control & Street Lighting Projects         9,843         6,636         7,014         7,988         3,561         35,042           BIKE TRAILS           BIK04         18th Ave NE Bikeway         0         2,125         0         0         0         2,125           BIK06         University of Minnesota Trail - Phase III         2,175         0         0         0         0         2,175           BIK13         RiverLake Greenway (East of I-35W)         0         2,099         0         0         0         2,099           BIK20         Hiawatha LRT Trail Lighting/Trail Extension         0         0         0         0         2,120         2,120           BIK21         26th Ave N Bikeway Study         25         0         0         0         0         25           BIK22         18th Ave NE Bike Striping - Monroe to Stinson         50         0         0         0         0         50           BIK24         Major B								
TR00R   Reimbursable Transportation Projects   600   600   600   600   600   3,000		·						•
BIKE TRAILS         BIKE TRAILS           BIK04         18th Ave NE Bikeway         0         2,125         0         0         0         2,125           BIK13         RiverLake Greenway (East of I-35W)         0         2,099         0         0         2,120         2,120           BIK20         Hiawatha LRT Trail Lighting/Trail Extension         0         0         0         0         2,120           BIK21         26th Ave N Bikeway Study         25         0         0         0         0         25           BIK22         18th Ave NE Bike Striping - Monroe to Stinson         50         0         0         0         0         50           BIK23         Bike Boulevard Pilot         50         0         0         0         0         50           BIK24         Major Bike Maintenance Program         100         100         100         100         100         500								_
BIKE TRAILS         BIK04       18th Ave NE Bikeway       0       2,125       0       0       0       2,125         BIK06       University of Minnesota Trail - Phase III       2,175       0       0       0       0       2,175         BIK13       RiverLake Greenway (East of I-35W)       0       2,099       0       0       0       2,099         BIK20       Hiawatha LRT Trail Lighting/Trail Extension       0       0       0       0       2,120       2,120         BIK21       26th Ave N Bikeway Study       25       0       0       0       0       25         BIK22       18th Ave NE Bike Striping - Monroe to Stinson       50       0       0       0       0       50         BIK23       Bike Boulevard Pilot       50       0       0       0       0       50         BIK24       Major Bike Maintenance Program       100       100       100       100       100       500	TR00R							
BIK04       18th Ave NE Bikeway       0       2,125       0       0       0       2,125         BIK06       University of Minnesota Trail - Phase III       2,175       0       0       0       0       2,175         BIK13       RiverLake Greenway (East of I-35W)       0       2,099       0       0       0       2,099         BIK20       Hiawatha LRT Trail Lighting/Trail Extension       0       0       0       0       2,120       2,120         BIK21       26th Ave N Bikeway Study       25       0       0       0       0       25         BIK22       18th Ave NE Bike Striping - Monroe to Stinson       50       0       0       0       0       50         BIK23       Bike Boulevard Pilot       50       0       0       0       0       50         BIK24       Major Bike Maintenance Program       100       100       100       100       100       500		Total Traffic Control & Street Lighting Projects	9,843	6,636	7,014	7,988	3,561	35,042
BIK06         University of Minnesota Trail - Phase III         2,175         0         0         0         2,175           BIK13         RiverLake Greenway (East of I-35W)         0         2,099         0         0         0         2,099           BIK20         Hiawatha LRT Trail Lighting/Trail Extension         0         0         0         0         2,120         2,120           BIK21         26th Ave N Bikeway Study         25         0         0         0         0         25           BIK22         18th Ave NE Bike Striping - Monroe to Stinson         50         0         0         0         0         50           BIK23         Bike Boulevard Pilot         50         0         0         0         0         50           BIK24         Major Bike Maintenance Program         100         100         100         100         100         500	BIKE TRAI	LS						
BIK06         University of Minnesota Trail - Phase III         2,175         0         0         0         0         2,175           BIK13         RiverLake Greenway (East of I-35W)         0         2,099         0         0         0         2,099           BIK20         Hiawatha LRT Trail Lighting/Trail Extension         0         0         0         0         2,120         2,120           BIK21         26th Ave N Bikeway Study         25         0         0         0         0         25           BIK22         18th Ave NE Bike Striping - Monroe to Stinson         50         0         0         0         0         50           BIK23         Bike Boulevard Pilot         50         0         0         0         0         50           BIK24         Major Bike Maintenance Program         100         100         100         100         100         500			0	2,125	0	0	0	2,125
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BIK20         Hiawatha LRT Trail Lighting/Trail Extension         0         0         0         0         2,120								
BIK21       26th Ave N Bikeway Study       25       0       0       0       0       25         BIK22       18th Ave NE Bike Striping - Monroe to Stinson       50       0       0       0       0       50         BIK23       Bike Boulevard Pilot       50       0       0       0       0       50         BIK24       Major Bike Maintenance Program       100       100       100       100       100       500								
BIK22       18th Ave NE Bike Striping - Monroe to Stinson       50       0       0       0       0       50         BIK23       Bike Boulevard Pilot       50       0       0       0       0       50         BIK24       Major Bike Maintenance Program       100       100       100       100       100       500			25				-	
BIK23         Bike Boulevard Pilot         50         0         0         0         0         50           BIK24         Major Bike Maintenance Program         100         100         100         100         100         500								
BIK24 Major Bike Maintenance Program 100 100 100 100 500		· -				0		
		Major Bike Maintenance Program		100	100	100	100	500
			2,400	4,324	100	100	2,220	9,144

Project ID	Project Title	2009	2010	2011	2012	2013	TOTAL
CTODAWA	TER SEWIER REGULECTS.					(in th	ousands)
SW002	TER SEWER PROJECTS: Miscellaneous Storm Drains	220	220	220	220	220	1,100
SW002	Implementation of US EPA Storm Water Regulations	0	250	250	250	250	1,000
SW004 SW005	Combined Sewer Overflow Improvements	1,500	1,500	1,500	230	230	4,500
SW011	Storm Drains and Tunnels Rehabilitation Program	500	3,000	3,000	5,000	5,000	16,500
SW011	Flood Area 29 & 30 - Fulton Neighborhood	0	3,288	6,577	0,000	0,000	9,865
SW010	Alternative Stormwater Management Strategies	1,000	1,000	1,000	1,000	1,000	5,000
SW032	I-35W Storm Tunnel Reconstruction	0	0	0	0	1,035	1,035
SW033	Flood Area 22 - Sibley Field	2,213	3,012	0	0	0	5,225
SW034	Flood Area 21- Bloomington Pond	0	4,839	0	0	0	4,839
SW038	Flood Area 5 - North Minneapolis Neighborhoods	0	0	0	0	1,500	1,500
SW00R	Reimbursable Sewer and Storm Drain Projects	3,000	3,000	3,000	3,000	3,000	15,000
BIK06	University of Minnesota Trail - Phase III	115	0,000	0,000	0,000	0,000	115
BIK13	RiverLake Greenway (East of I-35W)	0	255	0	0	0	255
BR105	Fremont Ave S Bridge	0	0	0	70	0	70
BR112	Nicollet Ave Reopening	0	0	0	0	235	235
CDA01	Heritage Park Redevelopment Project	0	250	250	0	0	500
PV003	Street Renovation Program	140	205	0	75	500	920
PV007	University Research Park/Central Corridor	800	0	800	400	0	2,000
PV029	Chicago Ave S (8th St S to 28th St E)	145	0	0	0	0	145
PV035	TH121/Lyndale Ave S	0	0	0	0	600	600
PV038	Winter St NE Residential/Commercial	0	0	0	0	40	40
PV057	Nicollet Ave (31st St E to 40th St E)	0	0	0	0	330	330
	Total Storm Sewer Fund Projects	9,633	20,819	16,597	10,015	13,710	70,774
SANITARY	SEWER PROJECTS:						
SW001	Sanitary Tunnel & Sewer Rehabilitation Program	250	500	1,000	1,000	1,000	3,750
SW036	Infiltration & Inflow Removal Program	5,000	5,000	5,000	7,000	7,500	29,500
SW037	Irving Sewer Rehabilitation	3,726	0	0	0	0	3,726
	Total Sanitary Sewer Fund Projects	8,976	5,500	6,000	8,000	8,500	36,976
WATER							
WTR09	Ultrafiltration Program	18,500	16,000	16,000	14,500	0	65,000
WTR12	Water Distribution Improvements	4,750	5,000	5,250	5,500	6,000	26,500
WTR14	The MWW Facilities Security Improvement	250	250	250	250	0	1,000
WTR16	Minneapolis/St. Paul Interconnection	0	0	0	0	500	500
WTR17	Treatment Modifications Based on New Regulations	0	0	0	0	100	100
WTR18	Hiawatha Water Maintenance Facility	0	0	0	0	0	0
WTR22	New Filter Presses	2,000	6,500	6,500	0	0	15,000
WTR0R	Reimbursable Watermain Projects	2,000	2,000	2,000	2,000	2,000	10,000
BR105	Fremont Ave S Bridge	0	0	0	70	0	70
BR112	Nicollet Ave Reopening	0	0	0	0	300	300
PV035	TH121/Lyndale Ave S	0	0	0	0	380	380
	Total Water Fund Projects	27,500	29,750	30,000	22,320	9,280	118,850
PARKING							
RMP01	Parking Facilities - Repair and Improvements	1,700	1,700	1,700	1,700	0	6,800
	Total Public Works Department Projects	94,427	101,509	100,922	94,617	80,349	471,824

Project ID	Project Title	2009	2010	2011	2012	2013	TOTAL
						(in th	ousands)
BIS TECHN	IOLOGY PROJECTS:						
BIS02	Central Traffic Signal Computer Replacement	50	50	50	50	50	250
BIS03	Enterprise Document Management	50	100	100	50	100	400
BIS04	Enterprise Infrastructure Capacity Upgrade	500	500	500	500	672	2,672
BIS05	Enterprise Reporting/Business Intelligence	0	0	0	0	0	0
BIS06	GIS Application Infrastructure Upgrade	100	200	50	50	50	450
BIS10	Finance System Consolidation/Upgrade	700	0	0	50	0	750
BIS12	Mobile Assessor	100	150	0	0	0	250
BIS13	Risk Management & Claims Application Replacement	0	0	0	0	0	0
BIS14	Land Information Repository	0	0	0	0	0	0
	Total BIS Technology Projects	1,500	1,000	700	700	872	4,772
MISCELLA	NEOUS PROJECTS						
ART01	Art in Public Places	317	333	347	366	383	1,746
BR113	Nicollet Ave Reopening	0	0	0	0	0	0
CTY02	City Property Reforestation	150	150	150	150	150	750
FIR01	Emergency Operations Training Facility (EOTF)	1,764	0	0	0	0	1,764
MPD01	MPD Forensic Laboratory	100	0	2,850	1,000	1,300	5,250
MPD02	MPD Property & Evidence Warehouse	0	0	730	700	700	2,130
MPD05	Strategic Information Center	372	1,227	0	0	0	1,599
PSD03	Facilities - Space Improvements	300	500	500	500	500	2,300
. 0200	Total Miscellaneous Projects	3,003	2,210	4,577	2,716	3,033	15,539
	TOTAL COUNCIL REVISED CAPITAL BUDGET	107,629	114,179	110,979	101,373	87,554	521,714

Note: The totals above represent City funding and grant sources for those projects where the City is the lead agency. The funding detail pages that follow show additional leveraging with other units of governments as Non Appropriated when the City is a contributing partner.

#### MUNICIPAL BUILDING COMMISSION

#### MBC01 Life Safety Improvements

The MBC life safety program includes installation of (1) building sprinkler, fire alarm, smoke detection, and public address systems, (2) update of building exits and stairs, and (3) installation of fireproofing, smoke barriers and purge systems. The project will vacate and upgrade life safety and HVAC systems in 15,000 square foot sections of the City Hall Courthouse every six months through the year 2015.

#### MBC02 Mechanical Systems Upgrade

The MBC Mechanical Systems Upgrade includes renovation and upgrade of the heating, ventilating, and air conditioning (HVAC) systems in the Municipal Building (Minneapolis City Hall/Hennepin County Courthouse). Under this plan, the mechanical system upgrade will continue until the year 2015.

#### MBC04 Tower & Interior Court Elevators

This project is an ongoing elevator upgrade project originally established in 2005 to upgrade two elevators in the Interior Court and one elevator in the 4th St Tower. The new elevator request includes modernization and conversion of a passenger/freight elevator to a passanger elevator and the installation of a new freight elevator. Modernization will include new car safety devices, car sling and platform, hoist ropes and governor cables, car enclosures, car and hall push buttons stations, hall

#### MBC06 Clock Tower Upgrade

The proposed project will repair the four faces and structural elements of the large clock in the tower at the Minneapolis City Hall/Courthouse. The work will restore the clock to near original condition.

#### MBC09 Critical Power Capital Project

The scope of work includes upgrade of emergency power systems for critical functions in City Hall. Included in this project are replacing an existing emergency generator and improving eletrical

#### MBC10 City Hall Green Roof

The City Hall Green Roof was an environmental demonstration project associated with a large waterproofing project at the Minneapolis City Hall / Hennepin County Courthouse. A 5,800 square feet extensive Green Roof with a 10,000 gallon cistern for irrigation was constructed as part of the project. The project was intended to demonstrate effective sustainable building practice by reducing storm water runoff, improving the quality of water in the storm water system, mitigating the effects of the urban heat island effect, reintroducing plants to the urban area, extending the life of the roof, and improving the aesthetics for tenants and the public.

#### CTY01 Restoration of Historic Reception Room

This project is a historical restoration of the original Mayor's Reception hall and Office located in the southwest corner of the first floor of the Minneapolis City Hall.

#### **PARK BOARD**

#### PRK16 Parkway and Adjacent Parkland Lighting Replacement

A new light standard is being installed by Public Works along the parkways throughout the Minneapolis park system; it is replacing the "cube" style pedestrian-level light in most locations, and a higher-mounted globe-style pendant fixture at intersections. To offset the cost of the slightly more expensive new fixture, the Park Board has agreed to provide a \$600 match for each fixture. At the current replacement rate, the entire parkway system will have new lighting in 10-15 years.

#### PRK18 Fowwell Parking Lot Improvement

This proposal addresses major parking lot repairs at recreational facilities. Condition assessments indicate that Folwell has a high need for repairs. This project may include such items as mill and overlay of about 3,430 square yards of existing asphalt, sub-base repairs, soil corrections as needed to support traffic load, curband gutters as needed, handicap accessible spaces and curb ramp, seal coating, restriping, design and engineering, restoration, signage, and related work.

#### PRK19 Phillips Pool & Gym Building Improvements

This proposal would be to rehabilitate the swimming pool and make HVAC improvements and other functional improvements to the Phillips building.

#### PRK20 Farview Lot, Trail, Court and Lighting Improvements

This proposal would fund several exterior improvements to the parking lot and trails within the Farview Park as well as tennis court improvements and exterior grounds lighting.

#### PRK21 Pedestrian Bridges

This project will review the various pedestrian bridges within the Park System to determine what the highest priorities are for rehabilitation to improve safety for the users.

#### PRKCP Park Capital Infrastructure

The Park Capital Infrastructure program was created as a generic capital maintenance program to allow the Minneapolis Park and Recreation Board flexibility to address priorities for infrastructure repairs based on the most critical needs for the various types of Park assets.

#### PRKDT Diseased Tree Removal

This longstanding Parks program is designed to allow the city to maintain the health of the urban forest. Each year, park crews inspect the city and tag diseased trees observed on park land or private property. Residents must remove any diseased trees identified either by hiring contractors or by allowing the Park Board to perform the removal. If the Park Board removes the tree(s) on private property, the resident is assessed for the cost over a five year timeframe. This program has been used extensively to control Dutch Elm disease in Minneapolis.

#### **FACILITY IMPROVEMENTS**

#### PSD01 Facilities - Repair and Improvements

This is an on-going maintenance program to repair and improve City owned and operated facilities that are funded through property tax such as Police, Fire, Public Works, general office and miscellaneous facilities. The deficiencies are identified as separate projects and prioritized in a departmental functional work plan.

#### PSD06 Pioneer & Soldiers Memorial Cemetery Fencing Rehab

The purpose of this project is to restore the beauty and security of the historic fence surrounding the Pioneer's Cemetery at 2925 Cedar Avenue South.

#### PSD11 Energy Conservation and Emissions Reduction

The purpose of this project is to create a revolving Energy Invest Fund (EIF) to provide up front capital funding to invest in energy conservation and emission reduction strategies for the City's Municipal Operations.

#### STREET PAVING

#### PV001 Parkway Paving

The objective is to re-evaluate the pavement condition and annual maintenance expenditures of all parkway paving areas that were constructed with a bituminous surface 30 years ago. The program would renovate instead of totally reconstruct roadways; the next (2009) renovation would be the entire Lake of the Isles Pkwy.

#### PV003 Street Renovation Program

The objective is to renovate neighborhood paving areas that were constructed as part of the Residential Paving Program more than 30 years ago. The renovation projects are planned in the following neighborhoods: Lynnhurst, Bryn Mawr, Ventura Village, Near North South and McKinley.

#### PV004 CSAH Paving Program (County State Aid Highway)

This cooperative program between the City of Minneapolis and Hennepin County aims to reconstruct high traffic streets (County State-Aid Highway segments that fall within the city limits) that are at or past the end of their serviceable lives.

#### PV005 Snelling Ave Extension

This project extends Snelling Ave south of E 46th Street & Hiawatha Ave. It includes new roadway, landscaping, storm drain, sanitary sewer, water service and possibly a signal at Snelling Ave S and E 46th Street.

#### PV006 Alley Renovation

The objective of this project is to install a bituminous overlay (2") over existing concrete alley and rehabilitate or replace existing alley retaining walls in designated alleys.

#### PV007 University Research Park

The principal objective of this project is to provide the infrastructure to support the Alternative Urban Areawide Review (AUAR) for the University Research Park.

#### PV008 I-35W & Lake St Interchange Reconstruct Phase 4

The proposed reconstruction of the I35W/Lake St. Intersection, which currently does not allow for direct accesses off and onto I35W, would add the desired freeway ingress/egress and a Bus Rapid Transit Station.

#### PV019 6th Ave N (5th St N to Dead End N of Wash Ave)

This project would reconstruct the street to commercial standards: curb and gutter, parking lanes/bays, sidewalk and new pavement surface while keeping the historical nature of the area.

#### PV021 33rd Ave SE and Talmage Avenue

The project will reconstruct reconstruct the oil and dirt road at 33rd Ave SE between Como Ave SE and Hennepin Avenue and Talmage Avenue between 29th Ave SE and 33rd Ave SE.

#### PV028 Franklin/Cedar/Minnehaha Intersection Realignment

This project will include three components: (1) reconstruction of the intersections of Franklin Ave/Cedar Ave, Cedar Ave/20th Ave S, and Cedar Ave/22nd Street E; (2) installation of pedestrian lighting, improvements to pedestrian street crossings, sidewalk and boulevard enhancements and way-finding signage; and (3) reconstruction of Snelling Ave from 22nd St E to 24th St E.

#### PV029 Chicago Ave S (8th St S to 28th St E)

This project will reconstruct the 1.3 mile stretch on Chicago Ave S from 8th St S to 28th St E. This stretch of road serves many emergency vehicles. The reconstruction will be coordinated with overhead signal improvements (TR007).

#### PV035 TH121/Lyndale Ave S

The project will reconstruct trunk highway 121 down from a multi-lane divided section to a lower speed urban street from the Crosstown Freeway to 58th Street W and will redevelop the area. This downgrade will be possible once the reconstruction of the I-35W Crosstown area is completed which will result in lower traffic levels.

#### PV038 Winter St NE Residential/Commercial

This project will replace one of the few areas of oiled dirt streets remaining in the city with a new asphalt pavement. Additional work may include sidewalks, curb and gutter with additional storm drain work.

#### PV041 2nd Ave N (3rd St N to Wash Ave N)

The project will reconstruct the Municipal State Aid route of 2nd Ave N from 3rd St N to Washington Ave N. The reconstruction will make the roadway into a two way segment with two lanes of travel into downtown and one lane in the westerly direction.

#### PV047 3rd Ave N (Washington Ave to 5th St N)

This project is a reconstruction of 3rd Ave N between Washington Ave and 5th St N. 3rd Ave N is a Municipal State Aid route and a bus route.

#### PV049 1st Ave N One-way to Two-Way (1st to 9th St S)

This project will convert 1st Ave N into a two-way with two travel lanes in each direction north of 9th St S. This will require the seal coating and striping of the street surface as well as new signs and modification/addition of traffic signals.

#### PV050 Hennepin Ave One-way to Two-way-1st to 12th St S

This project will convert Hennepin Ave into a two-way with two travel lanes in each direction north of 12th St S. This will require the seal coating and striping of the street surface as well as new signs and limited modification of traffic signals.

#### PV056 Asphalt Pavement Resurfacing Program

The objective of this program is to resurface approximately 15 to 20 miles of streets each year to extend there useful life. Resurfacing will help to slow the deterioration of the cities aging street network and delay the cost of reconstructingthe roadway by at least 10 years.

#### PV057 Nicollet Ave (31st ST E to 40th St E)

This project is approximately 1 mile in length and is along Nicollet Avenue from 31st Street to 40th Street. The street was originally constructed in 1954 and an asphalt overlay was done in 1977. The proposed roadway will consist of two traffic lanes (one each way) and parking on both sides, with new curb and gutter and sidewalks.

#### PV058 Cottage Park Traffic Calming

This proposal serves to make improvements to slow traffic down to improve pedestrian and vehicular safety in the Cottage Park neighborhood.

#### PV059 Major Pavement Maintenance

This is a new program to perform major maintenance such as crack sealing, seal coating, curb and gutter repairs and other structural road repairs to extend the useful life of the street system until total renovation can be funded.

#### PV060 Central Corridor Light Rail Transit Study

This project will study options for traffic flow and pedestrian and bicycle safety concerns for the eventual implementation of a new light rail transit corridor.

#### PV00R Reimbursable Paving Projects

This project is utilized to provide City paving crews with resources to modify streets/patch utility cuts resulting from private party projects and/or to do repair work for other City Departments after their projects are completed such as sewer and water related infrastructure projects. Costs are reimbursed by the parties requesting the work.

#### SIDEWALK PROGRAM

#### SWK01 Defective Hazardous Sidewalks

The project will inspect and replace defective public sidewalks and will provide public sidewalk access for persons with disabilities by installing ADA compliant pedestrian curb ramps at street corners and other locations.

#### **HERITAGE PARK INFRASTRUCTURE**

#### CDA01 Heritage Park Redevelopment Project

The capital funds will be used to complete construction of Van White Boulevard, 4th St N, alleys and other public service installations (sidewalks, trees, lights, and utilities) within Heritage Park.

#### **BRIDGES**

#### BR101 Major Bridge Repair and Rehabilitation

This project provides for major repairs to City bridges including working on the bridge approaches, abutments, decks and associated railings and sidewalks, the bridge superstructure and substructure components.

#### **BR105** Fremont Ave S Bridge

The proposed replacement structure will correct current deficiencies in the bridge's superstructure, substructure, and geometry.

#### BR106 1st Ave S Bridge over the Midtown Greenway

This project will replace the existing bridge which is nearing the end of its useful life. Deficient items include the bridge superstructure, substructure, and geometry.

#### BR109 Camden Bridge Rehabilitation

The project will rehabilitate the bridge over the Mississippi River and I-94. It will repair the expansion joints, rehabilitate the drive surface, replace the approach panels, crash railing, sidewalks, and pedestrian railings, and will re-paint.

#### BR110 St. Anthony Bridge over BNSF

The project includes construction of a new St. Anthony Parkway Bridge and approach roadways which include St. Anthony Parkway, California St NE and possibly Main St NE.

#### BR111 10th Ave SE Bridge Arch Rehabilitation

The project will rehabilitate a Bridge over the Mississippi River and West River Parkway. It will repair deteriorated concrete areas on the spandrel columns, floor beams and arches.

#### **BR114** Midtown Corridor Bridge Preservation Program

The purpose of the program will be to maintain and enhance the physical infrastructure, correct current deficiencies, provide for future development and transportation needs such as increased traffic columns, developments and Light Rail Transit, and provide a structurally sound and aesthetically pleasing structure to serve the needs of business and residents.

#### **TRAFFIC CONTROL & STREET LIGHTING**

#### TR003 LED Replacement Program

This is the continuation of a multi-year project to replace the approximately 6,700 incandescent green signal indications within the City with LED illuminated indications.

#### TR005 Controller Conversion

This project consists of the replacement of outdated traffic signal controllers that are used to operate the 802 traffic signals within the City.

#### TR006 Priority Vehicle Control System

Priority vehicle control gives emergency vehicles priority treatment at signalized intersections. This project requires revisions and equipment additions to the traffic signal control systems at each intersection where priority treatment is implemented, such as installation of priority vehicle detectors, cabling, and control electronics, and traffic signal control equipment and signal indication modifications and upgrades in conjunction with the earlier changes.

#### TR007 Traffic & Pedestrian Safety Improvements

This program includes: (1) overhead signal additions; (2) operational & safety improvements; (3) signing and delineation; (4) mastarm mounted street name signing; (5) bridge navigation lighting; and (6) pedestrian safety.

#### TR008 Parkway Street Light Replacement

This project consists of the replacement and/or renovation of deteriorated poles, fixtures, and electrical wiring associated with the lighting systems in place in the City's public areas, and along parkways throughout the City. It is anticipated that it will take 10 to 15 years of capital expenditure to replace, paint, renovate, and repair the entire system of 2,043 Park Board lighting units and associated underground cabling.

#### TR010 Traffic Management Systems

This project will replace the central computer system that provides supervisory management of most of the signalized intersections within the City.

#### TR011 City Street Light Renovation

This project will continue a multi-year renovation program for the City's existing decorative street lighting facilities.

#### TR013 Railroad Crossing Safety Improvements

Recent Federal law will eliminate the whistle ban currently held by the City unless specific actions are taken to establish quiet zones. Of the 89 public railroad crossings, the following improvements need to be made: do nothing (34 crossings); close roadway (12); install center medians (19), install median and gate devices (18), and four-quad gate systems (6).

#### TR014 LRT TOD Improvements

This project will include a funding partnership with Hennepin County and will include pedestrian lighting, improvements to pedestrian paths and street crossings, way finding signage, safety improvements, and other pedestrian enhancements.

#### TR015 Safe Routes to School

Safe Routes to School is a new program in the federal transportation bill, SAFETEA-LU, that makes funding available for a variety of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school.

#### TR017 Pedestrian Signals With Count-down Timers

This project would be replacing the traditional pedestrian signal indications with countdown timer pedestrian signal indications. The devices would be installed for crosswalks that are longer and/or more difficult and where there are a larger number of pedestrians crossing (examples include crosswalks near campuses and on transit routes).

#### TR018 Ballpark Area Pedestrian Improvements

The Ballpark Area Pedestrian program is a generic name for a series of potential projects aimed at improving the pedestrian environment in and around the Downtown West neighborhood.

#### TR019 Hiawatha LRT Signal Improvements

The intent of this project is to improve the traffic signal operation on Hiawatha, adjacent to the LRT line, through a combination of traffic signal timing, signal sequence, traffic detection and traffic signal hardware modifications.

# TR00R Reimbursable Transportation Projects

This project is utilized to provide City traffic crews with resources to build out or modify traffic signal or street lighting infrastructure to accommodate private party projects and/or to do repair work or new construction activity for other City Departments as part of their projects such as paving, sewer or water related infrastructure projects. Costs are reimbursed by the parties requesting the work.

#### **BIKE TRAILS**

#### BIK04 18th Ave NE Bikeway

The project will connect to the NE Diagonal Trail in NE Minneapolis that will be constructed in 2007 and also connects to the proposed trail of East/West regional trail connection along 18th Ave NE between Stinson Blvd and Monroe St NE and along the 18th Ave NE abandoned rail corridor between Monroe St NE and Marshall St NE.

#### BIK06 University of Minnesota Trail - Phase III

This project is a regional connection between the existing University of Minnesota Transit way Trail and the Mississippi River (Dinkytown Bikeway Connection-Bridge Nine). The project also includes better bicycling and walking connection at East River Parkway, Oak Street, 5th St SE, and 17th Ave SE.

#### BIK08 Hiawatha Trail Connections

This project creates on-street bicycle lanes along 3rd St S between Chicago Ave S and Hennepin Ave S and replaces bike lanes on 5th St S that were lost due to the Hiawatha LRT line. It also extends the Hiawatha LRT Trail from 11th Ave S to Chicago Ave S.

#### BIK13 RiverLake Greenway (East of I-35W)

The RiverLake Greenway is a neighborhood driven bikeway project from the Chain of Lakes to the Mississippi River midway between the Midtown Greenway and Minnehaha Parkway Trails. In addition to being a regional bicycle route the project includes improvements for pedestrians and provides traffic calming and greenspace enhancements to the corridor.

#### BIK20 Hiawatha LRT Trail Lighting/Trail Extension

This project would add lighting, signage, and striping along the LRT Trail form 11th Ave S to 28th Ave E. Currently the segment of the cooridor is not lit, creating a personal safety issue and inhibiting trail use. Included in this project is the construction of a new trail on both sides of Hiawatha Avenue from the Midtown Greenway to E 32nd St. Construction of the new trail would include curb work, aggregate base, paving, signage, striping, lighting and landscaping.

#### BIK21 26th Ave N Bikeway Study

This project will examine possible bicycle treatments along 26th Ave N in the Jordan Neighborhood. Project funds a community involvement process, possible layouts, and a final report. Project study to be completed by the end of 2009.

## BIK22 18th Ave NE Bike Striping - Monroe to Stinson

Project entails the addition of bicycle lanes from Monroe to Stinson along 18th Ave NE. Project funds to be used for signage, striping, and plan design.

#### BIK23 Bike Boulevard Pilot

The Mayor has suggested a number of candidate corridors to be examined for this type of treatment. A corridor will be recommended in early 2009 based on input from the Bicycle Advisory Committee. Project funds to be used for signage, striping, and plan design.

#### BIK24 Major Bike Maintenance Program

\$100,000 in each program year has been budgeted for major bikeway maintenance. This is being interpreted by Public Works to be funds for major bicycle maintenance improvements including, but not limited to sealcoating, crack sealing, and mill/overlay of major bike routes.

#### STORMWATER SEWER

#### SW002 Miscellaneous Storm Drains

To provide for construction/modification of storm drains that can solve small drainage problems or flooding issues.

#### SW004 Implementation of US EPA Storm Water Regulations

This project will allow the implementation of individual projects and supporting activities termed Best Management Practices (BMPs) designed to mitigate the pollution effects of urbanization on stormwater runoff.

#### SW005 Combined Sewer Overflow Improvements

The capital projects associated with this program include both storm drain construction needed for separating the City's drainage infrastructure, and also to provide facilities for private disconnections where no storm drain currently exists in the area.

#### SW011 Storm Drains & Tunnels Rehabilitation Program

This project involves the rehabilitation and repair of storm drain pipes, storm drain pump stations and deep drainage tunnels throughout the City. The project establishes the annual funding to permit repair and rehabilitation activities to be completed as needed to the storm drain system.

#### SW018 Flood Area 29 & 30

The goal of the project is to protect the homes in the Fulton Neighborhood from flooding by using runoff volume and rate control coupled with load reduction. The preliminary design has several alternates using a combination of new piping to underground or surface ponding to mitigate flooding problems.

#### SW030 Alternative Storm Water Management Strategies

For areas of localized flooding and drainage problems, as alternatives to large pipes and removing homes for stormwater pond construction, this project will be used to implement environmentally friendly "green infrastructure" stormwater practices such as rain gardens, bioswales, constructed wetlands and other bioinfiltration techniques, and pervious pavement.

#### SW032 I-35W Storm Tunnel Reconstruction

The project (which runs along the I-35W corridor from 39th St to the Mississippi River) will accomplish a tunnel of increased capacity either by installing a new adjacent tunnel or by increasing the existing tunnel size. The project could potentially involve the St. Mary's tunnel with the possibility of increasing the tunnel size.

#### SW033 Flood Area 22- Sibley Field

This project aims to protect the homes near Sibley Pond from flooding and to separate the area storm drain still connected to the sanitary system. The preliminary design proposes replacing existing storm drains with new bigger sized storm drain pipes on E 38th St and Longfellow Ave as well as some smaller laterals that drain into these two major pipes and a new inlet structure at Sibley Pond.

#### SW034 Flood Area 21 - Bloomington Pond

The preliminary design options for this project include: replacing existing storm drains with larger sized storm drain pipes at E 41st St; E 42nd St & Bloomington Ave S; two new grit chambers; install new outlet structures to the Bloomington pond; and removing an existing lift station.

#### SW038 Flood Area #5

This project serves an area bounded by Victory Memorial Parkway, 40th Ave N, Girard Ave N and 30th Ave N. The goals of the project are to make water quality improvements for Crystal Lake; to protect the property in that area from flooding; and reduce standing water that finds its way into the sanitary sewer, which will help prevent sewage backups.

#### SW00R Reimbursable Sewer and Storm Drain Projects

This project is utilized to provide City sewer crews with resources to build out or modify storm or sanitary sewers resulting from private party projects and/or to do repair work or new construction activity for other City Departments as part of their projects such as paving, traffic signal & lighting or water related infrastructure projects. Costs are reimbursed by the parties requesting the work.

#### **SANITARY SEWER**

#### SW001 Sanitary Tunnel and Sewer Rehabilitation Program

This project involves the rehabilitation and repair of sanitary sewer pipes, lift stations, and deep collection tunnels throughout the City. The project establishes funding to permit repair and rehabilitation activities to be completed as needed to the sanitary sewer system.

#### SW036 Infiltration & Inflow Removal Program

The project will develop and implement an Infiltration and Inflow reduction program that will meet the Metropolitan Council Environmental Services (MCES) established goal for the City.

#### SW037 Irving Sewer Rehabilitation

This project involves the rehabilitation of a trunk sewer that serves the majority of the Bryn Mawr Meadows neighborhood and a part of the Harrison neighborhood.

#### WATER

#### WTR09 Ultrafiltration Program

The primary objective is to provide physical removal of pathogenic microorganisms and improve the quality of water delivered to the citizens of Minneapolis. The next two phases of the project are the procurement of ultrafiltration equipment and the design of the Fridley Membrane Filtration plant.

### WTR12 Water Distribution Improvements

The majority of the project funds are used for cleaning and lining water main, a rehabilitation process for old unlined water main. Cleaning and lining involves running scrapers through the pipe to clean and then coating the interior with either cement mortar or potable grade epoxy.

#### WTR14 The MWW Facilities Security Improvement

A number of security counter measures were recommended to reduce the risk of threat to the City including following the terrorist attacks of September 11th. The capital improvements aspects of the recommendations include a new vehicle entrance, surveillance equipment and electronic access control of buildings.

#### WTR16 Minneapolis/St. Paul Interconnection

The project is a water system interconnection between the City of Minneapolis and the City of St. Paul, and includes the design and installation of new pipelines, a new pump station, and modifications to an existing water reservoir.

#### WTR17 Treatment Modifications Based on New Regulations

The funding will allow the City of Minneapolis Water Works to investigate how to optimize the existing use of activated carbon and provide the data necessary to plan for future improvements to the treatment process.

#### WTR18 Hennepin Maintenance Facility

This project would design and build a suitable multipurpose maintenance facility for the Water Treatment and Distribution Divisions of the Minneapolis Public Works Department. The project is intended to replace the existing facilities either at the current site or a suitable location found elsewhere in Minneapolis.

#### WTR22 New Filter Presses

Based on the findings of an engineering consulting firm, the City needs to replace its dewatering plant since it has reached the end of its useful life. The recommendation of the firm was to install filter presses for future dewatering, a technology already used in cities such as St. Paul, Richfield, and St. Cloud.

#### WTR0R Reimbursable Water Projects

This project is utilized to provide City water crews with resources to build out or modify water infrastructure to accomodate private party projects and/or to do repair work or new construction activity for other City Departments as part of their projects such as paving, traffic signal & lighting or sewer related infrastructure projects. Costs are reimbursed by the parties requesting the work.

#### **PARKING**

#### RMP01 Parking Facilities - Repair and Improvements

This project is dedicated to the City's existing off-street parking sites. It will focus on large initiates such as replacements/upgrades to the revenue control, security, lighting, mechanical, flooring, and life safety systems, as well as major structural repairs that are in addition to the ongoing preventive maintenance program.

#### RMP03 Bicycle Parking

This project pays for bicycle parking at public buildings throughout the City including schools, libraries, government buildings, and public parking ramps. Portions may be used for design and construction expenses for the federally funded Midtown Greenway Bicycle Station at the Great Lakes Center at Lake and Chicago.

#### **BIS TECHNOLOGY PROJECTS**

#### BIS02 Central Traffic Signal Computer Replacement

This project would implement a replacement of the central computer system which controls the majority of the City's signalized intersections. It includes upgrades to hardware, software, and communication systems at the traffic signal monitoring site (Traffic Control Center).

#### BIS03 Enterprise Document Management

This project consolidates multiple document management systems used by departments into a single Enterprise Document Management System (EDMS).

#### BIS04 Enterprise Infrastructure Capacity Upgrade

This project will build capacity for the City's voice and data network, storage, and enterprise-wide support tools through the upgrade and/or addition of hardware, software, and communication pathways.

#### BIS05 Enterprise Reporting

This project consolidates disparate City electronic reporting into one enterprise reporting solution, thereby eliminating the multiple electronic reporting systems currently used throughout the City, which tend to be department specific.

#### BIS06 GIS Application Infrastructure Upgrade

This project aims to protect the core GIS data repository by creating a secure application and data store that contains only the data that has been vetted and approved for public access and will centralize the GIS application infrastructure.

#### BIS10 Finance System Consolidation/Upgrade

This project includes the upgrade of the Finance system (the current system will no longer be supported by the vendor) and includes business process review and redesign, data conversion, interface review and redesign, acceptance testing, and training of the City's 200+ users.

#### BIS12 Mobile Assessor

This project will fund the purchase and implementation of handheld mobile data collection tools for the Assessor's department. It includes the purchase of 24 new mobile handheld data collection devices, accompanying software, and utilization of the City's new WiFi connection.

#### BIS13 Risk Management & Claims Application Replacement

This project will replace the City's Risk Management and Claims system - PC Comp - toensure continuity of business operations and develop business process improvements through system integration. A new application will be implemented to perform risk management and claims processing as well as develop interfaces for several functions that currently reside outside of the current system. Independent information systems will be eliminated and foster real-time information sharing across departments to support decision-making and action steps regarding potential liablities to the City.

#### BIS14 Land Information Repository

This request is for a Land Information Repository that combines property-related information from Assessor, CPED, Regulartory Services and other land data related systems. One centralized integrated data environment will allow the City to create information and reports from multiple and disparate business systems. The Land Information Repository would create an integrated data environment in which to combine land management information in new and useful ways in a timely manner.

#### **MISCELLANEOUS PROJECTS**

#### ART01 Art in Public Places

This ongoing project (incorporated in 1992) integrates public art into the City's capital projects.

#### **BR113** Nicollet Ave Planning

The project will provide funding for the preliminary planning required for redevelopment of Nicollet Avenue through the Kmart site (Lake to 29th Street). The details of this work will inform the related BR112 Nicollet Ave Reopening project indicated in the Bridge section of Public Works for year 2013.

#### CTY02 City Property Reforestation

This project is a new Mayor initiative to restore green spaces and add to the urban forest by targeted tree plantings on city owned properties such as police, fire or public works facilities.

#### FIR01 City EOC/Training Facility

This project is the 4th phase of a multi-phase development to meet the training needs of the Fire Department and the Emergency Operations needs for both the City and Hennepin County (including suburban municipalities). The facility will also be used by Hennepin County to train for Emergency Preparedness and Emergency Operations.

#### MPD01 MPD Forensic Laboratory

This project would acquire a site and provide suitable facilities for a Forensic Laboratory to be operated by the Minneapolis Police Department that will meet current and indicated future forensic needs.

#### MPD02 MPD Evidence Unit

This project would acquire a site and provide suitable facilities for a Property and Evidence Storage Unit to be operated by the Minneapolis Police Department that will meet current and anticipated future needs of the department.

#### MPD05 Strategic Information Center

This project would provide suitable facilities for a Strategic Information Center to be operated in partnership by the Minneapolis Police Department, Fire Department, 911/311 Communications, and the Department of Public Works that will meet current and anticipated future needs for monitoring and managing information systems for daily use as well as "command and control" needs in managing events and emergencies.

#### PSD03 Facilities-Space Improvements

This capital improvement project provides for the modification/improvement of interior spaces and furnishings in adherence to City adopted standards for space allocation and ergonomic furnishings.

### **Operating Cost Implications for 2009 Projects**

ART01 Art in Public Places

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$5,000.00

Explanation of operating costs:

Because the artwork is integrated into infrastructure, the majority of the maintenance for the art will be addressed in the ongoing maintenance budget for the infrastructure. Many artworks incorporate special materials, however, and so some specialized maintenance is coordinated through Art in Public Places.

#### BIK06 University of Minnesota Trail - Phase III

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$10,000.00

Explanation of operating costs:

This project creates new infrastructure. This project will result in an increase in annual maintenance costs totaling \$10,000 per year. According to the City Council, Mayor, and MPRB approved October 2000 Bikeways Project Final Report, Minneapolis Public Works will bear this cost. This funding will come out of the Street Department's operational budget. The Minneapolis Bicycle Advisory Committee has discussed ways to generate additional operations and maintenance funding for bikeway projects at length. The Minneapolis BAC has requested that the State Bicycle Advisory Committee examine this issue. The State Bicycle Advisory Committee is currently studying ways to generate funding for bicycle infrastructure maintenance that cities and counties could benefit from. Examples include bicycle registration fees, a state sales tax on all bicycle goods and services, advertising on trails, corporate sponsorships, selling trail naming rights, and trail user fees.

#### BIK21 26th Ave N Bikeway Study

Existing or new infrastructure:

Operating Cost Implication: Increase Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

The project will increase the operations budget to allow for restriping and sign maintenance.

#### BIK22 18th Ave NE Bike Striping - Monroe to Stinson

Existing or new infrastructure:

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

#### BIK23 Bike Boulevard Pilot

Existing or new infrastructure:

Operating Cost Implication: Increase Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This project will increase the operations budget to allow for restriping and sign maintenance.

### **Operating Cost Implications for 2009 Projects**

#### BIK24 Major Bike Maintenance Program

Existing or new infrastructure:

Operating Cost Implication: Decrease Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This project will improve the operations budget since less maintenance funds will need to be spent on preventive maintenance for several years after the capital improvement has been made.

#### BIS02 Central Traffic Signal Computer Replacement

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Approval of this project resulting in the replacement of essential computer and associated hardware that is obsolete and expensive to continue to operate and maintain may permit the Traffic & Parking Services Division to reduce operating expenses in subsequent years.

#### **BIS03** Enterprise Document Management

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$50,000.00)

Explanation of operating costs:

The two document management systems currently operating in the City (Stellent and Docuware), are licensed and hosted separately. This means annual maintenance is paid to vendors. Staff is paid to trouble-shoot and maintain functionality. Server space and processing power is consumed by stand alone systems. Consolidating these systems into one software environment with a centrally-managed hardware infrastructure will capture savings – some explicitly visible in reduced software and hardware maintenance costs, some implicit in increased functionality and better managed technology resources. This project may incur some start-up expense to provide extended infrastructure for high-volume image capture and data storage, but system support and maintenance costs savings will be realized – especially when it comes to software licensing, application support, and end-user training and support.

#### BIS04 Enterprise Infrastructure Capacity Upgrade

Existing or new infrastructure: Existing

Operating Cost Implication: Increase Increase/(Decrease) amount: \$50,000.00

Explanation of operating costs:

Initially, annual operating costs will increase as demand for additional bandwidth is met. In later phases of this project, there is an opportunity for cost reduction due to economies of scale and opportunities for consolidation of

infrastructure services Citywide.

### **Operating Cost Implications for 2009 Projects**

#### BIS06 GIS Application Infrastructure Upgrade

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$100,000.00)

Explanation of operating costs:

Currently, full-service GIS functionality – the ability to create and edit spatial data as well to consume and analyze it – can only be delivered by acquiring expensive desktop software licenses. (\$9K - \$10K, plus annual maintenance). These full-service applications are "overkill" for many of the City's processes where the ability to generate and manage this kind of data is needed. This high "cost of entry" has seriously impeded the adoption of GIS tools that could provide significant process improvement across many City departments.

The investment in this project will deliver an infrastructure that lets solution developers create "light" GIS applications with functionality targeted precisely to the task at hand. For every process that could benefit from this technology, the cost of delivering it is reduced by at least the cost of these high-end GIS desktop licenses, as well as the time and training needed to use software designed for experienced GIS analysts.

The addition of a public data store for delivering spatial data services to the public will not reduce tangible, day-to-day costs. Instead it will protect sensitive data about the City's "life support" systems in a way that does not impede the ability to make this valuable information available to the public.

The annual operating costs for supporting the centralized server-based GIS infrastructure does not increase significantly by adding the ability to deliver service-based applications. The servers, databases and system software costs are incurred with or without this capability. The cost of licensing will be reduced per application, but because more processes will be served and more users enabled with useful technology, the actual cost may increase. However, it can be presumed that these costs will be offset by productivity gains, justifying enterprise support for this asset to be distributed among City departments following standard BIS chargeback models.

#### BIS10 Finance System Consolidation/Upgrade

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$96,000.00)

Explanation of operating costs:

It is expected that the annual operating/maintenance costs will stay approximately the same for hardware and software, but will decrease for staffing, arriving at a net reduction.

#### BIS12 Mobile Assessor

Existing or new infrastructure: New

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$30,000.00)

Explanation of operating costs:

The project will result in decreased operating costs associated with reducing data entry time, identifying and correcting errors, and finding and replacing lost records. Assessors will be able to reduce the amount of time they spend in the office entering information from paper records, improving their productivity in the field.

### **Operating Cost Implications for 2009 Projects**

**BR101** Major Bridge Repair and Rehabilitation

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$20,000.00)

Explanation of operating costs:

The proposed funding level will allow us to undertake major repair /rehabilitation work that was beyond the scope of our annual maintenance funding. A system wide bridge deck maintenance program as well as "shot-crete" pier and column program can now be undertaken system wide. The benefits will be realized at a later date when reductions of "Bridge Sufficiency ratings" are minimized. This will allow for a more positive bridge maintenance effort centered around cleaning rather then the present reactive program which attempts to address system problems.

#### CTY02 City Property Reforestation

Existing or new infrastructure:

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

#### FIR01 Emergency Operations Training Facility (EOTF)

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$112,500.00

Explanation of operating costs:

The proposed project will result in increased operating costs that are directly related to the costs for cleaning, utilities, security, as well as preventive and corrective maintenance. Although the specific building design has not been identified, based on previous costs for similar facilities we would expect a maintenance cost of \$5.00 per sq. ft., these costs will be paid by the Fire Department as part of their annual operating funds. This is a staff neutral plan.

#### MBC01 Life Safety Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Installation of sprinkler, smoke, and fire alarm systems will reduce insurance premiums for the building and also reduce the risk of property loss and potential lawsuits to the City and County. In a building housing numerous essential services, a reduction in the risk of potential lawsuits could be of substantial benefit. The program also will reduce the risk of loss of life to the public and/or staff in the building. In 2005, property insurance costs for the building were reduced from \$57,500 to \$51,510. A portion of this savings can be attributed to the Mechanical Life Safety Project.

### **Operating Cost Implications for 2009 Projects**

MBC02 Mechanical Systems Upgrade

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Additional air handling units will consume electricity and increase utility costs. Increased quantities of fresh air will need to be heated or cooled during the winter or summer thereby increasing utility costs. The new mechanical system will incorporate numerous energy saving measures that will be utilized to offset these increased utility costs. The new system will incorporate an economizer cycle that will utilize outside air for cooling during the spring and fall. The new control system will permit a night and weekend temperature setback. This will save heating and cooling costs during unoccupied periods. The control system will enable the building to manage peak demand. By reducing peak demand for steam and chilled water, savings can be realized throughout the year. Electrical lighting systems installed during the renovations will enable lights to be shut off automatically during unoccupied periods. Since the start of the combined mechanical and life safety program, electrical consumption in the building has been reduced approximately 25 percent. These energy savings will be used to offset the cost of improved ventilation. It should be noted that energy consumption will also be reduced by the demolition and removal of obsolete and failing steam heating systems.

#### MBC04 MBC Elevators

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Annual lease costs for the office and storage space that could have elevator service interrupted would exceed the project cost. Operating costs for elevator maintenance will be hundreds of thousands of dollars less than the cost to lease equivalent space.

#### MBC10 City Hall Green Roof

Existing or new infrastructure:

Operating Cost Implication: Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

#### MPD01 MPD Forensic Laboratory

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$100,000.00

Explanation of operating costs:

The Minneapolis Police Department is currently undertaking a long-range study of its space and facility needs. As part of that planning effort, the estimates of space needs and costs for the laboratory will be refined as needed. Although the site or specific building location has not been identified, based on previous costs for similar facilities we would expect a maintenance cost of \$5.00 per sq. ft., these costs will be paid by MPD annual operating funds.

### **Operating Cost Implications for 2009 Projects**

MPD05 Strategic Information Center

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$10,000.00

Explanation of operating costs:

Increase building costs. Staff savings by pooling resources which may keep MPD from having to add dedicated staff.

#### PRK21 Pedestrian Bridges

Existing or new infrastructure:

Operating Cost Implication: Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

#### PSD01 Facilities - Repair and Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

The majority of the projects included in the program are of small scale. The key operational savings achieved by yearly investment in facilities is to keep operational costs from significantly increasing in the future and protecting the City's current investment in facilities. In addition, reasonable effort will be made to decrease first-time and long-term maintenance costs resulting in a more cost effective facility operation.

#### PSD03 Facilities - Space Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$1,000,000.00)

Explanation of operating costs:

By standardizing space allocation and functionally improving space, the City has been able to utilize its office space more efficiently and therefore as more and more City space is standardized, the cost of future moves and changes to these spaces decreases. The City will also eventually be able to reduce its annual real estate costs by reducing leased space. By continuing to fund the program the City will be able to vacate the current lease for the City Attorney (renewal date is December 2009) that will save the City an anticipated \$1,000,000 annually.

In addition, standard office furnishings will allow for ergonomic provisions in work spaces. Workers compensation related expenses associated with repetitive injury will be reduced through the implementation of ergonomic furniture standards. This is not readily quantifiable but is a proven outcome.

#### PSD11 Energy Conservation and Emissions Reduction

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$100,000.00)

Explanation of operating costs:

Energy conservation measures directly reduce operating costs. The program will be prioritized based on the initiatives that have the highest return on investment. In some cases, upgrades to building systems will reduce maintenance costs for a period of time.

### **Operating Cost Implications for 2009 Projects**

PV001 Parkway Paving

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$20,000.00)

Explanation of operating costs:

Decreases the maintenance expense by improving the quality of the pavement, reducing the need for maintenance funding.

#### PV003 Street Renovation Program

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$15,000.00)

Explanation of operating costs:

The project will reduce the maintenance resources needed to be expended on these roadways over approximately the next 30 years, freeing up street maintenance funds for other street maintenance needs.

#### PV004 CSAH Paving Program

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Reconstruction of roadways at the end of their design life decreases the annual maintenance cost. This is due to the roadway requiring a high level of annual maintenance to maintain a modest, to poor, service level. Reconstruction will drop the annual maintenance costs to a minimum while providing its highest ride quality. Future roadway maintenance expenses can then be programmed to maximize cost/benefit through routine repairs and overlays.

#### PV006 Alley Renovation

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Although this work will have minimal affect in maintenance savings initially, the continuation of this program will begin to reduce ongoing maintenance needs with the increase in the number of alleys which are overlaid.

#### PV007 University Research Park

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$20,000.00

Explanation of operating costs:

The construction of this infrastructure will result in an increase in maintenance costs, which will reduce the ability of the city to meet existing service levels as resources are taken from the other areas to meet this new need. The city will need to re-allocate existing resources to cover Snow and Ice Control from its existing General Fund appropriation. In addition, the city will need to ask for an increase in its appropriation for cleaning from the Sewer Fund 7300 for additional sweeping and cleaning. As the new infrastructure ages additional costs will come to the General Fund appropriation on Street Maintenance and Repair for seal coating and pothole repair.

### **Operating Cost Implications for 2009 Projects**

PV008 I-35W & Lake St Interchange Reconstruct, Phase 4

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Reconstruction of roadways at the end of their design life decreases the annual maintenance cost. This is due to the roadway requiring a high level of annual maintenance to maintain a modest, to poor, service level. Reconstruction will drop the annual maintenance cost to a minimum while providing its highest ride quality. Future roadway maintenance expenses can then be programmed to maximize cost/benefit through routine repairs and overlays.

#### PV029 Chicago Ave S (8th St S to 28th St E)

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$15,000.00)

Explanation of operating costs:

Reconstructing this segment will result in a decrease in maintenance costs, which will allow the responsible agency to move its maintenance resources to other areas that are coming into need as they reach the end of their life cycle.

#### PV041 2nd Ave N Reconstruction

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$3,000.00)

Explanation of operating costs:

By reconstructing the roadway we will reduce the need to expend larger amounts of maintenance dollars to provide a poorer level of service.

#### PV047 3rd Ave N Reconstruction

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$1,500.00)

Explanation of operating costs:

Reconstruction of roadways at the end of their design life decreases the annual maintenance cost. This is due to the roadway requiring a high level of annual maintenance to maintain a modest, to poor, service level. Reconstruction will drop the annual maintenance cost to a minimum. Future roadway maintenance expenses can then be reprogrammed to maximize cost/benefit through routine repairs and overlays.

#### PV049 1st Ave N One-way to Two-way (1st to 9th St S)

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

### **Operating Cost Implications for 2009 Projects**

PV050 Hennepin Ave One-way to Two-way (1st to 12th St S)

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

PV056 Asphalt Pavement Resurfacing Program

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$10,000.00)

Explanation of operating costs:

Decrease the maintenance expense by improving the quality of the pavement.

PV058 Cottage Park Traffic Calming

Existing or new infrastructure:

Operating Cost Implication: Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

PV059 Major Pavement Maintenance

Existing or new infrastructure:

Operating Cost Implication: Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

RMP01 Parking Facilities - Repair and Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$200,000.00)

Explanation of operating costs:

The key operational savings achieved by yearly investment in facilities is to keep operational costs from significantly increasing in the future and not protecting the City's current investment in facilities. Additionally, the security and revenue control upgrades will provide an estimated \$200,000 in operational savings due to reduced staff requirements. Decrease - gained efficiencies through building electrical updating such as lighting, heating, cooling, and ventilation systems.

### **Operating Cost Implications for 2009 Projects**

#### SW001 Sanitary Sewer and Tunnel Rehabilitation

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$100,000.00)

Explanation of operating costs:

This project will generally decrease annual operating/maintenance costs by reducing the frequency and magnitude of emergency repairs.

#### SW002 Miscellaneous Storm Drains

Existing or new infrastructure: Both

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$100,000.00)

Explanation of operating costs:

This project will generally decrease annual operating/maintenance costs by reducing the frequency and magnitude of emergency repairs.

#### SW004 Implementation of US EPA Storm Water Regulations

Existing or new infrastructure: Both

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Construction of new stormwater best management practices (BMPs) may require additional maintenance costs which will be paid for with sewer revenue depending on the BMP constructed. These costs may be leveraged as capital construction costs to assure proper maintenance is done.

#### SW005 Combined Sewer Overflow Improvements

Existing or new infrastructure: Both

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

Each project funded under this program may have unique annual operating & maintenance costs. Generally speaking, new storm drains will be replacing older pipes draining to the sanitary. Also, any cost increases would be likely offset by decreases because of fewer sanitary problems and odor related problems near storm drain inlets.

#### SW011 Storm Drains & Tunnels Rehabilitation Program

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount:

Explanation of operating costs:

This project will generally decrease annual operating/maintenance costs by reducing the frequency and magnitude of emergency repairs.

### **Operating Cost Implications for 2009 Projects**

#### SW030 Alternative Stormwater Management Strategies

Existing or new infrastructure: New

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This project may increase annual operating and maintenance costs of the Sewer Maintenance Division of Public Works for maintenance of the BMPs. However this project may decrease annual operating and maintenance costs of the same division for addressing localized flooding issues. Any increase would be paid from the Stormwater Utility enterprise fund.

#### SW033 Flood Area 22 - Sibley Field

Existing or new infrastructure: Both

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

The operating & maintenance cost for new storm drain is minimal. These costs will be paid out of the sewer maintenance operating fund, which is supported by sewer revenue (the stormwater utility fee).

#### SW034 Flood Area 21 - Bloomington Pond

Existing or new infrastructure: Both

Operating Cost Implication: Increase Increase/(Decrease) amount: \$10,000.00

Explanation of operating costs:

The operating & maintenance cost for new storm drain is minimal. However, the proposed grit chambers will need periodic cleaning, which would increase the annual operating/maintenance costs. These costs will be paid out of the sewer maintenance operating fund, which is supported by sewer revenue (the stormwater utility fee).

#### SW036 Infiltration & Inflow Removal Program

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

By eliminating infiltration, our maintenance costs would be reduced. By eliminating inflow, we would reduce potential flooding cleanup costs and possible surcharge costs by MCES.

#### SW037 Irving Sewer Rehabilitation

Existing or new infrastructure: Both

Operating Cost Implication: Increase Increase/(Decrease) amount: \$20,000.00

Explanation of operating costs:

Part of the project involves the rehabilitation of an existing sewer. Maintenance costs of the rehabilitated sewer will be less than current costs because of the smaller size and increased slope. A new lift station would increase operation and maintenance cost. The new cost will be paid from Sewer Revenue Fund.

### **Operating Cost Implications for 2009 Projects**

#### SWK01 Defective Hazardous Sidewalks/Complete Gaps

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This proposal has no effect on annual operating/maintenance costs. Funds for the operation of the Sidewalk Inspection office are provided for by: 1) the Sidewalk Construction Permit fees paid by contractors, 2) Overhead fees paid by property owners when they are notified by the Sidewalk Inspections office and required by City ordinance to repair sidewalk defects, or when they request to use the City hired sidewalk contractor to make needed repairs to defective public sidewalk, and 3) Overhead fees paid by other City of Minneapolis Departments when the sidewalk portion of their project work is constructed by the City hired sidewalk contractor. The cost of maintenance of the public sidewalks is required by ordinance (City Charter, Chapter 8, Section 12 and 13) to be paid for by the adjacent property owner.

#### TR003 LED Replacement Program

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$400,000.00)

Explanation of operating costs:

Completion of the Project City wide will result in not having to increase the Division operations budget by \$200,000 annually over 2 years due to not having to spend limited maintenance funds on the purchase and installation of new red LEDs.

#### TR007 Traffic & Pedestrian Safety Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: Increase Increase/(Decrease) amount: \$125.00

Explanation of operating costs:

Overhead signal additions would increase operating costs by \$12.50 per unit per year. In 2011 there are 21-overhead signal structures proposed for construction.

#### TR008 Parkway Street Light Replacement

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$6,000.00)

Explanation of operating costs:

It is estimated that personnel costs would be reduced by over \$1,500 annually, and that equipment rental would be reduced \$500 annually as a result of the funding provided for this program in 2013 for a savings of \$2,000 annually.

#### TR010 Traffic Management Systems

Existing or new infrastructure: Existing

Operating Cost Implication: Increase Increase/(Decrease) amount: \$30,000.00

Explanation of operating costs:

It is anticipated that the Adaptive Signal Control Expansion project will result in an increase in annual maintenance costs in the form of increased personnel costs (\$10,000), electricity usage (\$2,500), and equipment replacement costs (\$17,500). These increased costs would be absorbed within the Traffic & Parking Services Division operating budget.

### **Operating Cost Implications for 2009 Projects**

TR011 City Street Light Renovation

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$75,000.00)

Explanation of operating costs:

Approximately 30 lighting poles are removed each year that are in serious jeopardy of falling over as a result of the corrosion of the metal within the pole. Not all of the poles are replaced under current practices because of insufficient maintenance funds. The replacement cost for a new pole and transformer base and reconstruction of the anchorage is approximately \$6,000 each. It is estimated that this program once completed for the 800 poles most in need of immediate attention would save approximately \$75,000 annually in maintenance costs.

#### **TR013** Railroad Crossing Safety Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This program will both add and remove infrastructure. Additions will primarily include medians, signs and railroad devices. Removals will be certain railroad crossings and streets where maintenance will no longer be needed. The cost of the additions/removals is still being determined. However, most of the additional costs (railroad devices) will be maintained by the railroads and not the City. Currently, Public Works expects the overall operating and maintenance costs will be the same.

#### TR014 LRT TOD Improvements

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$3,600.00

Explanation of operating costs:

New pedestrian lighting would increase our annual operating cost approximately \$3,600. The funds to cover this increase would come from an increase in our operating budget.

#### TR015 Safe Routes to School

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$5,000.00

Explanation of operating costs:

The infrastructure approved as part of the 1st application is a replacement of existing infrastructure with longer life and more robust infrastructure which will cause a decrease in O&M costs. However it is expected that potential increases may be realized with infrastructure additions in the future.

#### **TR018** Ballpark Area Pedestrian Improvements

Existing or new infrastructure: New

Operating Cost Implication: Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This project is still in the planning stages and operating cost implications are unknown at this time.

### **Operating Cost Implications for 2009 Projects**

#### TR019 Hiwatha LRT Signal Improvements

Existing or new infrastructure:

Operating Cost Implication: No Change Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

There should be no significant operating costs incurred with this work.

#### WTR09 Ultrafiltration Program

Existing or new infrastructure: New

Operating Cost Implication: Increase Increase/(Decrease) amount: \$1,500,000.00

Explanation of operating costs:

It will increase the annual operation/maintenance costs and will be paid by Water Revenue funds.

#### WTR12 Water Distribution Improvements

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

This project will have a very minor reduction on the Water Works annual operations/maintenance costs since life cycle replacements reduce replacements due to failure. This project will help to maintain the City's current level of service to its water customers.

#### WTR14 The MWW Facilities Security Improvement

Existing or new infrastructure: Both

Operating Cost Implication: Increase Increase/(Decrease) amount: \$0.00

Explanation of operating costs:

N/A

#### WTR22 New Filter Presses

Existing or new infrastructure: Existing

Operating Cost Implication: Decrease Increase/(Decrease) amount: (\$535,000.00)

Explanation of operating costs:

Based on the CH2MHILL study, this project will reduce the annual operating cost 30 to 35 percent. The project will be funded by Enterprise Bonds.

# MUNICIPAL BUILDING COMMISSION FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
ILAN	םו ו	IIIEE	NDD	WIGA	ASSIM	OTTLK	IOIAL	AFFROR
2009	MBC01	Life Safety Improvements	300	0	0	0	300	300
2010		, ,	300	0	0	0	300	300
2011			340	0	0	0	340	340
2012			340	0	0	0	340	340
2013			300	0	0	0	300	300
Total			1,580	0	0	0	1,580	1,580
2009	MBC02	Mechanical Systems Upgrade	500	0	0	0	500	500
2010			500	0	0	0	500	500
2011			500	0	0	0	500	500
2012			500	0	0	0	500	500
2013			500	0	0	0	500	500
Total			2,500	0	0	0	2,500	2,500
2009	MBC04	MBC Elevators	0	0	0	95	95	0
2010		Other = One-time transfer	0	0	0	0	0	0
2011		from General Fund	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	95	95	0
2009	MBC06	Clock Tower Upgrade	0	0	0	0	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total	MPOOO	Critical Davier Conital Design	0	0	0	0	0	0
2009	MBC09	Critical Power Capital Project	0	0	0	0	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012 2013			0	0	0	0	0	0
Total			0 <b>0</b>	0	0	0	0 0	0
2009	MBC10	City Hall Green Roof	0	0	0	108	108	0
2010	WIDCIO	Other = One-time transfer	0	0	0	0	0	0
2011		from General Fund - actual	0	0	0	0	0	0
2011		amount is \$107,500	0	0	0	0	0	0
2012		amount 15 \$ 107,000	0	0	0	0	0	0
Total			0	0	0	108	108	0
2009	CTY01	Restoration of Historic	0	0	0	0	0	0
2010		Reception Room	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0

# MUNICIPAL BUILDING COMMISSION FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	<b>PROJECT</b>	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	800	0	0	203	1,003	800
2010	800	0	0	0	800	800
2011	840	0	0	0	840	840
2012	840	0	0	0	840	840
2013	800	0	0	0	800	800
Total Municipal Bldg Commission	4,080	0	0	203	4,283	4,080

# LIBRARY COMMITMENT TO HENNEPIN COUNTY LIBRARY SYSTEM COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER*	TOTAL	APPROP
2009		Funding Commitments are	2,130	0	0	2,925	5,055	0
2010		part of the merger agreement	1,900	0	0	3,910	5,810	0
2011		of the Mpls Public Library	1,040	0	0	0	1,040	0
2012		System into the Hennepin	0	0	0	0	0	0
2013		County Library System	0	0	0	0	0	0
Total			5,070	0	0	6,835	11,905	0

<sup>\*</sup> Other = Library Referendum Bonds

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	2,130	0	0	2,925	5,055	0
2010	1,900	0	0	3,910	5,810	0
2011	1,040	0	0	0	1,040	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
<b>Total Library Commitments</b>	5,070	0	0	6,835	11,905	0

# PARK BOARD FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT						CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2000	DDICAC	Darkway and Adjacent		0	٥	٥		
2009	PRK16	Parkway and Adjacent	0	0	0	0	0	0
2010		Parkland Lighting Replacement	0	0	0	0	0	0
2011		(141 request was moved to	0	0	0	0	0	0
2012		Public Works Parkway St Light	0	0	0	0	0	0
2013		Replacement - TR008)	0	0	0	0	0	0
Total	DDICAG	Folyall Darking Let	0	0	0	<b>0</b>	0	0
2009	PRK18	Folwell Parking Lot	0	0	0	[ ]	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0		-	0		
2013 Total			0	0 <b>0</b>	0 <b>0</b>	0	0 <b>0</b>	0
2009	PRK19	Phillips Pool & Gym Building	0	0	0	0	0	0
2010	1 131313	Improvements	0	0	0	0	0	0
2010		mprovements	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	PRK20	Farview Lot, Trail, Courts and	0	0	0	0	0	0
2010		Lighting Improvements	0	0	0	0	0	0
2011		3 3 7 3 3	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	PRK21	Pedestrian Bridges	141	0	0	0	141	0
2010		· ·	350	0	0	0	350	0
2011			400	0	0	0	400	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			891	0	0	0	891	0
2009	PRKCP	Park Capital Infrastructure	0	0	0	2,000	2,000	0
2010		Other = 1,500 Park Capital	0	0	0	2,000	2,000	0
2011		Levy & 500 of new capital	0	0	0	2,000	2,000	0
2012		expansion funding (10%*) - per	0	0	0	2,000	2,000	0
2013		Park priorities	0	0	0	2,000	2,000	0
Total			0	0	0	10,000	10,000	0
2009	PRKDT	Diseased Tree Removal	0	0	500	0	500	0
2010			0	0	500	0	500	0
2011			0	0	500	0	500	0
2012			0	0	500	0	500	0
2013			0	0	500	0	500	0
Total			0	0	2,500	0	2,500	0

# PARK BOARD FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	141	0	500	2,000	2,641	0
2009	350	0	500	2,000	2,850	0
2011	400	0	500	2,000	2,900	0
2012	0	0	500	2,000	2,500	0
2013	0	0	500	2,000	2,500	0
Total Park Board	891	0	2,500	10,000	13,391	0

#### **Council Revised Capital Program for Park Infrastructure:**

(Excluding Diseased Tree Removal)

Project II	D Project Description	2009	2010	2011	2012	2013	Totals
	Park Board Capital:						
PRK21	Pedestrian Bridges	141	350	400	0	0	891
PRKCP	Park Capital Infrastructure	2,000	2,000	2,000	2,000	2,000	10,000
	Total Park Board Capital	2,141	2,350	2,400	2,000	2,000	10,891
	Public Works Capital (for Parks):						
PV001	Parkway Paving	2,400	0	0	500	500	3,400
PV001	Parkway Paving - Assessments	160	10	10	60	60	300
PV001	Parkway Paving - Expanded Pgm	150	150	150	150	150	750
TR008	Parkway Street Light Replacement	141	150	150	150	150	741
TR008	Parkway Lighting - Expanded Pgm	150	150	150	150	150	750
	Total Public Works Capital (for Parks)	3,001	460	460	1,010	1,010	5,941
	Total Park related Capital Program	5,142	2,810	2,860	3,010	3,010	16,832
	Parks Capital Program Funding Breakdov	vn:					
	Park Capital Levy	1,500	1,500	1,500	1,500	1,500	7,500
	Assessment Bonds	160	10	10	60	60	300
	Other (Hilton Trust Funds)	800	800	800	800	800	4,000
	Net Debt Bonds	2,682	500	550	650	650	5,032
	Total Parks Capital Funding	5,142	2,810	2,860	3,010	3,010	16,832

<sup>\* -</sup> Park Board is receiving 10% of the City's expanded program because their assets are approximately 10% of the City's total.

(GENERAL INFRASTRUCTURE)

# FACILITY IMPROVEMENTS COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	PSD01	Facilities - Repair and	900	0	0	0	900	0
2010		Improvements	400	0	0	0	400	0
2011			1,200	0	0	0	1,200	0
2012			1,159	0	0	0	1,159	0
2013			900	0	0	0	900	0
Total			4,559	0	0	0	4,559	0
2009	PSD06	Pioneer & Soldiers Memorial	0	0	0	0	0	0
2010		Cemetery Fencing Rehab	0	0	0	0	0	0
2011			250	0	0	0	250	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			250	0	0	0	250	0
2009	PSD11	Energy Conservation and	300	0	0	0	300	0
2010		Emissions Reduction	300	0	0	0	300	0
2011		See Note A below.	500	0	0	0	500	0
2012			500	0	0	0	500	0
2013			500	0	0	0	500	0
Total			2,100	0	0	0	2,100	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	1,200	0	0	0	1,200	0
2010	700	0	0	0	700	0
2011	1,950	0	0	0	1,950	0
2012	1,659	0	0	0	1,659	0
2013	1,400	0	0	0	1,400	0
Total Facility Improvements	6,909	0	0	0	6,909	0

Note A: Public Works should work with the Municipal Building Commission (MBC) to evaluate the return on investment of MBC proposals for lighting efficiency improvements in City Hall for potential funding.

(GENERAL INFRASTRUCTURE)

# STREET PAVING COUNCIL REVISED BUDGET

	PROJECT						CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	PV001	Parkway Paving	2,550	0	160	0	2,710	0
2010		Other = Expanded Capital	0	0	10	150	160	0
2011		from Hilton Trust funds	0	0	10	150	160	0
2012			500	0	60	150	710	0
2013			500	0	60	150	710	0
Total			3,550	0	300	600	4,450	0
2009	PV003	Street Renovation Program	1,815	0	665	0	2,480	0
2010		Other = Expanded Capital	1,845	0	710	500	3,055	0
2011		from Hilton Trust funds	2,500	0	755	500	3,755	0
2012			6,375	0	1,455	500	8,330	0
2013	See Storm	water Fund for Sewer related work.	1,115	0	275	0	1,390	0
Total			13,650	0	3,860	1,500	19,010	0
2009	PV004	CSAH Paving Program	0	400	575	0	975	0
2010		(County State Aid Highway)	0	470	600	0	1,070	0
2011			0	850	675	0	1,525	0
2012			850	0	750	0	1,600	0
2013			850	0	675	0	1,525	0
Total			1,700	1,720	3,275	0	6,695	0
2009	PV005	Snelling Ave Extension	0	0	0	0	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			450	0	750	0	1,200	0
2013			0	0	0	0	0	0
Total			450	0	750	0	1,200	0
2009	PV006	Alley Renovation	200	0	50	0	250	0
2010		Other = Expanded Capital	176	0	110	200	486	0
2011		from Hilton Trust funds	269	0	130	200	599	0
2012			0	0	50	200	250	0
2013			0	0	50	200	250	0
Total			645	0	390	800	1,835	0
2009	PV007	University Research Park/	0	0	500	0	500	4,457
2010		Central Corridor	0	0	0	0	0	0
2011		Other = CPED contributions	200	835	835	5,130	7,000	0
2012		Non-Approp = State of MN	200	1,835	515	5,000	7,550	21,000
2013	See Storm	water Fund for Sewer related work.	200	275	0	0	475	0
Total			600	2,945	1,850	10,130	15,525	25,457

(GENERAL INFRASTRUCTURE)

# STREET PAVING COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	PV008	I-35W & Lake St Interchange	125	0	0	0	125	0
2010		Reconstruct Phase 4	80	0	0	0	80	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			205	0	0	0	205	0

\*-This funding is for Minneapolis to participate with Hennepin County and MNDOT to move forward on Lake Street between Blaisdell Avenue and 5th Avenue South. The results will be a completed roadway design and streetscape plan set for Lake Street, a completed roadway plan set for Nicollet Avenue between 31st Street and 28th Street and 38th Street between Nicollet Avenue and Clinton Avenue, a completed bridge plan set the 40th Street Pedestrian Bridge, concept (30%) bridge design for the 38th Street and Lake Street Bridges. Also included is the Visual Quality Manual. The Visual Quality Manual will give guidance to the freeway corridor area while enhancing the diverse environments including a transportation corridor (transit/pedestrian/bicyclist) adjacent to a historic community. It is anticipated the process will occur over three years and include Project Advisory Committee (PAC) and Technical Advisory Committee (TAC) meetings as well as neighborhood and community meetings.

2009	PV019	6th Ave N (5th St N to Dead	0	0	0	0	0	0
2010		End N of Wash Ave)	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	PV021	33rd Ave SE and Talmage	0	0	0	0	0	0
2010		Avenue	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	PV028	Franklin/Cedar/Minnehaha	0	0	0	0	0	0
2010		Improvement Project	0	0	0	0	0	0
2011		Non Approp = Federal funds	50	0	860	0	910	2,727
2012		(Additional funding sources of	0	0	0	0	0	0
2013		\$3,856 need to be identified)	0	0	0	0	0	0
Total			50	0	860	0	910	2,727
2009	PV029	Chicago Ave S (8th St S	355	4,690	4,520	0	9,565	0
2010		to 28th St E)	1,060	3,695	4,520	0	9,275	0
2011			0	0	0	0	0	0
2012	See Storm	water Fund for Sewer related work.	0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			1,415	8,385	9,040	0	18,840	0

(GENERAL INFRASTRUCTURE)

# STREET PAVING COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
IEAR	טו	IIILE	ИДВ	IVISA	ASSIVI	OTHER	IOIAL	AFFRUF
2009	PV035	TH121/Lyndale Ave S	0	0	0	0	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012	See Storm	water Fund for Sewer related work.	0	0	0	0	0	0
2013			2,235	2,150	445	0	4,830	0
Total			2,235	2,150	445	0	4,830	0
2009	PV038	Winter St NE Residential/	0	0	0	0	0	0
2010		Commercial	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012	See Storm	water Fund for Sewer related work.	0	0	0	0	0	0
2013			3,045	0	1,435	0	4,480	0
Total			3,045	0	1,435	0	4,480	0
2009	PV041	Glenwood Ave (2nd Ave N)	20	685	95	0	800	0
2010		Reconstruction	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			20	685	95	0	800	0
2009	PV047	3rd Ave N Reconstruction	345	0	150	0	495	0
2010			790	0	0	0	790	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total	D) (0.40	4 st Ave N Oss were to Two West	1,135	0	150	0	1,285	0
2009	PV049	1st Ave N One-way to Two-Way	265	995	0	0	1,260	0
2010		(1st to 12th St S)	0	0	0	0	0	0
2011 2012			0	0	0	0	0	0
2012			0	0	0	0	0	0
Total			265	995	0	0	1.260	0
2009	PV050	Hennepin Ave One-way to	90	805	0	0	895	0
2010		Two-way-(1st to 12th St S)	0	0	0	0	0	0
2011		Two way (16t to 12th of 6)	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			90	805	0	0	895	0
2009	PV056	Asphalt Pavement Resurfacing	2,400	500	2,325	0	5,225	0
2010		Program	400	500	2,325	2,000	5,225	0
2011		Other = Expanded Capital	400	500	2,325	2,000	5,225	0
2012		from Hilton Trust funds	400	500	2,325	2,000	5,225	0
2013			400	500	2,325	2,000	5,225	0
Total			4,000	2,500	11,625	8,000	26,125	0

(GENERAL INFRASTRUCTURE)

# STREET PAVING COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
				· · · · · · · · · · · · · · · · · · ·				
2009	PV057	Nicollet Ave (31st St E to	0	0	0	0	0	0
2010		40th St E)	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013	See Storm	water Fund for Sewer related work.	1,030	6,310	1,680	0	9,020	0
Total			1,030	6,310	1,680	0	9,020	0
2009	PV058	Cottage Park Traffic Calming	90	0	0	0	90	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			90	0	0	0	90	0
2009	PV059	Major Pavement Maintenance	0	0	0	700	700	0
2010		Other = Expanded Capital	0	0	0	1,000	1,000	0
2011		from Hilton Trust funds	0	0	0	1,000	1,000	0
2012			0	0	0	1,000	1,000	0
2013			0	0	0	800	800	0
Total			0	0	0	4,500	4,500	0
2009	PV060	Central Corridor Light Rail	0	0	0	700	700	0
2010		Transit Study	0	0	0	0	0	0
2011		Other = One-time transfer	0	0	0	0	0	0
2012		from General Fund	0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	700	700	0
2009	PV00R	Reimbursable Paving Projects	0	0	0	3,500	3,500	0
2010		Other = Various external or	0	0	0	3,500	3,500	0
2011		internal billings for work done	0	0	0	3,500	3,500	0
2012		or overheads charged	0	0	0	3,500	3,500	0
2013			0	0	0	3,500	3,500	0
Total			0	0	0	17,500	17,500	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	8,255	8,075	9,040	4,900	30,270	4,457
2010	4,351	4,665	8,275	7,350	24,641	0
2011	3,419	2,185	5,590	12,480	23,674	2,727
2012	8,775	2,335	5,905	12,350	29,365	21,000
2013	9,375	9,235	6,945	6,650	32,205	0
Total Street Paving	34,175	26,495	35,755	43,730	140,155	28,184

(GENERAL INFRASTRUCTURE)

# SIDEWALK PROGRAM COUNCIL REVISED BUDGET

	<b>PROJECT</b>	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	SWK01	Defective Hazardous Sidewalks/	195	0	2,410	0	2,605	0
2010		Complete Gaps	205	0	2,530	0	2,735	0
2011			215	0	2,665	0	2,880	0
2012			225	0	2,795	0	3,020	0
2013			235	0	2,925	0	3,160	0
Total			1,075	0	13,325	0	14,400	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	195	0	2.410	0	2,605	0
2010	205	0	2,530	0	2,735	0
2011	215	0	2,665	0	2,880	0
2012	225	0	2,795	0	3,020	0
2013	235	0	2,925	0	3,160	0
Total Sidewalk Program	1,075	0	13,325	0	14,400	0

# HERITAGE PARK INFRASTRUCTURE COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	CDA01	Heritage Park Redevelopment	0	0	0	0	0	0
2010		Project/Central Corridor	200	0	0	0	200	0
2011			500	0	0	0	500	0
2012	See Storm	water Fund for Sewer related work.	0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			700	0	0	0	700	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	0	0	0	0	0	0
2010	200	0	0	0	200	0
2011	500	0	0	0	500	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
Total Heritage Park Redevelopment	700	0	0	0	700	0

Note: Additional funding sources for this project will be appropriated as agreements are finalized.

(GENERAL INFRASTRUCTURE)

# BRIDGES COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
	1			,	,		ı	
2009	BR101	Major Bridge Repair and	300	0	0	0	300	0
2010		Rehabilitation	300	0	0	0	300	0
2011			300	0	0	0	300	0
2012			300	0	0	0	300	0
2013			400	0	0	0	400	0
Total			1,600	0	0	0	1,600	0
2009	BR105	Fremont Ave S Bridge	0	0	0	0	0	0
2010		Other = State of MN 720 and	0	0	0	0	0	0
2011		HCRRA 80	0	0	0	0	0	0
2012		NDB funding is short \$580 K	1,000	0	0	800	1,800	0
2013	See Storm	water & Water sections also.	0	0	0	0	0	0
Total			1,000	0	0	800	1,800	0
2009	BR109	Camden Bridge Rehabilitation	0	0	0	0	0	0
2010		Other = State of MN 904	1,895	1,405	0	904	4,204	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total		0. 4 (1	1,895	1,405	0	904	4,204	0
2009	BR110	St. Anthony Bridge over BNSF	0	0	0	0	0	0
2010		Other = Federal Govt 5,000	0	0	0	0	0	0
2011		and State of MN 3,042	2,165	0	0	8,042	10,207	0
2012			250	0	0	0	250	0
2013			0	0	0	0	0	0
Total	DD444	40th Arra OF Daiders Arrah	2,415	0	0	8,042	10,457	0
2009	BR111	10th Ave SE Bridge Arch	0	0	0	0	0	0
2010		Rehabilitation	0	0	0	0	0	0
2011		Other = Federal Govt 4,765	0	0	0	0	0	0
2012			320 0	1,615 0	0	4,765	6,700 0	0
2013 Total			320	1,615	0	4,765	6,7 <b>00</b>	0
2009	BR112	Nicollet Ave Reopening	0	0	0	4,765	6,700	0
2009	DRIIZ	Other = One-time transfer	0	0	0	0	0	0
2010		from General Fund	0	0	0	0	0	0
2011		llaneous Projects section also.	0	0	0	0	0	0
2013		water & Water sections also.	700	2,705	255	2,063	5,723	0
Total	200 0101111	The state of the s	700	2,705	255	2,063	5,723	0
2009	BR114	Midtown Corridor Bridge	0	0	0	0	0,: 20	0
2010		Preservation Program	0	0	0	0	0	0
2011		Rehab Program	0	0	0	0	0	0
2012		Other = Federal Govt	400	0	0	1,000	1,400	0
2013			190	0	0	0	190	0
Total			590	0	0	1,000	1,590	0

(GENERAL INFRASTRUCTURE)

# BRIDGES COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	300	0	0	0	300	0
2010	2,195	1,405	0	904	4,504	0
2011	2,465	0	0	8,042	10,507	0
2012	2,270	1,615	0	6,565	10,450	0
2013	1,290	2,705	255	2,063	6,313	0
Total Bridges	8,520	5,725	255	17,574	32,074	0

(GENERAL INFRASTRUCTURE)

# TRAFFIC CONTROL & STREET LIGHTING COUNCIL REVISED BUDGET

	PROJECT					071150	CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	TR003	LED Replacement Program	200	0	0	0	200	0
2010	111000	Teplacement regram	50	0	0	0	50	0
2011			0	0	0	0	0	0
2012			200	0	0	0	200	0
2012			200	0	0	0	200	0
Total			650	0	0	0	650	0
2009	TR005	Controller Conversion	0	0	0	0	0	0
2010		Other = Hennepin County 400	0	0	0	0	0	0
2011		in 2011 and 400 in 2012	350	380	0	2,800	3,530	0
2012		and Fed Govt 2,400 in 2011	350	380	0	2,800	3,530	0
2013		and 2,400 in 2012	0	0	0	0	0,000	0
Total			700	760	0	5,600	7,060	0
2009	TR006	Priority Vehicle Control System	0	0	0	0	0	0
2010		,	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	TR007	Traffic & Pedestrian Safety	200	61	0	325	586	0
2010		Improvements	200	50	0	211	461	0
2011		Other = Fed Govt & Henn Cty	250	74	0	134	458	0
2012		For 2009 = 17 Henn Cty &	250	170	0	430	850	0
2013		308 Fed Govt	320	170	0	430	920	0
Total			1,220	525	0	1,530	3,275	0
2008	TR008	Parkway Street Light	291	0	0	0	291	0
2009		Replacement	150	0	0	150	300	0
2010		Other = Expanded Capital	150	0	0	150	300	0
2011		from Hilton Trust funds	150	0	0	150	300	0
2012			150	0	0	150	300	0
Total			891	0	0	600	1,491	0
2009	TR010	Traffic Management Systems	195	455	0	2,917	3,567	0
2010		Other = 2,400 Fed Govt &	270	640	0	2,787	3,697	0
2011		517 Henn Cty in 2009	25	50	0	450	525	0
2012			25	50	0	450	525	0
2013			0	0	0	0	0	0
Total			515	1,195	0	6,604	8,314	0
2009	TR011	City Street Light Renovation	1,000	0	0	0	1,000	0
2010		Other = Expanded Capital	100	0	0	900	1,000	0
2011		from Hilton Trust funds	100	0	0	900	1,000	0
2012			100	0	0	900	1,000	0
2013			100	0	0	900	1,000	0
Total			1,400	0	0	3,600	5,000	0

(GENERAL INFRASTRUCTURE)

# TRAFFIC CONTROL & STREET LIGHTING COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
			l.	Į.		Į.		
2009	TR013	Railroad Crossing Safety	335	0	0	1,239	1,574	0
2010		Improvements	150	170	0	128	448	0
2011		Other = 73 Henn Cty and	334	0	0	217	551	0
2012		1,166 State of MN for 2009	0	483	0	450	933	0
2013			0	424	0	67	491	0
Total			819	1,077	0	2,101	3,997	0
2009	TR014	LRT TOD Improvements	0	0	100	300	400	0
2010		Other = Hennepin County	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	100	300	400	0
2009	TR015	Safe Routes to School	50	0	0	0	50	
2010			50	0	0	0	50	0
2011			50	0	0	0	50	0
2012			50	0	0	0	50	0
2013			50	0	0	0	50	0
Total			250	0	0	0	250	0
2009	TR017	Pedestrian Signals With	0	0	0	0	0	0
2010		Count-down Timers	30	0	0	0	30	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			30	0	0	0	30	0
2009	TR018	Ballpark Area Pedestrian	0	0	0	1,575	1,575	0
2010		Improvements	0	0	0	0	0	0
2011		Other = One-time transfer	0	0	0	0	0	0
2012		from General Fund	0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	1,575	1,575	0
2009	TR019	Hiawatha LRT Signal	0	0	0	0	0	0
2010		Improvements	0	0	0	0	0	0
2011		Other = One-time transfer	0	0	0	0	0	0
2012		from General Fund	0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009		Reimbursable Transportation	0	0	0	600	600	
2010		Projects	0	0	0	600	600	
2011		Other = Various external or	0	0	0	600	600	
2012		internal billings for work done	0	0	0	600	600	0
2013		or overheads charged	0	0	0	600	600	
Total			0	0	0	3,000	3,000	0

(GENERAL INFRASTRUCTURE)

# TRAFFIC CONTROL & STREET LIGHTING COUNCIL REVISED BUDGET

					CITY	NON
FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	2.271	516	100	6.956	9.843	0
2010	1,000	860	0	4,776	6,636	0
2011	1,259	504	0	5,251	7,014	0
2012	1,125	1,083	0	5,780	7,988	0
2013	820	594	0	2,147	3,561	0
Total Traffic Control & Street Lighting	6,475	3,557	100	24,910	35,042	0

(GENERAL INFRASTRUCTURE)

# BIKE TRAILS COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY	NON APPROP
12/11				11.07 (	7.00	VIII-LIX	101712	7.1.11.01
2009	BIK04	18th Ave NE Bikeway	0	0	0	0	0	0
2010		Other = Federal Govt	1,125	0	0	1,000	2,125	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			1,125	0	0	1,000	2,125	0
2009	BIK06	University of Minnesota Trail -	130	0	0	2,045	2,175	0
2010		Phase III	0	0	0	0	0	0
2011		Other = Federal Govt	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013	See Storm	water Fund for Sewer related work.	0	0	0	0	0	0
Total			130	0	0	2,045	2,175	0
2009	BIK13	RiverLake Greenway (East of	0	0	0	0	0	0
2010		I-35W)	629	0	0	1,470	2,099	0
2011		Other = Federal Govt	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013	See Storm	water Fund for Sewer related work.	0	0	0	0	0	0
Total			629	0	0	1,470	2,099	0
2009	BIK20	Hiawatha LRT Trail Lighting/	0	0	0	0	0	0
2010		Trail Extension	0	0	0	0	0	0
2011		Other = Federal Govt	0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			850	0	0	1,270	2,120	0
Total			850	0	0	1,270	2,120	0
2009	BIK21	26th Ave N Bikeway Study	25	0	0	0	25	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			25	0	0	0	25	0
2009	BIK22	18th Ave NE Bike Striping -	50	0	0	0	50	0
2010		Monroe to Stinson	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			50	0	0	0	50	0
2009	BIK23	Bike Boulevard Pilot	50	0	0	0	50	0
2010		(See comment below)	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			50	0	0	0	50	0

(GENERAL INFRASTRUCTURE)

# BIKE TRAILS COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
					7.00	•	. •	7
2009	BIK24	Major Bike Maintenance	0	0	0	100	100	0
2010		Program	0	0	0	100	100	0
2011		Other = Expanded Capital	0	0	0	100	100	0
2012		from Hilton Trust funds	0	0	0	100	100	0
2013			0	0	0	100	100	0
Total			0	0	0	500	500	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	255	0	0	2,145	2,400	0
2010	1,754	0	0	2,570	4,324	0
2011	0	0	0	100	100	0
2012	0	0	0	100	100	0
2013	850	0	0	1,370	2,220	0
Total Bike Trails	2,859	0	0	6,285	9,144	0

To maximize federal non-motorized Transportation Pilot Project dollars coming to the City of Minneapolis, these funds are designated to be local matching funds for "bicycle boulevard" projects. Eligible projects include the four that have been identified as high priority projects by public works (18th Ave S, 11th Ave S, Oak Park Ave N, 33rd Ave N) as well as Pleasant Ave S.

# PUBLIC WORKS DEPARTMENT GENERAL INFRASTRUCTURE FUNDING SUMMARY COUNCIL REVISED BUDGET

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	12.476	8.591	11.550	14.001	46.618	4.457
2010	10,405	6,930	10,805	15,600	43,740	0
2011	9,808	2,689	8,255	25,873	46,625	2,727
2012	14,054	5,033	8,700	24,795	52,582	21,000
2013	13,970	12,534	10,125	12,230	48,859	0
Total PW General Infrastructure	60,713	35,777	49,435	92,499	238,424	28,184

# STORMWATER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	SEWER BONDS	SEWER REVENUE	OTHER	CITY TOTAL	NON APPROP
ILAN	טו	IIILL	DONDS	KLVLINOL	OTTIER	IOIAL	AFFROR
2009	SW002	Miscellaneous Storm Drains	0	220	0	220	0
2010			0	220	0	220	0
2011			0	220	0	220	0
2012			0	220	0	220	0
2013			0	220	0	220	0
Total			0	1,100	0	1,100	0
2009	SW004	Implementation of US EPA	0	0	0	0	0
2010		Storm Water Regulations	0	250	0	250	0
2011			0	250	0	250	0
2012			0	250	0	250	0
2013			0	250	0	250	0
Total			0	1,000	0	1,000	0
2009	SW005	Combined Sewer Overflow	1,500	0	0	1,500	0
2010		Improvements	1,500	0	0	1,500	0
2011			1,500	0	0	1,500	0
2012			0	0	0	0	0
2013			0	0	0	0	0
Total			4,500	0	0	4,500	0
2009	SW011	Storm Drains & Tunnels	0	500	0	500	0
2010		Rehabilitation Program	2,500	500	0	3,000	0
2011			2,500	500	0	3,000	0
2012			4,200	800	0	5,000	0
2013			4,200	800	0	5,000	0
Total			13,400	3,100	0	16,500	0
2009	SW018	Flood Area 29 & 30 Fulton	0	0	0	0	0
2010		Neighborhood	900	0	2,388	3,288	0
2011		Other = Minnehaha	1,052	0	5,525	6,577	0
2012		Creek Watershed District	0	0	0	0	0
2013			0	0	0	0	0
Total			1,952	0	7,913	9,865	0
2009	SW030	Alternative Storm Water	0	1,000	0	1,000	0
2010		Management Strategies	0	1,000	0	1,000	0
2011			0	1,000	0	1,000	0
2012			0	1,000	0	1,000	0
2013			0	,	0	1,000	0
Total	011:	LOSIM OLOMO TO L	0	5,000	0	5,000	0
2009	SW032	I-35W Storm Tunnel	0	0	0	0	0
2010		Reconstruction	0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013		<u> </u>	1,035	0	0	1,035	0
Total			1,035	0	0	1,035	0

# STORMWATER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	SEWER BONDS	SEWER REVENUE	OTHER	CITY TOTAL	NON APPROP
	1		<u> </u>				
2009	SW033	Flood Area 22 - Sibley Field	0	500	1,713	2,213	0
2010		Other = Minnehaha Creek	0	278	2,734	3,012	0
2011		Watershed District & USEPA	0	0	0	0	0
2012		USEPA = 840 in 2009	0	0	0	0	0
2013			0	0	0	0	0
Total			0	778	4,447	5,225	0
2009	SW034	Flood Area 21 - Bloomington	0	0	0	0	0
2010		Pond	0	446	4,393	4,839	0
2011		Other = Minnehaha	0	0	0	0	0
2012		Creek Watershed District	0	0	0	0	0
2013			0	0	0	0	0
Total			0	446	4,393	4,839	0
2009	SW038	Flood Area 5 - North	0	0	0	0	0
2010		Minneapolis Neighborhoods	0	0	0	0	0
2011		(Victory, Cleveland, Folwell	0	0	0	0	0
2012		and Jordan)	0	0	0	0	0
2013			1,500	0	0	1,500	0
Total			1,500	0	0	1,500	0
2009	SW00R	Reimbursable Sewer and	0	0	3,000	3,000	0
2010		Storm Drain Projects	0	0	3,000	3,000	0
2011		Other = Various external or	0	0	3,000	3,000	0
2012		internal billings for work done	0	0	3,000	3,000	0
2013		or overheads charged	0	0	3,000	3,000	0
Total			0	0	15,000	15,000	0
2009	BIK06	University of Minnesota Trail -	0	115	0	115	0
2010		Phase III	0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	0	0	0	0
Total			0	115	0	115	0
2009	BIK13	RiverLake Greenway	0	0	0	0	0
2010		(East of I-35W)	0	255	0	255	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	0	0	0	0
Total			0	255	0	255	0
2009	BR105	Fremont Ave S Bridge	0	0	0	0	0
2010			0	0	0	0	0
2011			0	0	0	0	0
2012			0	70	0	70	0
2013			0	0	0	0	0
Total			0	70	0	70	0
2009	BR112	Nicollet Ave Reopening	0	0	0	0	0
2010			0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			235	0	0	235	0
Total	1		235	0	0	235	0

# STORMWATER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	SEWER BONDS	SEWER REVENUE	OTHER	CITY TOTAL	NON APPROP
		=	20.1.20		<u> </u>		7
2009	CDA01	Heritage Park Redevelopment	0	0	0	0	0
2010		Project - new infrastructure	0	250	0	250	0
2011		contribution	0	250	0	250	0
2012			0	0	0	0	0
2013			0	0	0	0	0
Total			0	500	0	500	0
2009	PV003	Street Renovation Program	0	140	0	140	0
2010			0	205	0	205	0
2011			0	0	0	0	0
2012			0	75	0	75	0
2013			0	500	0	500	0
Total			0	920	0	920	0
2009	PV007	University Research Park/	0	800	0	800	0
2010		Central Corridor	0	0	0	0	0
2011			0	800	0	800	0
2012			0	400	0	400	0
2013			0	0	0	0	0
Total			0	2,000	0	2,000	0
2009	PV029	Chicago Ave S (8th St S	0	145	0	145	0
2010		to E 28th St E)	0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	0	0	0	0
Total			0	145	0	145	0
2009	PV035	TH121/Lyndale Ave S	0	0	0	0	0
2010			0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	600	0	600	0
Total			0	600	0	600	0
2009	PV038	Winter St NE Residential/	0	0	0	0	0
2010		Commercial	0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	40	0	40	0
Total			0	40	0	40	0
2009	PV057	Nicollet Ave (31st St E to	0	0	0	0	0
2010		40th St E)	0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	330	0	330	0
Total			0	330	0	330	0

## STORMWATER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT	PROJECT	SEWER	SEWER		CITY	NON
YEAR	ID	TITLE	BONDS	REVENUE	OTHER	TOTAL	APPROP

FUNDING SUMMARY BY YEAR	SEWER BONDS	SEWER REVENUE	OTHER	TOTAL	NON APPROP
2009	1,500	3,420	4,713	9,633	0
2010	4,900	3,404	12,515	20,819	0
2011	5,052	3,020	8,525	16,597	0
2012	4,200	2,815	3,000	10,015	0
2013	6,970	3,740	3,000	13,710	0
Total Stormwater Sewer Fund	22,622	16,399	31,753	70,774	0

## SANITARY SEWER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT	PROJECT	SEWER	SEWER		CITY	NON
YEAR	ID	TITLE	BONDS	REVENUE	OTHER	TOTAL	APPROP
2009	SW001	Sanitary Tunnel and Sewer	250	0	0	250	0
2010		Rehabilitation Program	500	0	0	500	0
2011			1,000	0	0	1,000	0
2012			1,000	0	0	1,000	0
2013			1,000	0	0	1,000	0
Total			3,750	0	0	3,750	0
2009	SW036	Infiltration & Inflow Removal	5,000	0	0	5,000	0
2010		Program	5,000	0	0	5,000	0
2011			5,000	0	0	5,000	0
2012			7,000	0	0	7,000	0
2013			7,500	0	0	7,500	0
Total			29,500	0	0	29,500	0
2009	SW037	Irving Sewer Rehabilitation	3,726	0	0	3,726	0
2010			0	0	0	0	0
2011			0	0	0	0	0
2012			0	0	0	0	0
2013			0	0	0	0	0
Total			3,726	0	0	3,726	0

FUNDING SUMMARY BY YEAR	SEWER BONDS	SEWER REVENUE	OTHER	TOTAL	NON APPROP
2009	8,976	0	0	8,976	0
2010	5,500	0	0	5,500	0
2011	6,000	0	0	6,000	0
2012	8,000	0	0	8,000	0
2013	8,500	0	0	8,500	0
Total Sanitary Sewer Fund	36,976	0	0	36,976	0

# WATER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT	PROJECT	WATER	WATER		
YEAR	ID	TITLE	BONDS	REVENUE	OTHER	TOTAL
		Luca Charles Danas a				
2009	WTR09	Ultrafiltration Program	18,500	0	0	18,500
2010			16,000	0	0	16,000
2011			16,000	0	0	16,000
2012			14,500	0	0	14,500
2013			0	0	0	0 0 000
Total	W/TD40	Mater Dietribution	65,000	0	0	65,000
2009	WTR12	Water Distribution	0	4,750	0	4,750
2010		Improvements	0	5,000	0	5,000
2011			0	5,250	0	5,250
2012			0	5,500	0	5,500
2013			0	6,000	0	6,000
Total	WEDAA	The MANAY Facilities Coourity	0	26,500	0	26,500
2009	WTR14	The MWW Facilities Security	0	250	0	250
2010		Improvement	0	250	0	250
2011 2012			0	250	0	250
			0	250	0	250
2013			0	0	0	0
Total	WEDAG	Minnespelie/St. Daul Inter	0	1,000	0	1,000
2009	WTR16	Minneapolis/St. Paul Inter- connection	0	0	0	0
2010		Connection	0	0	0	0
2011			0	0	0	0
2012 2013			0 500	0	0	0 500
Total			500	0	0	500
2009	WTR17	Treatment Modifications Based	0	0	0	0
2009	WIRII	on New Regulations	0	0	0	0
2010		on New Negalations	0	0	0	0
2011			0	0	0	0
2012			0	100	0	100
Total			0	100	0	100
2009	WTR18	Hiawatha Water Maintenance	0	0	0	0
2010		Facility	0	0	0	0
2011			0	0	0	0
2012			0	0	0	0
2013			0	0	0	0
Total			0	0	0	0
2009	WTR22	New Filter Presses	2,000	0	0	2,000
2010			6,500	0	0	6,500
2011			6,500	0	0	6,500
2012			0	0	0	0,000
2013			0	0	0	0
Total			15,000	0	0	15,000

## WATER FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT	PROJECT	WATER	WATER		
YEAR	ID	TITLE	BONDS	REVENUE	OTHER	TOTAL
	1			1		
2009	WTR0R	Reimbursable Water Projects	0	0	2,000	2,000
2010		Other = Various external or	0	0	2,000	2,000
2011		internal billings for work done	0	0	2,000	2,000
2012		or overheads charged	0	0	2,000	2,000
2013			0	0	2,000	2,000
Total			0	0	10,000	10,000
2009	BR105	Fremont Ave S Bridge	0	0	0	0
2010			0	0	0	0
2011			0	0	0	0
2012			0	70	0	70
2013			0	0	0	0
Total			0	70	0	70
2009	BR112	Nicollet Ave Reopening	0	0	0	0
2010			0	0	0	0
2011			0	0	0	0
2012			0	0	0	0
2013			300	0	0	300
Total			300	0	0	300
2009	PV035	TH121/Lyndale Ave S	0	0	0	0
2010			0	0	0	0
2011			0	0	0	0
2012			0	0	0	0
2013			0	380	0	380
Total			0	380	0	380

FUNDING SUMMARY BY YEAR	WATER BONDS	WATER REVENUE	OTHER	TOTAL
TONDING COMMANDE DE TEAR	Вомво	KEVENOL	OTHER	IOIAL
2009	20,500	5,000	2,000	27,500
2010	22,500	5,250	2,000	29,750
2011	22,500	5,500	2,000	30,000
2012	14,500	5,820	2,000	22,320
2013	800	6,480	2,000	9,280
Total Water Fund	80,800	28,050	10,000	118,850

## PARKING FUND FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT	PROJECT	PARKING	PARKING		CITY	NON
YEAR	ID	TITLLE	BONDS	REVENUE	OTHER	TOTAL	APPROP
2009	RMP01	Parking Facilities - Repair	1,700	0	0	1,700	0
2010		and Improvements	1,700	0	0	1,700	0
2011			1,700	0	0	1,700	0
2012			1,700	0	0	1,700	0
2013			0	0	0	0	0
Total			6,800	0	0	6,800	0

FUNDING SUMMARY BY YEAR	PARKING BONDS	PARKING REVENUE	OTHER	CITY TOTAL	NON APPROP
2009	1,700	0	0	1,700	0
2010	1,700	0	0	1,700	0
2011	1,700	0	0	1,700	0
2012	1,700	0	0	1,700	0
2013	0	0	0	0	0
Total Parking Fund	6,800	0	0	6,800	0

## PUBLIC WORKS DEPARTMENT FIVE-YEAR CAPITAL FUNDING SUMMARY COUNCIL REVISED BUDGET

GENERAL INFRASTRUCTURE IMPROVEMENTS					CITY	NON
FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
	40.470	0.504	44.550	44004	40.040	4 457
2009	12,476	8,591	11,550	14,001	46,618	4,457
2010	10,405	6,930	10,805	15,600	43,740	0
2011	9,808	2,689	8,255	25,873	46,625	2,727
2012	14,054	5,033	8,700	24,795	52,582	21,000
2013	13,970	12,534	10,125	12,230	48,859	0
Total Public Works General Infrastructure Improvements	60,713	35,777	49,435	92,499	238,424	28,184

ENTERPRISE FUND CAPITAL*	<b>ENTERPRISE</b>	ENTERPRISE					CITY	NON
FUNDING SUMMARY BY YEAR	BONDS	REVENUES	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	32,676	8,420				6,713	47,809	0
2010	34,600	8,654				14,515	57,769	0
2011	35,252	8,520				10,525	54,297	0
2012	28,400	8,635				5,000	42,035	0
2013	16,270	10,220				5,000	31,490	0
Total Public Works Enterprise Fund Capital	147,198	44,449	0	(	) 0	41,753	233,400	0

<sup>\* -</sup> Enterprise funds include Stormwater & Sanitary Sewers, Water, Parking.

CONSOLIDATED PUBLIC WORKS	ENTERPRISE	ENTERPRISE					CITY	NON
FUNDING SUMMARY BY YEAR	BONDS	REVENUES	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	32,676	8,420	12,476	8,591	11,550	20,714	94,427	4,457
2010	34,600	8,654	10,405	6,930	10,805	30,115	101,509	0
2011	35,252	8,520	9,808	2,689	8,255	36,398	100,922	2,727
2012	28,400	8,635	14,054	5,033	8,700	29,795	94,617	21,000
2013	16,270	10,220	13,970	12,534	10,125	17,230	80,349	0
Total Public Works Department Projects	147,198	44,449	60,713	35,777	49,435	134,252	471,824	28,184
Funding Breakdown by Major Revenue Sources	31.20%	9.42%	12.87%	7.58%	10.48%	28.45%	100.00%	

(City Funding & Grant Sources where the City is the lead agency)

#### **Council Adopted Utility Rates**

#### Supporting 2009 - 2013 Enterprise Operations, Capital Programs & Debt Repayment

#### **Stormwater Rates**

2008 Council Adopted Stormwater Rates

2000 Council Adopted Stormwater Nates									
Effective		Total	%						
Date	Increase	Rate*	Change						
01/01/08	0.490	10.26	5.0%						
01/01/09	0.210	10.47	2.0%						
01/01/10	0.210	10.68	2.0%						
01/01/11	0.210	10.89	2.0%						
01/01/12	0.000	10.89	0.0%						

2009 Council Adopted Stormwater Rates

Effective		Total	%
Date	Increase	Rate*	Change***
01/01/08		10.26	
01/01/09	0.510	10.77	5.0%
01/01/10	0.320	11.09	3.0%
01/01/11	0.330	11.42	3.0%
01/01/12	0.230	11.65	2.0%
01/01/13	0.230	11.88	2.0%

<sup>\* -</sup> Expressed in \$/Equivalent Stormwater Unit (ESU) where 1 ESU = 1,530 square feet of impervious (hard surface) area.

#### **Sanitary Sewer Rates**

2008 Council Adopted Sanitary Sewer Rates

2006 Council Adopted Samilary Sewer Nates									
Effective		Total	%						
Date	Increase	Rate**	Change						
01/01/08	0.150	2.45	6.5%						
01/01/09	0.120	2.57	4.9%						
01/01/10	0.120	2.69	4.7%						
01/01/11	0.120	2.81	4.5%						
01/01/12	0.100	2.91	3.6%						

2009 Council Adopted Sanitary Sewer Rates

Effective		Total	%
Date	Increase	Rate**	Change***
01/01/08		2.45	
01/01/09	0.160	2.61	6.5%
01/01/10	0.170	2.78	6.5%
01/01/11	0.160	2.94	5.8%
01/01/12	0.160	3.10	5.4%
01/01/13	0.150	3.25	4.8%

#### **Water Rates**

2008 Council Adopted Water Rates

Effective		Total	%
Date	Increase	Rate**	Change
01/01/08	0.080	2.75	3.0%
01/01/09	0.070	2.82	2.5%
01/01/10	0.070	2.89	2.5%
01/01/11	0.070	2.96	2.4%
01/01/12	0.080	3.04	2.7%

2009 Council Adopted Water Rates

Effective		Total	%
Date	Increase	Rate**	Change***
01/01/08		2.75	
01/01/09	0.160	2.91	5.8%
01/01/10	0.120	3.03	4.1%
01/01/11	0.120	3.15	4.0%
01/01/12	0.130	3.28	4.1%
01/01/13	0.140	3.42	4.3%

<sup>\*\* -</sup> Sanitary Sewer and Water Rates are expressed in \$/100 Cubic Feet

<sup>\*\*\* -</sup> The primary reasons for the larger rate increases over the 2008 adopted rates include:

<sup>1.</sup> Operating cost inflation assumptions were increased from 3% to 4% for 2010 and beyond

<sup>2.</sup> Need to accelerate improvement of cash positions to be in compliance with Financial Policies

<sup>3.</sup> Increased sanitary sewer treatment & capital program costs passed on by Metropolitan Council

# BIS TECHNOLOGY PROJECTS IN THE FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

YEAR	PROJECT ID	PROJECT TITLE	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
ILAN	ום	11122	NDD	MOA	ACCINI	OTTILIX	IOIAL	ALTIO
2009	BIS02	Central Traffic Signal	50	0	0	0	50	0
2010		Computer Replacement	50	0	0	0	50	0
2011			50	0	0	0	50	0
2012			50	0	0	0	50	0
2013			50	0	0	0	50	0
Total			250	0	0	0	250	0
2009	BIS03	Enterprise Document	50	0	0	0	50	0
2010		Management	100	0	0	0	100	0
2011			100	0	0	0	100	0
2012			50	0	0	0	50	0
2013			100	0	0	0	100	0
Total			400	0	0	0	400	0
2009	BIS04	Enterprise Infrastructure	500	0	0	0	500	0
2010		Capacity Upgrade	500	0	0	0	500	0
2011			500	0	0	0	500	0
2012			500	0	0	0	500	0
2013			672	0	0	0	672	0
Total			2,672	0	0	0	2,672	0
2009	BIS05	Enterprise Reporting	0	0	0	0	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	BIS06	GIS Application	100	0	0	0	100	0
2010		Infrastructure Upgrade	200	0	0	0	200	0
2011			50	0	0	0	50	0
2012			50	0	0	0	50	0
2013			50	0	0	0	50	0
Total	DIO 40	Fire and a County of	450	0	0	0	450	0
2009	BIS10	Finance System	700	0	0	0	700	0
2010		Consolidation/Upgrade	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			50	0	0	0	50	0
2013			0 <b>750</b>	0	0	0	750	0
Total	DIC40	Mobile Assessor	750 100	0	0	0	<b>750</b>	0
2009	BIS12	Mobile Assessor	100	0	0	0	100	0
2010			150	0	0	0	150	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0 250	0	0	0	0 250	0
Total			250	0	0	0	250	0

# BIS TECHNOLOGY PROJECTS IN THE FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT	PROJECT					CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
1								
2009	BIS13	Risk Management & Claims	0	0	0	0	0	0
2010		Application Replacement	0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0
2009	BIS14	Land Information Repository	0	0	0	0	0	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			0	0	0	0	0	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2009	1,500	0	0	0	1,500	0
2010	1,000	0	0	0	1,000	0
2011	700	0	0	0	700	0
2012	700	0	0	0	700	0
2013	872	0	0	0	872	0
Total BIS Technology Projects	4,772	0	0	0	4,772	0

# MISCELLANEOUS PROJECTS IN THE FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT						CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	ART01	Art in Public Places	317	0	0	0	317	0
	ARTUI	Art in Fublic Flaces			_	_		-
2010			333	0	0	0	333	0
2011			347	0	0	0	347	0
2012			366	0	0	0	366	0
2013 Total			383 <b>1,746</b>	0 <b>0</b>	0 <b>0</b>	0 <b>0</b>	383 <b>1,746</b>	0 0
2009	BR113	Nicollet Ave Planning - CPED	1,746	0	0	0	1,740	0
2009	DKIIS	Other = One-time transfer	0	0	0	0	0	0
2010		from General Fund	0	0	0	0	0	0
2011		lifotti General Futio	0	0	0	0	0	0
			Ĭ		ŭ	ŭ	0	ŭ
2013			0	0 <b>0</b>	0	0	0 <b>0</b>	0
Total	CTV02	City Property Referentation		_	0	_		0
2009	CTY02	City Property Reforestation	150	0	_	0	150	0
2010			150	0	0	0	150	0
2011			150	0	0	0	150	0
2012			150	0	0	0	150	0
2013 Total			150 <b>750</b>	0 <b>0</b>	0 <b>0</b>	0 <b>0</b>	150 <b>750</b>	0 0
2009	FIR01	Emergency Operations	1,764	0	0	0	1,764	0
2009	TINOT	Training Facility (EOTF)	0,704	0	0	0	1,704	0
2010			0	0	0	0	0	0
2011			0	0	0	0	0	0
2012			Ĭ	-	ŭ	ŭ	0	ŭ
Total			0 1,764	0 <b>0</b>	0	0	1,764	0 <b>0</b>
2009	MPD01	MPD Forensic Laboratory	1,764	0	0	0	1,764	0
2009	MEDUT	l orensic Laboratory	0	0	0	0	0	0
2010			2,850	0	0	0	2,850	0
2011			1,000	0	0	0	1,000	0
2012			1,300	0	0	0	1,300	0
Total			5,250	0	0	0	5,250	0
2009	MPD02	MPD Property & Evidence	9,290	0	0	0	5,250	0
2009	WIF DUZ	Warehouse	0	0	0	0	0	0
2010		warenouse	_		0	0	_	0
2011			730 700	0	0	0	730 700	0
				_	ū	ū		_
2013			700	0	0	0	700	<u> </u>
Total 2009	MPD05	Strategic Information Center	<b>2,130</b> 372	0	<b>0</b>	<b>0</b>	<b>2,130</b> 372	
2009	IVIFDUS	Suategic information Centel		0			372 1,227	0
			1,227	0	0	0		0
2011			0	0	0	0	0	0
2012			0	0	0	0	0	0
2013			0	0	0	0	0	0
Total			1,599	0	0	0	1,599	0

# MISCELLANEOUS PROJECTS IN THE FIVE-YEAR CAPITAL PROGRAM COUNCIL REVISED BUDGET

	PROJECT						CITY	NON
YEAR	ID	TITLE	NDB	MSA	ASSM	OTHER	TOTAL	APPROP
2009	PSD03	Facilities-Space Improvements	300	0	0	0	300	0
2010			500	0	0	0	500	0
2011			500	0	0	0	500	0
2012			500	0	0	0	500	0
2013			500	0	0	0	500	0
Total			2,300	0	0	0	2,300	0

FUNDING SUMMARY BY YEAR	NDB	MSA	ASSM	OTHER	CITY TOTAL	NON APPROP
2000	2 002	0	0	0	2 002	0
2009 2010	3,003 2,210	0	0	0	3,003 2,210	0
2011	4,577	0	0	0	4,577	0
2012	2,716	0	0	0	2,716	0
2013	3,033	0	0	0	3,033	0
Total Miscellaneous Projects	15,539	0	0	0	15,539	0

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
MBC01	Life Safety Improvements	MBC	300	300	300	300
MBC02	Mechanical Systems Upgrade	MBC	500	500	500	500
MBC04	MBC Elevators	MBC	95	0	95	95
MBC06	Clock Tower Upgrade	MBC	875	0	0	0
MBC10	City Hall Green Roof	MBC	0	0	108	108
Library	Funding Commitments by Year	Finance	5,055	5,055	5,055	5,055
PRK16	Parkway and Adjacent Parkland Lighting Replacement	Park Board	141	0	0	0
PRK18	Folwell Parking Lot	Park Board	0	141	0	0
PRK21	Pedestrian Bridges	Park Board	0	0	141	141
PRKCP	Park Capital Infrastructure	Park Board	0	0	2,000	2,000
PRKDT	Diseased Tree Removal	Park Board	500	500	500	500
PSD01	Facilities - Repair and Improvements	PW - Internal Services	900	900	900	900
PSD11	Energy Conservation and Emissions Reduction	PW - Internal Services	300	300	300	300
PV001	Parkway Paving	PW - Paving	1,750	1,750	2,710	2,710
PV003	Street Renovation Program	PW - Paving	1,555	1,555	2,480	2,480
PV004	CSAH Paving Program	PW - Paving	975	975	975	975
PV006	Alley Renovation	PW - Paving	265	0	250	250
PV007	University Research Park/Central Corridor	PW - Paving	500	500	500	500
PV008	I-35W & Lake St Interchange Reconstruct Phase 4	PW - Paving	125	125	125	125
PV029	Chicago Ave S (8th St S to 28th St E)	PW - Paving	10,515	10,515	9,565	9,565
PV041	Glenwood Ave (2nd Ave N) Reconstruction	PW - Paving	800	800	800	800
PV047	3rd Ave N Reconstruction	PW - Paving	495	495	495	495
PV049	1st Ave One-way to Two-way (1st to 9th St S)	PW - Paving	615	0	1,260	1,260
PV050	Hennepin Ave One-way to Two-way(1st to 12th St S)	PW - Paving	515	0	895	895
PV056	Asphalt Pavement Resurfacing Program	PW - Paving	2,400	2,400	5,225	5,225
PV058	Cottage Park Traffic Calming	PW - Paving	0	0	90	90
PV059	Major Pavement Maintenance	PW - Paving	0	0	700	700
PV060	Central Corridor Light Rail Transit Study	PW - Paving	0	0	700	700
PV00R	Reimbursable Paving Projects	PW - Paving	3,500	3,500	3,500	3,500
SWK01	Defective Hazardous Sidewalks/Complete Gaps	PW - Sidewalks	2,605	2,605	2,605	2,605
CDA01	Heritage Park Redevelopment Project	CPED	1,000	200	0	0
BR101	Major Bridge Repair and Rehabilitation	PW - Bridges	300	300	300	300
TR003	LED Replacement Program	PW - Transportation	275	275	200	200
TR007	Traffic & Pedestrian Safety Improvements	PW - Transportation	581	581	586	586
TR008	Parkway Street Light Replacement	PW - Transportation	100	241	291	291
TR010	Traffic Management Systems	PW - Transportation	3,567	3,567	3,567	3,567
TR011	City Street Light Renovation	PW - Transportation	100	300	1,000	1,000
TR013	Railroad Crossing Safety Improvements	PW - Transportation	1,574	1,574	1,574	1,574
TR014	LRT TOD Improvements	PW - Transportation	400	400	400	400
TR015	Safe Routes to School	PW - Transportation	50	50	50	50
TR018	Ballpark Area Pedestrian Improvements	PW - Transportation	0	0	1,975	1,575
TR019	Hiawatha LRT Signal Improvements	PW - Transportation	0	0	250	0
TR00R	Reimbursable Transportation Projects	PW - Transportation	600	600	600	600
BIK06	University of Minnesota Trail - Phase III	PW - Transportation	2,175	2,175	2,175	2,175
BIK21	26th Ave N Bikeway Study	PW - Transportation	0	0	25	25
BIK22	18th Ave NE Bike Striping	PW - Transportation	0	0	50	50

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
MBC01	Life Safety Improvements	MBC	300	300	300	300
BIK23	Bike Boulevard Pilot	PW - Transportation	0	0	50	50
BIK24	Major Bike Maintenance Program	PW - Transportation	0	0	100	100
SW002	Miscellaneous Storm Drains	PW - Sewer	220	220	220	220
SW004	Implementation of US EPA Storm Water Regulations	PW - Sewer	250	250	0	0
SW005	Combined Sewer Overflow Improvements	PW - Sewer	1,500	1,500	1,500	1,500
SW011	Storm Drains and Tunnels Rehabilitation Program	PW - Sewer	3,000	3,000	500	500
SW030	Alternative Stormwater Management Strategies	PW - Sewer	1,000	1,000	1,000	1,000
SW033	Flood Area 22 - Sibley Field	PW - Sewer	2,213	2,213	2,213	2,213
SW00R	Reimbursable Sewer and Storm Drain Projects	PW - Sewer	3,000	3,000	3,000	3,000
BIK06	University of Minnesota Trail - Phase III	PW - Sewer	115	115	115	115
CDA01	Heritage Park Redevelopment Project	PW - Sewer	250	250	0	0
PV003	Street Renovation Program	PW - Sewer	140	140	140	140
PV007	University Research Park	PW - Sewer	800	800	800	800
PV029	Chicago Ave S (8th St S to 28th St E)	PW - Sewer	145	145	145	145
SW001	Sanitary Tunnel & Sewer Rehabilitation Program	PW - Sewer	500	500	250	250
SW036	Infiltration & Inflow Removal Program	PW - Sewer	5,000	5,000	5,000	5,000
SW037	Irving Sewer Rehabilitation	PW - Sewer	3,726	3,726	3,726	3,726
WTR09	Ultrafiltration Program	PW - Water	18,500	18,500	18,500	18,500
WTR12	Water Distribution Improvements	PW - Water	4,750	4,750	4,750	4,750
WTR14	The MWW Facilities Security Improvement	PW - Water	500	250	250	250
WTR18	Hiawatha Water Maintenance Facility	PW - Water	300	0	0	0
WTR22	New Filter Presses	PW - Water	2,000	2,000	2,000	2,000
WTR0R	Reimbursable Watermain Projects	PW - Water	2,000	2,000	2,000	2,000
RMP01	Parking Facilities - Repair and Improvements	PW - Transportation	1,700	1,700	1,700	1,700
BIS02	Central Traffic Signal Computer Replacement	BIS	50	50	50	50
BIS03	Enterprise Document Management	BIS	50	50	50	50
BIS04	Enterprise Infrastructure Capacity Upgrade	BIS	500	500	500	500
BIS05	Enterprise Reporting/Business Intelligence	BIS	200	0	0	0
BIS06	GIS Application Infrastructure Upgrade	BIS	100	100	100	100
BIS10	Finance System Consolidation/Upgrade	BIS	700	700	700	700
BIS12	Mobile Assessor	BIS	100	100	100	100
BIS14	Land Information Repository	BIS	200	0	0	0
ART01	Art in Public Places	CPED	317	317	317	317
BR113	Nicollet Ave Planning	CPED	0	0	100	0
CTY02	City Property Reforestation	PW - Internal Services	0	0	150	150
FIR01	City EOC/Training Facility	Fire Department	1,764	1,764	1,764	1,764
MPD01	MPD Forensic Laboratory	Police Department	100	100	100	100
MPD05	Strategic Information Center	Police Department	1,053	372	372	372
PSD03	Facilities - Space Improvements	PW - Internal Services	500	300	300	300
<del></del>		TOTAL	103,246	98,591	108,379	107,629

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
MBC01	Life Safety Improvements	MBC	300	300	300	300
MBC02	Mechanical Systems Upgrade	MBC	500	500	500	500
MBC04	MBC Elevators	MBC	100	0	0	0
MBC09	Critical Power Capital Project	MBC	50	0	0	0
CTY01	Restoration of Historic Reception Room	MBC	1,950	0	0	0
Library	Funding Commitments by Year	Finance	5,810	5,810	5,810	5,810
PRK19	Phillips Pool & Gym Building Improvements	Park Board	0	350	0	0
PRK21	Pedestrian Bridges	Park Board	0	0	350	350
PRKCP	Park Capital Infrastructure	Park Board	0	0	2,000	2,000
PRKDT	Diseased Tree Removal	Park Board	500	500	500	500
PSD01	Facilities - Repair and Improvements	PW - Internal Services	400	400	400	400
PSD06	Pioneer & Soldiers Memorial Cemetery Fencing Rehab	PW - Internal Services	250	250	0	0
PSD11	Energy Conservation and Emissions Reduction	PW - Internal Services	300	300	300	300
PV001	Parkway Paving	PW - Paving	0	0	160	160
PV003	Street Renovation Program	PW - Paving	2,430	2,430	3,055	3,055
PV004	CSAH Paving Program	PW - Paving	1,070	1,070	1,070	1,070
PV006	Alley Renovation	PW - Paving	265	236	486	486
PV008	I-35W & Lake St Interchange Reconstruct Phase 4	PW - Paving	80	80	80	80
PV029	Chicago Ave S (8th St S to 28th St E)	PW - Paving	9,125	9,125	9,275	9,275
PV047	3rd Ave N Reconstruction	PW - Paving	790	790	790	790
PV049	1st Ave One-way to Two-way (1st to 12th St S)	PW - Paving	490	0	0	0
PV050	Hennepin Ave One-way to Two-way(1st to 12th St S)	PW - Paving	380	0	0	0
PV056	Asphalt Pavement Resurfacing Program	PW - Paving	2,400	2,400	5,225	5,225
PV059	Major Pavement Maintenance	PW - Paving	0	0	1,000	1,000
PV00R	Reimbursable Paving Projects	PW - Paving	3,500	3,500	3,500	3,500
SWK01	Defective Hazardous Sidewalks/Complete Gaps	PW - Sidewalks	2,735	2,735	2,735	2,735
CDA01	Heritage Park Redevelopment Project	CPED	750	500	200	200
BR101	Major Bridge Repair and Rehabilitation	PW - Bridges	300	300	300	300
BR109	Camden Bridge Rehabilitation	PW - Bridges	4,204	4,204	4,204	4,204
TR003	LED Replacement Program	PW - Transportation	0	0	50	50
TR007	Traffic & Pedestrian Safety Improvements	PW - Transportation	511	511	461	461
TR008	Parkway Street Light Replacement	PW - Transportation	150	150	300	300
TR010	Traffic Management Systems	PW - Transportation	3,800	3,800	3,697	3,697
TR011	City Street Light Renovation	PW - Transportation	0	300	1,000	1,000
TR013	Railroad Crossing Safety Improvements	PW - Transportation	554	554	448	448
TR015	Safe Routes to School	PW - Transportation	50	50	50	50
TR017	Pedestrian Signals with Count-down Timers	PW - Transportation	0	0	30	30
TR00R	Reimbursable Transportation Projects	PW - Transportation	600	600	600	600
BIK04	18th Ave NE Bikeway	PW - Transportation	2,125	2,125	2,125	2,125
BIK13	RiverLake Greenway (East of I-35W)	PW - Transportation	2,099	0	2,099	2,099
BIK24	Major Bike Maintenance Program	PW - Transportation	0	0	100	100
SW002	Miscellaneous Storm Drains	PW - Sewer	220	220	220	220
SW004	Implementation of US EPA Storm Water Regulations	PW - Sewer	250	250	250	250
SW005	Combined Sewer Overflow Improvements	PW - Sewer	1,500	1,500	1,500	1,500
SW011	Storm Drains and Tunnels Rehabilitation Program	PW - Sewer	3,000	3,000	3,000	3,000
SW018	Flood Area 29 & 30 - Fulton Neighborhood	PW - Sewer	3,288	3,288	3,288	3,288

Project			Capital Budget	CLIC	Mayor	Council
ID	Project Title	Submitting Agency	Request	Recomm.	Revised	Revised
SW030	Alternative Stormwater Management Strategies	PW - Sewer	1,000	1,000	1,000	1,000
SW033	Flood Area 22 - Sibley Field	PW - Sewer	3,012	3,012	3,012	3,012
SW034	Flood Area 21 - Bloomington Pond	PW - Sewer	4,839	4,839	4,839	4,839
SW00R	Reimbursable Sewer and Storm Drain Projects	PW - Sewer	3,000	3,000	3,000	3,000
BIK13	RiverLake Greenway (East of I-35W)	PW - Sewer	255	0	255	255
CDA01	Heritage Park Redevelopment Project	PW - Sewer	250	250	250	250
PV003	Street Renovation Program	PW - Sewer	205	205	205	205
SW001	Sanitary Tunnel & Sewer Rehabilitation Program	PW - Sewer	500	500	500	500
SW036	Infiltration & Inflow Removal Program	PW - Sewer	5,000	5,000	5,000	5,000
WTR09	Ultrafiltration Program	PW - Water	32,000	16,000	16,000	16,000
WTR12	Water Distribution Improvements	PW - Water	5,000	5,000	5,000	5,000
WTR14	The MWW Facilities Security Improvement	PW - Water	500	250	250	250
WTR22	New Filter Presses	PW - Water	6,500	6,500	6,500	6,500
WTR0R	Reimbursable Watermain Projects	PW - Water	2,000	2,000	2,000	2,000
RMP01	Parking Facilities - Repair and Improvements	PW - Transportation	1,700	1,700	1,700	1,700
BIS02	Central Traffic Signal Computer Replacement	BIS	50	50	50	50
BIS03	Enterprise Document Management	BIS	100	100	100	100
BIS04	Enterprise Infrastructure Capacity Upgrade	BIS	500	500	500	500
BIS05	Enterprise Reporting/Business Intelligence	BIS	250	0	0	0
BIS06	GIS Application Infrastructure Upgrade	BIS	200	200	200	200
BIS12	Mobile Assessor	BIS	150	150	150	150
BIS13	Risk Management & Claims Application Replacement	BIS	50	0	0	0
BIS14	Land Information Repository	BIS	120	0	0	0
ART01	Art in Public Places	CPED	333	333	333	333
CTY02	City Property Reforestation	PW - Internal Services	0	0	150	150
MPD05	Strategic Information Center	Police Department	546	1,227	1,227	1,227
PSD03	Facilities - Space Improvements	PW - Internal Services	500	500	500	500
		TOTAL	125,386	104,444	114,179	114,179

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
MBC01	Life Safety Improvements	MBC	340	340	340	340
MBC02	Mechanical Systems Upgrade	MBC	500	500	500	500
MBC04	MBC Elevators	MBC	100	0	0	0
CTY01	Restoration of Historic Reception Room	MBC	1,930	0	0	0
Library	Funding Commitments by Year	Finance	1,040	1,040	1,040	1,040
PRK20	Fairview Lot, Trail, Court and Lighting Improvements	Park Board	0	400	0	0
PRK21	Pedestrian Bridges	Park Board	0	0	400	400
PRKCP	Park Capital Infrastructure	Park Board	0	0	2,000	2,000
PRKDT	Diseased Tree Removal	Park Board	500	500	500	500
PSD01	Facilities - Repair and Improvements	PW - Internal Services	1,200	1,200	1,200	1,200
PSD06	Pioneer & Soldiers Memorial Cemetery Fencing Rehab	PW - Internal Services	0	0	250	250
PSD11	Energy Conservation and Emissions Reduction	PW - Internal Services	500	500	500	500
PV001	Parkway Paving	PW - Paving	0	0	160	160
PV003	Street Renovation Program	PW - Paving	3,130	3,130	3,755	3,755
PV004	CSAH Paving Program	PW - Paving	1,525	1,525	1,525	1,525
PV006	Alley Renovation	PW - Paving	265	349	599	599
PV007	University Research Park/Central Corridor	PW - Paving	7,200	7,200	7,000	7,000
PV019	6th Ave N (5th St to Dead End N of Wash Ave)	PW - Paving	2,290	0	0	0
PV021	33rd Ave SE and Talmage Avenue	PW - Paving	3,825	0	0	0
PV028	Franklin/Cedar/Minnehaha Improvement Project	PW - Paving	860	0	910	910
PV056	Asphalt Pavement Resurfacing Program	PW - Paving	2,400	2,400	5,225	5,225
PV059	Major Pavement Maintenance	PW - Paving	0	0	1,000	1,000
PV00R	Reimbursable Paving Projects	PW - Paving	3,500	3,500	3,500	3,500
SWK01	Defective Hazardous Sidewalks/Complete Gaps	PW - Sidewalks	2,880	2,880	2,880	2,880
CDA01	Heritage Park Redevelopment Project	CPED	0	0	500	500
BR101	Major Bridge Repair and Rehabilitation	PW - Bridges	300	300	300	300
BR110	St. Anthony Bridge over BNSF	PW - Bridges	0	10,757	10,207	10,207
TR005	Controller Conversion	PW - Bridges	3,530	3,530	3,530	3,530
TR006	Priority Vehicle Control System	PW - Bridges	225	0	0	0
TR007	Traffic & Pedestrian Safety Improvements	PW - Transportation	458	458	458	458
TR008	Parkway Street Light Replacement	PW - Transportation	150	150	300	300
TR010	Traffic Management Systems	PW - Transportation	525	525	525	525
TR011	City Street Light Renovation	PW - Transportation	100	300	1,000	1,000
TR013	Railroad Crossing Safety Improvements	PW - Transportation	551	551	551	551
TR015	Safe Routes to School	PW - Transportation	50	50	50	50
TR00R	Reimbursable Transportation Projects	PW - Transportation	600	600	600	600
BIK24	Major Bike Maintenance Program	PW - Transportation	0	0	100	100
SW002	Miscellaneous Storm Drains	PW - Sewer	220	220	220	220
SW004	Implementation of US EPA Storm Water Regulations	PW - Sewer	250	250	250	250
SW005	Combined Sewer Overflow Improvements	PW - Sewer	1,500	1,500	1,500	1,500
SW011	Storm Drains and Tunnels Rehabilitation Program	PW - Sewer	3,000	3,000	3,000	3,000
SW018	Flood Area 29 & 30 - Fulton Neighborhood	PW - Sewer	6,577	6,577	6,577	6,577
SW030	Alternative Stormwater Management Strategies	PW - Sewer	1,000	1,000	1,000	1,000
SW00R	Reimbursable Sewer and Storm Drain Projects	PW - Sewer	3,000	3,000	3,000	3,000
CDA01	Heritage Park Redevelopment Project	PW - Sewer	0	0	250	250
PV007	University Research Park/Central Corridor	PW - Sewer	800	800	800	800

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
SW001	Sanitary Tunnel & Sewer Rehabilitation Program	PW - Sewer	1,000	1,000	1,000	1,000
SW036	Infiltration & Inflow Removal Program	PW - Sewer	5,000	5,000	5,000	5,000
WTR09	Ultrafiltration Program	PW - Water	14,500	16,000	16,000	16,000
WTR12	Water Distribution Improvements	PW - Water	5,250	5,250	5,250	5,250
WTR14	The MWW Facilities Security Improvement	PW - Water	500	250	250	250
WTR22	New Filter Presses	PW - Water	6,500	6,500	6,500	6,500
WTR0R	Reimbursable Watermain Projects	PW - Water	2,000	2,000	2,000	2,000
RMP01	Parking Facilities - Repair and Improvements	PW - Transportation	1,700	1,700	1,700	1,700
BIS02	Central Traffic Signal Computer Replacement	BIS	50	50	50	50
BIS03	Enterprise Document Management	BIS	100	100	100	100
BIS04	Enterprise Infrastructure Capacity Upgrade	BIS	500	500	500	500
BIS05	Enterprise Reporting/Business Intelligence	BIS	350	0	0	0
BIS06	GIS Application Infrastructure Upgrade	BIS	50	50	50	50
BIS13	Risk Management & Claims Application Replacement	BIS	150	0	0	0
BIS14	Land Information Repository	BIS	100	0	0	0
ART01	Art in Public Places	CPED	347	347	347	347
CTY02	City Property Reforestation	PW - Internal Services	0	0	150	150
MPD01	MPD Forensic Laboratory	Police Department	2,850	2,850	2,850	2,850
MPD02	MPD Property & Evidence Warehouse	Police Department	730	730	730	730
PSD03	Facilities - Space Improvements	PW - Internal Services	500	500	500	500
		TOTAL	98,998	101,859	110,979	110,979

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
MBC01	Life Safety Improvements	MBC	340	340	340	340
MBC02	Mechanical Systems Upgrade	MBC	500	500	500	500
MBC04	MBC Elevators	MBC	230	0	0	0
MBC09	Critical Power Capital Project	MBC	980	0	0	0
PRKCP	Park Capital Infrastructure	Park Board	0	0	2,000	2,000
PRKDT	Diseased Tree Removal	Park Board	500	500	500	500
PSD01	Facilities - Repair and Improvements	PW - Internal Services	1,200	1,159	1,159	1,159
PSD11	Energy Conservation and Emissions Reduction	PW - Internal Services	500	500	500	500
PV001	Parkway Paving	PW - Paving	550	550	710	710
PV003	Street Renovation Program	PW - Paving	7,705	7,705	8,330	8,330
PV004	CSAH Paving Program	PW - Paving	1,600	1,600	1,600	1,600
PV005	Snelling Ave Extension	PW - Paving	0	0	1,200	1,200
PV006	Alley Renovation	PW - Paving	265	0	250	250
PV007	University Research Park/Central Corridor	PW - Paving	8,200	8,200	7,550	7,550
PV056	Asphalt Pavement Resurfacing Program	PW - Paving	2,400	2,400	5,225	5,225
PV059	Major Pavement Maintenance	PW - Paving	0	0	1,000	1,000
PV00R	Reimbursable Paving Projects	PW - Paving	3,500	3,500	3,500	3,500
SWK01	Defective Hazardous Sidewalks/Complete Gaps	PW - Sidewalks	3,020	3,020	3,020	3,020
BR101	Major Bridge Repair and Rehabilitation	PW - Bridges	300	300	300	300
BR105	Fremont Ave S Bridge	PW - Bridges	2,380	0	1,800	1,800
BR110	St. Anthony Bridge over BNSF	PW - Bridges	3,715	0	250	250
BR111	10th Ave SE Bridge Arch Rehabilitation	PW - Bridges	6,700	6,700	6,700	6,700
BR114	Midtown Corridor Bridge Preservation Program	PW - Bridges	1,400	1,400	1,400	1,400
TR003	LED Replacement Program	PW - Transportation	200	200	200	200
TR005	Controller Conversion	PW - Transportation	3,530	3,530	3,530	3,530
TR006	Priority Vehicle Control System	PW - Transportation	225	0	0	0
TR007	Traffic & Pedestrian Safety Improvements	PW - Transportation	850	850	850	850
TR008	Parkway Street Light Replacement	PW - Transportation	150	150	300	300
TR010	Traffic Management Systems	PW - Transportation	525	525	525	525
TR011	City Street Light Renovation	PW - Transportation	110	300	1,000	1,000
TR013	Railroad Crossing Safety Improvements	PW - Transportation	933	933	933	933
TR015	Safe Routes to School	PW - Transportation	50	50	50	50
TR00R	Reimbursable Transportation Projects	PW - Transportation	600	600	600	600
BIK24	Major Bike Maintenance Program	PW - Transportation	0	0	100	100
SW002	Miscellaneous Storm Drains	PW - Sewer	220	220	220	220
SW004	Implementation of US EPA Storm Water Regulations	PW - Sewer	250	250	250	250
SW011	Storm Drains and Tunnels Rehabilitation Program	PW - Sewer	5,000	5,000	5,000	5,000
SW030	Alternative Stormwater Management Strategies	PW - Sewer	1,000	1,000	1,000	1,000
SW00R	Reimbursable Sewer and Storm Drain Projects	PW - Sewer	3,000	3,000	3,000	3,000
BR105	Fremont Ave S Bridge	PW - Sewer	70	0	70	70
PV003	Street Renovation Program	PW - Sewer	75	75	75	75
PV007	University Research Park/Central Corridor	PW - Sewer	400	400	400	400
SW001	Sanitary Tunnel & Sewer Rehabilitation Program	PW - Sewer	1,000	1,000	1,000	1,000
SW036	Infiltration & Inflow Removal Program	PW - Sewer	7,000	7,000	7,000	7,000
WTR09	Ultrafiltration Program	PW - Water	0	14,500	14,500	14,500
WTR12	Water Distribution Improvements	PW - Water	5,500	5,500	5,500	5,500
		•				

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
WTR14	The MWW Facilities Security Improvement	PW - Water	250	250	250	250
WTR16	Minneapolis/St. Paul Interconnection	PW - Water	3,000	0	0	0
WTR0R	Reimbursable Watermain Projects	PW - Water	2,000	2,000	2,000	2,000
BR105	Fremont Ave S Bridge	PW - Water	70	0	70	70
RMP01	Parking Facilities - Repair and Improvements	PW - Transportation	1,700	1,700	1,700	1,700
BIS02	Central Traffic Signal Computer Replacement	BIS	50	50	50	50
BIS03	Enterprise Document Management	BIS	50	50	50	50
BIS04	Enterprise Infrastructure Capacity Upgrade	BIS	800	500	500	500
BIS05	Enterprise Reporting/Business Intelligence	BIS	150	0	0	0
BIS06	GIS Application Infrastructure Upgrade	BIS	50	50	50	50
BIS10	Finance System Consolidation/Upgrade	BIS	50	50	50	50
BIS13	Risk Management & Claims Application Replacement	BIS	200	0	0	0
BIS14	Land Information Repository	BIS	50	0	0	0
ART01	Art in Public Places	CPED	366	366	366	366
CTY02	City Property Reforestation	PW - Internal Services	0	0	150	150
MPD01	MPD Forensic Laboratory	Police Department	6,025	2,000	1,000	1,000
MPD02	MPD Property & Evidence Warehouse	Police Department	1,460	700	700	700
PSD03	Facilities - Space Improvements	PW - Internal Services	500	500	500	500
		TOTAL	93,444	91,673	101,373	101,373

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
MBC01	Life Safety Improvements	MBC	300	300	300	300
MBC02	Mechanical Systems Upgrade	MBC	500	500	500	500
MBC04	MBC Elevators	MBC	980	0	0	0
PRKCP	Park Capital Infrastructure	Park Board	0	0	2,000	2,000
PRKDT	Diseased Tree Removal	Park Board	500	500	500	500
CTY02	City Property Reforestation	PW - Internal Services	0	0	150	150
PSD01	Facilities - Repair and Improvements	PW - Internal Services	1,200	900	900	900
PSD11	Energy Conservation and Emissions Reduction	PW - Internal Services	500	500	500	500
PV001	Parkway Paving	PW - Paving	550	550	710	710
PV003	Street Renovation Program	PW - Paving	1,265	1,265	1,390	1,390
PV004	CSAH Paving Program	PW - Paving	1,525	1,525	1,525	1,525
PV005	Snelling Ave Extension	PW - Paving	2,250	0	0	0
PV006	Alley Renovation	PW - Paving	265	0	250	250
PV007	University Research Park/Central Corridor	PW - Paving	1,275	1,275	475	475
PV035	TH 121/Lyndale Ave S	PW - Paving	4,830	4,830	4,830	4,830
PV038	Winter St NE Residential/Commercial	PW - Paving	4,480	4,480	4,480	4,480
PV056	Asphalt Pavement Resurfacing Program	PW - Paving	4,500	2,400	5,225	5,225
PV057	Nicollet Ave (31st St E to 40th St E)	PW - Paving	9,020	9,020	9,020	9,020
PV059	Major Pavement Maintenance	PW - Paving	0	0	800	800
PV00R	Reimbursable Paving Projects	PW - Paving	3,500	3,500	3,500	3,500
SWK01	Defective Hazardous Sidewalks/Complete Gaps	PW - Sidewalks	3,160	3,160	3,160	3,160
BR101	Major Bridge Repair and Rehabilitation	PW - Bridges	400	400	400	400
BR112	Nicollet Ave Reopening	PW - Bridges	5,843	0	5,723	5,723
BR114	Midtown Corridor Bridge Preservation Program	PW - Bridges	190	190	190	190
TR003	LED Replacement Program	PW - Transportation	200	200	200	200
TR006	Priority Vehicle Control System	PW - Transportation	225	0	0	0
TR007	Traffic & Pedestrian Safety Improvements	PW - Transportation	920	920	920	920
TR008	Parkway Street Light Replacement	PW - Transportation	150	150	300	300
TR011	City Street Light Renovation	PW - Transportation	185	300	1,000	1,000
TR013	Railroad Crossing Safety Improvements	PW - Transportation	491	491	491	491
TR015	Safe Routes to School	PW - Transportation	50	50	50	50
TR017	Pedestrian Signals with Count-down Timers	PW - Transportation	200	0	0	0
TR00R	Reimbursable Transportation Projects	PW - Transportation	600	600	600	600
BIK20	Hiawatha LRT Trail Lighting/Trail Extension	PW - Transportation	2,120	0	2,120	2,120
BIK24	Major Bike Maintenance Program	PW - Transportation	0	0	100	100
SW002	Miscellaneous Storm Drains	PW - Sewer	220	220	220	220
SW004	Implementation of US EPA Storm Water Regulations	PW - Sewer	250	250	250	250
SW011	Storm Drains and Tunnels Rehabilitation Program	PW - Sewer	5,000	5,000	5,000	5,000
SW030	Alternative Stormwater Management Strategies	PW - Sewer	1,000	1,000	1,000	1,000
SW032	I-35W Storm Tunnel Reconstruction	PW - Sewer	1,035	1,035	1,035	1,035
SW038	Flood Area 5 - North Minneapolis Neighborhoods	PW - Sewer	4,000	1,500	1,500	1,500
SW00R	Reimbursable Sewer and Storm Drain Projects	PW - Sewer	3,000	3,000	3,000	3,000
BR112	Nicollet Ave Reopening	PW - Sewer	235	0	235	235
PV003	Street Renovation Program	PW - Sewer	500	500	500	500
PV035	TH 121/Lyndale Ave S	PW - Sewer	600	600	600	600
PV038	Winter St NE Residential/Commercial	PW - Sewer	40	40	40	40

Project ID	Project Title	Submitting Agency	Capital Budget Request	CLIC Recomm.	Mayor Revised	Council Revised
PV057	Nicollet Ave (31st St E to 40th St E)	PW - Sewer	330	330	330	330
SW001	Sanitary Tunnel & Sewer Rehabilitation Program	PW - Sewer	1,000	1,000	1,000	1,000
SW036	Infiltration & Inflow Removal Program	PW - Sewer	7,500	7,500	7,500	7,500
WTR12	Water Distribution Improvements	PW - Water	6,000	6,000	6,000	6,000
WTR16	Minneapolis/St. Paul Interconnection	PW - Water	7,000	500	500	500
WTR17	Treatment Modifications Based on New Regulations	PW - Water	1,000	100	100	100
WTR18	Hiawatha Water Maintenance Facility	PW - Water	4,935	0	0	0
WTR0R	Reimbursable Watermain Projects	PW - Water	2,000	2,000	2,000	2,000
BR112	Nicollet Ave Reopening	PW - Water	300	0	300	300
PV035	TH 121/Lyndale Ave S	PW - Water	380	380	380	380
BIS02	Central Traffic Signal Computer Replacement	BIS	50	50	50	50
BIS03	Enterprise Document Management	BIS	100	100	100	100
BIS04	Enterprise Infrastructure Capacity Upgrade	BIS	800	672	672	672
BIS05	Enterprise Reporting/Business Intelligence	BIS	100	0	0	0
BIS06	GIS Application Infrastructure Upgrade	BIS	50	50	50	50
BIS13	Risk Management & Claims Application Replacement	BIS	90	0	0	0
BIS14	Land Information Repository	BIS	50	0	0	0
ART01	Art in Public Places	CPED	383	383	383	383
MPD01	MPD Forensic Laboratory	Police Department	6,025	2,000	1,300	1,300
MPD02	MPD Property & Evidence Warehouse	Police Department	1,460	700	700	700
PSD03	Facilities - Space Improvements	PW - Internal Services	500	500	500	500
		TOTAL	108,107	73,416	87,554	87,554

### Glossary of Terms & Abbreviations for the Capital Program

**CLIC** - Capital Long-Range Improvement Committee – a committee of up to 33 private citizens appointed by the 13 Council members (2 per Ward) and Mayor (7). The committee reviews Capital proposals and recommends priorities for capital spending within specified resource parameters.

#### **REVENUE SOURCE RELATED DESCRIPTIONS:**

**NDB** - Net Debt Bonds – property tax supported bonds issued to finance general infrastructure improvements. Debt service is paid by taxes collected for the annual Bond Redemption Levy.

**Park Levy** – A portion of the Park Board's tax levy dedicated to Capital Improvements.

**MSA** - Municipal State Aid - refers to gas tax dollars distributed to local governments for use on State designated Municipal State Aid streets - usually major thoroughfares.

**ASSM** - Assessments - improvements paid for partially or wholly by property owners.

**OTHER** – Refers to all other categories of resources used to support capital programs including NRP (Neighborhood Revitalization Program), Library referendum tax levy, grants from other governmental agencies or private foundations, transfers from City operating funds, land sale proceeds, etc. In addition to the other sources above, Public Works has several divisions that have a reimbursable project for tracking and billing overhead costs and for performing construction activities that are billed to the benefiting City departments, outside government agencies and private businesses.

**NON APPROP** - Non Appropriated – reflects cost participation from County, State or Federal dollars when the City of Minneapolis is a 50% or less partner or is not the lead agency.

**Enterprise Bonds/Revenue -** bonds related to the Stormwater, Sanitary Sewer, Water, Parking and Solid Waste enterprises of the City. Debt Service is paid for by user fees charged for these enterprise services. Enterprise revenues are "pay as you go" sources anticipated to be available in the enterprise funds.

#### **ACRONYMS & ABBREVIATIONS USED IN PROJECT TITLES:**

**HVAC** - Heating, Ventilation and Air Conditioning

**Rehab** - Rehabilitation

**CSAH** – County State Aid Highway – a County project leveraging a local cost share from the City of Minneapolis

### Glossary of Terms & Abbreviations for the Capital Program

#### ACRONYMS & ABBREVIATIONS USED IN PROJECT TITLES - continued:

Wash Ave - Washington Avenue

TH121 – Trunk Highway 121

Nic Mall – Nicollet Mall – a major downtown street

**Marq** – Marquette Avenue – a major downtown street

**BNSF** – Burlington Northern Santa Fe railroad

**LED** – Light Emitting Diode (example - pedestrian signal crossing lights)

**LRT** – Light Rail Transit

**TOD –** Transit Oriented Development

**US EPA** – United States Environmental Protection Agency

**MWW** – Minneapolis Water Works

**GIS –** Geographical Information System

**HRIS** – Human Resources Information System

**EO** – Emergency Operations

**MPD** – Minneapolis Police Department

#### **SUBMITTING AGENCY OR DEPARTMENT ABBREVIATIONS:**

**CPED –** Community Planning & Economic Development

**BIS** – Business Information Services

**MBC** – Municipal Building Commission

PW - Public Works

Mayor's Priority	CPED Priorities	The Minneapolis Plan	How addressed in TMP
Close the Gaps between People and Places		•	
Minneapolis North Force	<u></u>	various chapters	<ul> <li>Home and business: economic development polices are aimed at business attraction and retention; housing polices aimed at strengthening and supporting neighborhoods</li> <li>Livability: provide coordinated inspection and enforcement services aimed at ensuring attractive and livable neighborhoods; protect and improve individual, community, environmental health</li> <li>Safety initiatives: public safety improved through community outreach and focusing on areas of need</li> </ul>
Job growth and workforce development	1,2,3,5	Economic Development	<ul> <li>Promote business start-ups, retention and expansion to bolster the existing economic base</li> <li>Promote access to technology, clean sites, and various services to assist in attracting industries</li> <li>Focus resources and efforts on building and maintaining a skilled and employable workforce, and remove barriers to employment</li> </ul>
Prevent home foreclosures	1,2,3,4	Housing	Improve the stability and health of communities through market building strategies, and strategies that preserve and increase home ownership
Stable housing	1,2,3,4,5	Housing	<ul> <li>Increase housing affordable to low and moderate income households</li> <li>Foster complete communities by preserving and increasing high quality housing opportunities suitable for all ages and household types</li> <li>Maintain the quality, safety and unique character of the city's housing stock</li> </ul>
End homelessness	1,2,3,4,5	Housing	Preserve and increase the supply of safe, stable, and affordable supportive housing opportunities for homeless youth, singles and families
Finance literacy	3	Public Facilities and Services	<ul> <li>Support the efforts of public and private institutions to provide a wide range of educational choices for Minneapolis students and residents throughout the city</li> <li>Support a strong library system with excellent services, programs, and collections to meet a variety of informational and educational needs</li> </ul>
Stop panhandling	3	Economic Development Public Facilities and Services	<ul> <li>Augment community-based policing with neighborhood-driven crime prevention efforts, including educating the public about laws and available resources and services.</li> <li>Improve real and perceived safety issues in Downtown</li> </ul>
Fight to lower property taxes	1,2,3,5	Introduction	Sustainability is a major theme of the plan, and the economic application is that the city must be responsible in ensuring that current expenditures do not compromise the long-term economic sustainability of the city

Wireless Minneapolis	3,5	Economic Development	•	Develop and maintain the city's technological and information infrastructure to ensure the long-term success and competitiveness of Minneapolis in regional, national and global markets
Prepare the Next Generation for the Future	Future			
The Minneapolis Promise College and Career Centers STEP UP Summer Jobs	3,5	all of these are both Economic Development and Public Facilities and Services	•	Develop partnerships between city departments and educational institutions to provide opportunities for internships, class projects, and other opportunities to connect
Power of YOU				students to the community.
Founder's Free Tuition Library System Merger			•	Commit to a library funding and governance model that ensures the long-term viability of libraries in Minneapolis.
			•	Promote the work readiness of city residents and the
				development of skins that respond to emerging opportunities with employers that offer good jobs
			•	Support youth employment, apprenticeship and mentorship initiatives in preparation for city jobs.
Reweave the Urban Fabric				
Access Minneapolis	1,2,3,5	Transportation, Economic	•	Development of transportation section closely linked with
		Development		primary goals and objectives of Access Minneapolis
Downtown Transportation Plan	1,2,3,5	Transportation, Economic	•	Transportation policies closely linked to downtown plan
		Development		from Access Minneapolis
Bring Streetcars Back to Minneapolis	1,2,3,5	Transportation	•	Encourage growth and reinvestment by developing a multi-
				modal dansportation system that includes light fair, committer rail infercity high speed rail streetcars, high
				frequency buses, and other modes
			•	Develop local sources of funding as well as the means to
				leverage private sources of funding for transit service
Minneapolis Green Print	1,2,3,4,5	Environment	•	Sustainability and greening the city are major themes in a number of policies
			•	Pursue an agenda to minimize the city's ecological footprint.
				conserve the use of natural resources, and continue to build a healthy economy
Minneapolis Energy Challenge	1,2,3,4,5	Environment	•	Encourage energy and resource conservation
			•	Partner with others, including research institutions, to
				explore the reasibility of afternative energy sources for Minneapolis government operations, and for use by residents
				and businesses
			•	Educate and inform residents and business about
				opportunities to increase utilization of renewable energy sources
Mayor's Great City Design Teams	1,2,4,5	Land Use, Urban Design	•	Minneapolis will be an attractive and inviting city that
				promotes harmony between the natural and built
				amenities, and respects the City's traditional urban features
				while welcoming new construction and improvements

Mayor's Green Manufacturing Initiative	1,2,3,5	Environment and Economic	Attract businesses investing in high job density and low
		Development	impact, light industrial activity to support the existing economic base
			<ul> <li>Encourage developments to implement sustainable design practices during programming and design, deconstruction</li> </ul>
			<ul> <li>Provide incentives for compliance with adopted City sustainability standards in projects that receive financial assistance from the City</li> </ul>
Minneapolis MOSAIC Arts Celebration	1,5	Arts & Culture	<ul> <li>Promote the City's arts and culture to residents, visitors, and</li> </ul>
			civic and community leadership as an integral aspect of Minneapolis's identity, quality of life, economic vitality and civic health
Fight for Statewide Transportation	1,2,3,4,5	Transportation	<ul> <li>Advocate for dedicated sources of transit funding at the state</li> </ul>
Funding			legislature
			<ul> <li>Promote reliable funding and pricing strategies to manage transportation demand and improve alternative modes</li> </ul>
Make Minneapolis a Safe Place to Cal	Call Home		
A stronger, more visible police force		Public Facilities and Services	<ul> <li>Minneapolis will improve the safety and security of</li> </ul>
			residents, workers, and visitors
			<ul> <li>Intensify law enforcement and secure more convictions for</li> </ul>
			criminal offenses
Cutting edge safety technology		Public Facilities and Services	<ul> <li>Maintain and enhance a public safety infrastructure that</li> </ul>
			improves response time to police and fire calls, increases
			police presence in areas of need, provides training facilities,
			and improves communication among public safety agencies
Better crime prosecution		Public Facilities and Services	<ul> <li>Minneapolis will improve the safety and security of</li> </ul>
			residents, workers, and visitors
			Intensify law enforcement and secure more convictions for eximinal offences.
Coordinated crack-down on gangs and		Public Facilities and Services	Intensify law anthroament and secure more convictions for
repeating violent offenders			
			<ul> <li>Augment neighborhood-driven crime prevention efforts with</li> </ul>
			community-based policing, including educating the public about laws and available services
A focus on juvenile crime and youth	1,2,3,4,5	Public Facilities and Services	<ul> <li>Augment neighborhood-driven crime prevention efforts with</li> </ul>
violence prevention			community-based policing, including educating the public about laws and available services
Illegal gun seizures		Public Facilities and Services	Minneapolis will improve the safety and security of
			residents, workers, and visitors
			<ul> <li>Intensity law enforcement and secure more convictions for criminal offenses</li> </ul>
Cleaning up neighborhoods	1,2,3,4,5	Public Facilities and Services	Minneapolis will enhance the safety and appearance of
	-6. 6-6-6-		
			<ul> <li>Educate the public about regulations affecting the</li> </ul>

		maintenance of private property
		<ul> <li>Provide coordinated inspection and enforcement services aimed at ensuring attractive and livable neighborhoods</li> </ul>
		<ul> <li>Maintain and improve the quality and condition of public streets, sidewalks, and other public infrastructure.</li> </ul>
Graffiti	Public Facilities and Services, Arts and Culture	<ul> <li>Intensify law enforcement and secure more convictions for criminal offenses.</li> </ul>
		<ul> <li>Augment neighborhood-driven crime prevention efforts with community-based policing, including educating the public</li> </ul>
		<ul> <li>about laws and available services.</li> <li>Educate the public about regulations affecting the</li> </ul>
		<ul> <li>maintenance of private property.</li> <li>Provide coordinated inspection and enforcement services</li> </ul>
		aimed at ensuring attractive and livable neighborhoods.

CPED Goals:

#1 Plan and develop a vibrant, sustainable community
#2 Promote private sector growth to build a healthy economy
#3 Promote economic self-sufficiency for individuals and families
#4 Develop and preserve life-cycle housing throughout the City of Minneapolis
#5 Partner effectively to promote regional growth and investment

#### CHAPTER 546. RESIDENCE DISTRICTS

#### ARTICLE I. GENERAL PROVISIONS

**546.10.** Purpose. The residence districts are established to preserve and enhance quality of living in residential neighborhoods, to regulate structures and uses which may affect the character or desirability of residential areas, to encourage a variety of dwelling types and locations and a range of population densities consistent with the comprehensive plan, and to ensure adequate light, air, privacy and open space.

#### 546.20. District names. The residence district names are:

(1) Low density districts.

R1 Single-family District

R1A Single-family District

R2 Two-family District

**R2B Two-family District** 

(2) Medium density districts.

R3 Multiple-family District

R4 Multiple-family District

(3) High density districts.

**R5 Multiple-family District** 

R6 Multiple-family District

546.30. Principal uses for the residence districts. (a) In general. Table 546-1, Principal Uses in the Residence Districts, lists all permitted and conditional uses in the residence districts.

- (b) Permitted uses. Uses specified with a "P" are permitted as of right in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish a permitted use shall obtain a zoning certificate for such use as specified in Chapter 525, Administration and Enforcement.
- (c) Conditional uses. Uses specified with a "C" are allowed as a conditional use in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish or expand a conditional use shall obtain a conditional use permit for such use, as specified in Chapter 525, Administration and Enforcement.
- (d) Prohibited uses. Any use not listed as either "P" (permitted) or "C" (conditional) in a particular district or any use not determined by the zoning administrator to be substantially similar to a use listed as permitted or conditional shall be prohibited in that district.
- (e) Specific development standards. Permitted and conditional uses specified with an "\" under the Specific Development Standards column shall be subject to the specific development standards of Chapter 536, Specific Development Standards.

**Table 546-1 Principal Uses in Residence Districts** 

Use	R1	R1A	R2	R2B	R3	R4	R5	R6	Specific Development Standards
RESIDENTIAL USES		·							
									· ·
Dwellings	P	P	P	P	P	P		<u> </u>	
Single-family dwelling	r_		P	P	P	P			***
Two-family dwelling			1			<del></del> -			
Single or two-family dwelling							P	Р	
existing on the effective date of this ordinance							_	1	
Cluster development	C	C	C	C	C	C	С	C	/
Multiple-family dwelling, three	-			<del>                                     </del>					
					P	P	P	P	
(3) and four (4) units Multiple-family dwelling, five (5)									
					C	С	С	C	
units or more		<del> </del>						<del> </del>	
Planned residential develop- ment					С	С	С	С	
Congregate Living									
Community residential facility			Б		т.	P	P	P	1
serving six (6) or fewer persons	P	P	P	P	P	P	P	r	<b>V</b>
Community residential facility									
serving seven (7) to sixteen (16)					С	C	С	C	/
persons									
Community residential facility		<del>                                     </del>							
serving seventeen (17) to thirty-						C	C	C	/
two (32) persons				ł					1
Board and care home/ Nursing		·				~	-	-	
home/ Assisted living						С	C	С	
Faculty house						C	C	C	/
Fraternity or sorority		<del> </del>				С	C	C	/
Hospitality residence		<u> </u>				C	C	C	1
Residential hospice						C	C	C	/
Supportive housing						C	C	C	/
Supportive nousing	L.,	l		<u> </u>			L		
INSTITUTIONAL AND PUBLIC USES									
Educational Facilities									
Early childhood learning center	C	C	C	C	C	C	C	C	1
Preschool	C	C	č	C	C	C	C	C	1
	C	C	C	C	C	C	C	C	/
	School, grades N-12								
Social, Cultural, Charitable an	d Recre	ational F				C	C	C	
Athletic field	C	C	C	C	C	C	C		ļ
Cemetery	C	C	C	C	C	C	C	P	
Community garden	P	P	P	P	P	P	P		<u> </u>
Developmental achievement cen-	С	С	C	С	$\mathbf{c}$	C	C	C	
ter								C	
Golf course	C	C	C	C	C	C	C		/
Library, public	C	C	C	C	C	C	C	C	<del> </del>
Park, public	P	P	P	P	P	P	P	P	<u> </u>
Religious Institutions									
Place of assembly	P	P	P	P	P	P	P	P	
COMMERCIAL USES									
Bed and breakfast home		TI			C	C	C	C	1
Child care center	C	C	C	C	$\frac{c}{c}$	$\frac{c}{c}$	C	C	/
Ound care center				<u> </u>			L	<u>_</u> _	<u> </u>

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restrictive provision shall apply. The appropriate billboard district and standards shall be determined by the zoning administrator at the time of application for a permit to construct or structurally alter a sign or billboard.

(c) Additional conditions. Prior to issuance of a permit to construct or structurally alter any advertising sign or billboard within any opportunity billboard district, the applicant shall remove, or establish to the satisfaction of the zoning administrator, nonconforming sign area credits equivalent to the removal of two (2) square feet of nonconforming advertising sign face area from qualifying locations for each one (1) square foot of total sign face area proposed, pursuant to the provisions of section 544.80.

**Table 544-2 Opportunity Billboard District Standards** 

	Downtown Opportunity Billboard District	Limited Access Roadway Opportunity Billboard District
Minimum commercial or industrial	At least 1,320 feet of continuous parallel	At least 1,320 feet of continuous commer-
zoning	commercial or industrial zoning along both	cial or industrial zoning along and parallel
	sides of the roadway from which the bill-	to the limited access roadway from which
	board is intended to be read	the billboard is intended to be read, or
·	•	from which the billboard can be read
Minimum lot frontage	50 feet for a sign not exceeding 300 square	50 feet for a sign not exceeding 300 square
	feet; 100 feet for a sign over 300 square	feet; 100 feet for a sign over 300 square
	feet; one (1) sign per zoning lot	feet; one (1) sign per zoning lot
Maximum sign area	672 sq. ft. plus up to 25% temporary	672 sq. ft. plus up to 25% temporary
	extension of the basic sign face	extension of the basic sign face
Maximum sign height	35 feet from grade; if located on a roof, the	35 feet from grade; if located on a roof, the
	top of the sign shall not be more than 35	top of the sign shall not be more than 35
	feet above the roof, except no building that	feet above the roof, except no building that
	is more than three stories in height or	is more than three stories in height or
	where the roof is more than 40 feet above	where the roof is more than 40 feet above
	grade shall have a billboard on its roof	grade shall have a billboard on its roof (*).
Lighted sign	Permitted	Permitted
Minimum sign spacing	200 feet from a residence or office resi-	600 feet from a residence or office resi-
	dence district; 1,000 feet from a billboard	dence district located along and on the
	on the same side of the roadway	same side of the limited access roadway;
		1,000 feet from a billboard on the same
		side of the roadway

<sup>(\*)</sup> A sign in excess of height limits may be allowed as a conditional use in the limited access roadway opportunity billboard district, subject to the provisions of Chapter 525.

544.70. Special downtown spacing provision. In order to allow structural alteration or reconstruction of existing advertising signs and billboards in the downtown opportunity billboard district that may not meet the one thousand (1,000) foot spacing requirement of the district, the required spacing between existing signs and billboards may be reduced by one (1) foot for each two (2) square feet of nonconforming advertising sign face area removed by the applicant from qualifying locations, pursuant to the provisions of section 544.80. In no case may the required spacing be reduced to less than five hundred (500) feet. This special spacing provision applies only to existing advertising sign and billboard locations in the downtown opportunity billboard district and only where the structurally altered or reconstructed sign or billboard is located on or within one hundred (100) feet of the zoning lot where the original sign was located immediately before such alteration or reconstruction. This special spacing provision does not apply to any limited access roadway opportunity billboard district or to any general billboard district.

**544.80.** Nonconforming sign area credits. The zoning administrator shall maintain an account of removals of nonconforming advertising sign face area from qualifying locations, and shall maintain a record of such nonconforming sign area credits used. Removal of the sign face shall include removal of all

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parts of the sign structure, including footings, and shall include removal of all nonconforming advertising signs and billboards on the affected zoning lot. Nonconforming sign area credits may be reserved and used by the original owner of the credits within five (5) years of the removal of the nonconforming advertising sign face area. Qualifying locations are: A location that is not any part of a general billboard district or opportunity billboard district.

Use	R1	R1A	R2	R2B	R3	R4	R5	R6	Specific De- velopment Standards
Nursery or greenhouse existing on January 1, 1991	C	C	C	C	C	C	С	С	/
PARKING FACILITIES									
Parking lot, serving insti- tutional and public uses	C	C	C	C	C	C	C	С	
Parking lot, serving multiple-family dwellings					C	C	C	С	
Parking lot, serving board and care home/ nursing home/ assisted living						С	C	С	
PUBLIC SERVICES AND	UTIL	ITIES							•
Bus turnaround	C	C	C	C	С	С	С	C	
Electric or gas substation	С	C	C	C	С	C	С	C	
Fire station	C	C	·C	С	C	C	C	C	
Passenger transit station	С	C	C	C	C	C	C	C	
Police station	C	C	C	C	C	C	C	C	
Railroad right-of-way	C	C	C	C	C	C	C	C	
Stormwater retention pond	$\mathbf{C}$	C	$\mathbf{C}$	C	C	C	C	C	
Telephone exchange	C	С	C	C	C	C	C	С	
Water pumping and filtration facility	С	С	C	С	C	С	C	С	

(2000-Or-043, § 1, 5-19-2000; 2006-Or-013, § 1, 2-10-06)

**546.40.** Accessory uses and structures. Accessory uses and structures shall comply with the provisions of Chapter 537, Accessory Uses and Structures.

**546.50. Maximum occupancy.** (a) *Dwelling units*. The maximum occupancy of a dwelling unit located in the R1 through R3 Districts shall not exceed one (1) family plus up to two (2) unrelated persons living together as a permanent household, provided that the family plus the unrelated persons shall not exceed a total of five (5) persons. The maximum occupancy of a dwelling unit located in the R4 through R6 Districts shall not exceed one (1) family plus four (4) unrelated persons living together as a permanent household, provided that the family plus the unrelated persons shall not exceed a total of five (5) persons.

(b) *Rooming units*. The maximum occupancy of a rooming unit shall be as regulated by Chapter 244 of the Minneapolis Code of Ordinances, Housing Maintenance Code.

**546.60.** Hours open to the public. (a) *In general*. All uses located in the residence districts, except residential uses and religious institutions, shall comply with the following regulations governing maximum hours open to the public, except where the city planning commission further restricts such hours:

Sunday through Thursday, from 7:00 a.m. to 10:00 p.m.

Friday and Saturday, from 7:00 a.m. to 11:00 p.m.

- (b) Extension of hours open to the public. The hours open to the public may be extended by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the hours open to the public:
  - (1) Proximity to permitted or conditional residential uses.
  - (2) Nature of the business and its impacts of noise, light and traffic.
  - (3) Conformance with applicable zoning regulations, including but not limited to use, yards, gross floor area and specific development standards.
  - (4) History of complaints related to the use.
- (c) Operations not open to the public. Operations incidental to and commonly associated with the use and performed during the hours the use is closed to the public may occur.
- **546.70.** Parking and loading requirements. Parking and loading requirements for uses located in the residence districts shall be as set forth in Chapter 541, Off-Street Parking and Loading.
- **546.80.** Truck and commercial vehicle parking. (a) Residential uses. Parking of commercial vehicles shall be prohibited.
- (b) Nonresidential uses. Parking of commercial vehicles accessory to permitted or conditional nonresidential uses shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. Such vehicles shall be parked in an enclosed structure. These regulations shall apply only to vehicles that are parked regularly at a site and shall not apply to pick-up and delivery activities or to the temporary use of vehicles during construction.
- **546.90.** Signs. Sign requirements for uses located in the residence districts shall be as set forth in Chapter 543, On-Premise Signs.
- **546.100. Height.** Except for communication antennas otherwise allowed by administrative review in Chapter 535, Regulations of General Applicability, the maximum height requirements of principal structures located in the residence districts shall be as set forth within each residence district. Parapets not exceeding three (3) feet in height shall be exempt from such limitations, except where located on single or two-family dwellings or cluster developments.
- **546.110.** Increasing maximum height. The height limitations of principal structures located in the residence districts, except single and two-family dwellings, may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the maximum height:
  - (1) Access to light and air of surrounding properties.
  - (2) Shadowing of residential properties or significant public spaces.
  - (3) The scale and character of surrounding uses.
  - (4) Preservation of views of landmark buildings, significant open spaces or water bodies.
- **546.120.** Lot dimension and building bulk requirements. Lot dimension and building bulk requirements shall be as specified in each residence district. The maximum floor area ratio (F.A.R.) may not be attainable without obtaining conditional use permit approval for increasing maximum height.

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- **546.130. Density bonuses.** (a) *Bonus for enclosed parking*. In the R3 through R6 Districts, the maximum number of dwelling units and the maximum floor area ratio of multiple-family dwellings may be increased by twenty (20) percent if all required parking is provided within the building, entirely below grade, or in a parking garage of at least two (2) levels.
- (b) Bonus for affordable housing. The maximum number of dwelling units and the maximum floor area ratio of new cluster developments and new multiple-family dwellings of five (5) units or more may be increased by twenty (20) percent if at least twenty (20) percent of the dwelling units meet the definition of affordable housing. (2002-Or-181, § 1, 11-22-02)
- **546.140. Maximum lot coverage.** Principal and accessory structures shall not cover more than fifty (50) percent of any zoning lot located in the R1—R3 Districts. Principal and accessory structures shall not cover more than seventy (70) percent of any zoning lot located in the R4—R6 Districts. (2007-Or-050, § 1, 6-29-2007)
- **546.150.** Impervious surface coverage. Impervious surfaces shall not cover more than sixty-five (65) percent of any zoning lot located in the R1—R3 Districts. Impervious surfaces shall not cover more than eighty-five (85) percent of any zoning lot located in the R4—R6 Districts. The remainder of the zoning lot shall be covered with turf grass, native grasses, perennial flowering plants, shrubs, trees or similar landscape material sufficient to prevent soil erosion, minimize off-site stormwater runoff, and encourage natural filtration function. (2007-Or-050, § 2, 6-29-2007)
- **546.160.** Yard requirements. (a) In general. The minimum yard requirements for uses located in the residence districts shall be as set forth in each residence district, and in Chapter 535, Regulations of General Applicability, except as provided below. Required yards shall be unobstructed from the ground level to the sky, except as provided as a permitted obstruction in Chapter 535, Regulations of General Applicability.
- (b) Front yard increased. The required front yard shall be increased where the established front yard of the closest principal building originally designed for residential purposes located on the same block face on either side of the property exceeds the front yard required by the zoning district. In such case, the required front yard shall be not less than such established front yard, provided that where there are principal buildings originally designed for residential purposes on both sides of the property, the required front yard shall be not less than that established by a line joining the nearest front corners of both buildings. Nothing in this provision shall authorize a front yard less than that required by the zoning district.
- (c) Corner side yard. Where a corner side yard is required, it shall not exceed the applicable front yard requirement. (2000-Or-043, § 2, 5-19-2000)
- **546.170.** Landscaped yards for nonresidential uses. Required yards for nonresidential uses shall be landscaped as specified in Chapter 530, Site Plan Review. Notwithstanding the obstructions permitted in Chapter 535, Regulations of General Applicability, required interior side yards shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed. Where a rear yard abuts a required side yard, such rear yard shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed.

Errata 2 2323

**546.180.** Enclosed building requirement. All production, processing, storage, sales, display, or other business activity shall be conducted within a completely enclosed building, except as otherwise provided in this ordinance. (2000-Or-043, § 3, 5-19-2000)

**546.190.** Compliance with performance standards. All uses in the residence districts shall comply with all general performance standards contained in Chapter 535, Regulations of General Applicability, and with all other applicable regulations or law.

#### ARTICLE II. R1 SINGLE-FAMILY DISTRICT

- **546.200. Purpose.** The R1 Single-family District is established to provide for an environment of predominantly low density, single-family dwellings and cluster developments on lots with a minimum of six thousand (6,000) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.
- **546.210.** Uses. Permitted and conditional uses in the R1 District shall be as specified in Section 546.30 and Table 546-1, Principal Uses in Residence Districts.
- **546.220.** Yard requirements. The minimum yard requirements for uses located in the R1 District shall be as specified in Table 546-2, R1 Yard Requirements.

Yards	Required Yards for Single- family Dwellings and Permit- ted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	25	25
Rear and Interior Side	6	6+2X
Corner Side	10	10+2X

Table 546-2 R1 Yard Requirements

X = Number of stories above the first floor

- **546.230.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R1 District shall be as specified in Table 546-3, R1 Lot Dimension and Building Bulk Requirements.
- **546.240.** Building bulk requirements. (a) *In general*. The maximum height for all principal structures, except for single and two-family dwellings, located in the R1 District shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum height for all single or two-family dwellings located in the R1 District shall be two and one-half (2.5) stories or thirty (30) feet, whichever is less. The maximum floor area ratio shall be as specified in Table 546-3, R1 Lot Dimension and Building Bulk Requirements.
- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.

Errata 2 2324

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- (3) Open porches.
- (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
- (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 3, 6-29-2007)

**546.250.** Cluster developments. No dwelling unit shall intrude on the vertical airspace of any other dwelling unit.

Table 546-3 R1 Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES			
Dwellings			
Single-family dwelling	6,000	50	0.5 or 2,500 sq. ft. of GFA, whichever is greater
Cluster development	18,000 or 6,000 sq. ft. per dwelling unit, whichever is greater*	100	None
Congregate Living			
Community residential facility serving six (6) or fewer persons	6,000	50	None
INSTITUTIONAL AND	PUBLIC USES		
Educational Facilities			

Errata 2 2325

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
Early childhood learn-	20,000	100	0.5
ing center			
Preschool	6,000	50	0.5
School, grades K—12	20,000	100	0.5
Social, Cultural, Chari	table and Recreational	Facilities	
Athletic field	20,000	100	0.5
Cemetery	80 Acres	1,200	None
Community garden	None	None	None
Developmental achieve-	4,000	As approved by C.U.P.	0.5
ment center			
Golf course	20,000	100	0.5
Library, public	20,000	100	0.5
Park, public	20,000	100	0.5
Religious Institutions			
Place of assembly	12,000	100	0.5
COMMERCIAL USES	4,000	As approved by C.U.P.	0.5
PARKING FACILI- TIES	5,000	40	None
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

<sup>\*</sup>Or a minimum lot area per dwelling unit of the average of the single-family and two-family zoning lots located in whole or in part within three hundred fifty (350) feet, where the average lot area exceeds the minimum zoning requirement by fifty (50) percent or more

(2007-Or-050, § 4, 6-29-2007)

### ARTICLE III. R1A SINGLE-FAMILY DISTRICT

**546.260. Purpose.** The R1A Single-family District is established to provide for an environment of predominantly low density, single-family dwellings and cluster developments on lots with a minimum of five thousand (5,000) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.270.** Uses. Permitted and conditional uses in the R1A District shall be as specified in Section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.280. Yard requirements.** The minimum yard requirements for uses located in the R1A District shall be as specified in Table 546-4, R1A Yard Requirements.

546.300

### Table 546-4 R1A Yard Requirements

Yards	Required Yards for Single- family Dwellings and Permit- ted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	20	20
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

**546.290.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R1A District shall be as specified in Table 546-5, R1A Lot Dimension and Building Bulk Requirements.

**546.300.** Building bulk requirements. (a) *In general*. The maximum height for all principal structures, except for single and two-family dwellings, located in the R1A District shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum height for all single or two-family dwellings located in the R1A District shall be two and one-half (2.5) stories or thirty (30) feet, whichever is less. The maximum floor area ratio shall be as specified in Table 546-5, R1A Lot Dimension and Building Bulk Requirements.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.

(d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 5, 6-29-2007)

**546.310.** Cluster developments. No dwelling unit shall intrude on the vertical airspace of any other dwelling unit.

Table 546-5 R1A Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES			
Dwellings			
Single-family dwelling	5,000	40	0.5 or 2,500 sq. ft. of GFA, whichever is greater
Cluster development	15,000 or 5,000 sq. ft. dwelling unit, which- ever is greater *	80	None
Congregate Living			
Community residential facility for six (6) or fewer persons	5,000	40	None
INSTITUTIONAL AND	PUBLIC USES		
Educational Facilities			
Early childhood learning center	20,000	100	0.5
Preschool	5,000	40	0.5
School, K—12	20,000	100	0.5
Social, Cultural, Char	itable and Recreationa	l Facilities	
Athletic field	20,000	100	0.5
Cemetery	80 Acres	1,200	None
Community garden	None	None	None
Developmental achievement center	4,000	As approved by C.U.P.	0.5
Golf course	20,000	100	0.5
Library, public	20,000	100	0.5
Park, public	20,000	100	0.5
Religious Institutions			
Place of assembly	10,000	80	0.5
COMMERCIAL USES	4,000	As approved by C.U.P.	0.5

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Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
Parking Facilities	5,000	40	None
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

<sup>\*</sup> Or a minimum lot area per dwelling unit of the average of the single-family and two-family zoning lots located in whole or in part within three hundred fifty (350) feet, where the average lot area exceeds the minimum zoning requirement by fifty (50) percent or more.

(2007-Or-050, § 6, 6-29-2007)

#### ARTICLE IV. R2 TWO-FAMILY DISTRICT

**546.320. Purpose.** The R2 Two-family District is established to provide for an environment of predominantly low density, single and two-family dwellings and cluster developments on lots with a minimum of six thousand (6,000) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.330.** Uses. Permitted and conditional uses in the R2 District shall be as specified in section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.340.** Yard requirements. The minimum yard requirements for uses located in the R2 District shall be as specified in Table 546-6, R2 Yard Requirements.

Table 546-6 R2 Yard Requirements

Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	20	20
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

**546.350.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R2 District shall be as specified in Table 546-7, R2 Lot Dimension and Building Bulk Requirements.

**546.360.** Building bulk requirements. (a) In general. The maximum height for all principal structures, except for single and two-family dwellings, located in the R2 District shall be two and one-half (2.5) stories or thirty-five (35) feet in height, whichever is less. The maximum height for all single or

two-family dwellings located in the R2 District shall be two and one-half (2.5) stories or thirty (30) feet, whichever is less. The maximum floor area ratio shall be as specified in Table 546-7, R2 Lot Dimension and Building Bulk Requirements.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 7, 6-29-2007)

**546.370.** Cluster developments. No dwelling unit shall intrude on the vertical airspace of any other dwelling unit.

Table 546-7 R2 Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES			
Dwellings			
Single-family dwelling	6,000	40	0.5 or 2,500 sq. ft. of GFA, whichever is greater

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
Two-family dwelling	12,000	40	0.5 or 2,500 sq. ft. of
			GFA per unit, whichever
			is greater
Cluster development	18,000 or 6,000 sq. ft. per dwelling unit, whichever is greater*	100	None
Congregate Living			
Community residential	6,000	40	None
facility for six (6) or	·		
fewer persons			
INSTITUTIONAL AND	PUBLIC USES		
Educational Facilities			
Early childhood learn-	20,000	100	0.5
ing center	,		
Preschool	6,000	40	0.5
School, K—12	20,000	100	0.5
Social, Cultural, Chari	table and Recreational	Facilities	
Athletic field	20,000	100	0.5
Cemetery	80 Acres	1,200	None
Community garden	None	None	None
Developmental achieve-	4,000	As approved by C.U.P	0.5
ment center			100
Golf course	20,000	100	0.5
Library, public	20,000	100	0.5
Park, public	20,000	100	0.5
Religious Institutions			
Place of assembly	12,000	100	0.5
COMMERCIAL USES	4,000	As approved by C.U.P.	0.5
PARKING FACILI- TIES	5,000	40	None
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

<sup>\*</sup> Or a minimum lot area per dwelling unit of the average of the single-family and two-family zoning lots located in whole or in part within three hundred fifty (350) feet, where the average lot area exceeds the minimum zoning requirement by fifty (50) percent or more.

(2007-Or-050, § 8, 6-29-2007)

# ARTICLE V. R2B TWO-FAMILY DISTRICT

**546.380. Purpose.** The R2B Two-family District is established to provide for an environment of predominantly low density, single and two-family dwellings and cluster developments. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.390.** Uses. Permitted and conditional uses in the R2B District shall be as specified in section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.400. Yard requirements.** The minimum yard requirements for uses located in the R2B District shall be as specified in Table 546-8, R2B Yard Requirements.

<b>Table</b>	<b>546-8</b>	R <sub>2</sub> B	Yard	Requirements
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Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	20	20
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

**546.410.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R2B District shall be as specified in Table 546-9, R2B Lot Dimension and Building Bulk Requirements.

**546.420.** Building bulk requirements. (a) In general. The maximum height of all principal structures, except for single and two-family dwellings, located in the R2B District shall be two and one-half (2.5) stories or thirty-five (35) feet in height, whichever is less. The maximum height for all single or two-family dwellings located in the R2B District shall be two and one-half (2.5) stories or thirty (30) feet, whichever is less. The maximum floor area ratio shall be as specified in Table 546-9, R2B Lot Dimension and Building Bulk Requirements.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.

ZONING CODE 546.430

- (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 9, 6-29-2007)

**546.430.** Cluster developments. No dwelling unit shall intrude on the vertical airspace of any other dwelling unit.

Table 546-9 R2B Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES			
Dwellings			
Single-family dwelling	5,000	40	0.5 or 2,500 sq. ft. of GFA, whichever is greater
Two-family dwelling, existing on January 1, 1995	5,000	40	0.5 or 2,500 sq. ft. of GFA, whichever is greater
Two-family dwelling, established after Janu- ary 1, 1995	10,000	40	0.5 or 2,500 sq. ft. of GFA, whichever is greater
Cluster development, existing on January 1, 1995	15,000 or 2,500 sq. ft. per dwelling unit, whichever is greater	80	None
Cluster development, established after Janu- ary 1, 1995	15,000 or 5,000 sq. ft. per dwelling unit, whichever is greater	80	None
Congregate Living			
Community residential facility for six (6) or fewer persons	5,000	40	None
INSTITUTIONAL AND	PUBLIC USES		
Educational Facilities	3		
Early childhood learn- ing center	20,000	100	0.5
Preschool	5,000	40	0.5
School, K—12	20,000	100	0.5
Social, Cultural, Char	itable and Recreational I	Facilities 100	0.5
Athletic field	20,000	100	1 0.0

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
Cemetery	80 Acres	1,200	None
Community garden	None	None	None
Developmental achieve- ment center	4,000	As approved by C.U.P.	0.5
Golf course	20,000	100	0.5
Library, public	20,000	100	0.5
Park, public	20,000	100	0.5
Religious Institutions			
Place of Assembly	10,000	80	0.5
COMMERCIAL USES	4,000	As approved by C.U.P.	0.5
Parking Facilities	5,000	40	None
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

(2007-Or-050, § 10, 6-29-2007)

### ARTICLE VI. R3 MULTIPLE-FAMILY DISTRICT

**546.440. Purpose.** The R3 Multiple-family District is established to provide an environment of predominantly single and two-family dwellings, cluster developments and smaller multiple-family developments on lots with a minimum of five thousand (5,000) square feet and at least two thousand five hundred (2,500) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.450.** Uses. Permitted and conditional uses in the R3 District shall be as specified in section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.460.** Yard requirements. The minimum yard requirements for uses located in the R3 Mixed Multiple-family District shall be as specified in Table 546-10, R3 Yard Requirements.

Table 546-10 R3 Yard Requirements

Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	20	20
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

**546.470.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R3 District shall be as specified in Table 546-11, R3 Lot Dimension and Building Bulk Requirements.

ZONING CODE 546.480

- **546.480.** Building bulk requirements. (a) *In general*. The maximum height of all principal structures, except for single and two-family dwellings, located in the R3 District shall be two and one-half (2.5) stories or thirty-five (35) feet in height, whichever is less. The maximum height for all single or two-family dwellings located in the R3 District shall be two and one-half (2.5) stories or thirty (30) feet, whichever is less. The maximum floor area ratio shall be as specified in Table 546-11, R3 Lot Dimension and Building Bulk Requirements.
- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 11, 6-29-2007)

Table 546-11 R3 Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES	AAAAA	1.000	
Dwellings			
Single or two-family dwelling	5,000	40	0.5 or 2,500 sq. ft. of GFA per unit, whichever is greater

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	
Cluster development	7,500 or 2,500 sq. ft. per dwelling unit, which- ever is greater	40	None	
Multiple-family dwelling	5,000 or 2,500 sq. ft. per dwelling unit, which- ever is greater	40	1.0	
Planned residential development	2 acres or 2,500 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.	1.0	
Congregate Living				
Community residential facility serving six (6) or fewer persons	5,000	40	None	
Community residential 7,500 or 1,250 sq. ft. per facility serving seven (7) to sixteen (16) persons is greater		40	1.0	
Institutional and Publ	ic Uses			
Educational Facilities				
Early childhood learning center	20,000	100	0.5	
Preschool	5,000	40	0.5	
School, K—12	20,000	100	0.5	
Social, Cultural, Chari	table and Recreational	Facilities		
Athletic field	20,000	100	0.5	
Cemetery	80 Acres	1,200	None	
Community garden	None	None	None	
Developmental achievement center	4,000	As approved by C.U.P.	0.5	
Golf course	20,000	100	0.5	
Library, public	20,000	100	0.5	
Park, public	20,000	100	0.5	
Religious Institutions				
Place of assembly	10,000	80	0.5	
COMMERCIAL USES				
Bed and breakfast home	5,000	40	0.5	
Child care center	4,000	As approved by C.U.P.	0.5	
PARKING FACILI- TIES	5,000	40	None	
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.	

 $(2000\text{-}Or\text{-}043,\,\S\,\,4,\,5\text{-}19\text{-}2000;\,2007\text{-}Or\text{-}050,\,\S\,\,11,\,6\text{-}29\text{-}2007)$ 

546.530

#### ARTICLE VII. R4 MULTIPLE-FAMILY DISTRICT

**546.490. Purpose.** The R4 Multiple-family District is established to provide an environment of predominantly medium density apartments and congregate living arrangements, single-family and two-family dwellings and cluster developments, on lots with a minimum of five thousand (5,000) square feet of lot area and at least one thousand five hundred (1,500) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.500.** Uses. Permitted and conditional uses in the R4 District shall be as specified in section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.510. Yard requirements.** The minimum yard requirements for uses located in the R4 District shall be as specified in Table 546-12, R4 Yard Requirements.

Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	15	15
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

Table 546-12 R4 Yard Requirements

**546.520.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R4 District shall be as specified in Table 546-13, R4 Lot Dimension and Building Bulk Requirements.

**546.530.** Building bulk requirements. (a) *In general*. The maximum height and the maximum floor area ratio of all principal structures located in the R4 District shall be as specified in Table 546-13, R4 Lot Dimension and Building Bulk Requirements.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family

X = Number of stories above the first floor

dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.

- (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 12, 6-29-2007)

Table 546-13 R4 Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
RESIDENTIAL US		(1 000)	(2.2000)	
				•
Single or two-family dwelling	5,000	40	0.5 or 2,500 sq. ft. of GFA per unit, whichever is greater	2.5 stories, not to exceed 30 ft.
Cluster develop- ment	5,000 or 1,500 sq. ft. per dwelling unit, whichever is greater	40	None	2.5 stories, not to exceed 35 ft.
Multiple-family dwelling	5,000 or 1,500 sq. ft. per dwelling unit, whichever is greater	40	1.5	4 stories, not to exceed 56 ft.
Planned residential development	2 acres or 1,500 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.	1.5	4 stories, not to exceed 56 ft.
Congregate Living	g			
Community residential facility serving six (6) or fewer persons	5,000	40	None	2.5 stories, not to exceed 35 ft.
Community residential facility serving seven (7) to thirty-two (32) persons	5,000 or 1,250 sq. ft. per rooming unit, whichever is greater	40	1.5	4 stories, not to exceed 56 ft.

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
Board and care home/Nursing home/Assisted liv- ing	20,000	80	1.5	4 stories, not to exceed 56 ft.
Faculty house	10,000	80	1.5	2.5 stories, not to exceed 35 ft.
Fraternity or sorority	10,000 or 1,250 sq. ft. per rooming unit, whichever is greater	80	1.5	2.5 stories, not to exceed 35 ft.
Hospitality residence	10,000 or 1,250 sq. ft. per rooming unit, whichever is greater	80	1.5	4 stories, not to exceed 56 ft.
Residential hospice	10,000	80	1.5	2.5 stories, not to exceed 35 ft.
Supportive housing	5,000 or 1,250 sq. ft. per rooming unit, whichever is greater	40	1.5	4 stories, not to exceed 56 ft.
INSTITUTIONAL	AND PUBLIC USES	8		
<b>Educational Facil</b>	ities			
Early childhood learning center	20,000	100	1.0	4 stories, not to exceed 56 ft.
Preschool	5,000	40	1.0	4 stories, not to exceed 56 ft.
School, K—12	20,000	100	1.0	4 stories, not to exceed 56 ft.
Social, Cultural, C	Charitable and Rec	reational Facilities	S	
Athletic field	20,000	100	1.0	4 stories, not to exceed 56 ft.
Cemetery	80 Acres	1,200	None	4 stories, not to exceed 56 ft.
Community garden	None	None	None	None
Developmental achievement center	4,000	As approved by C.U.P.	1.0	As approved by C.U.P.
Golf course	20,000	100	1.0	4 stories, not to exceed 56 ft.
Library, public	20,000	100	1.0	4 stories, not to exceed 56 ft.
Park, public	20,000	100	1.0	4 stories, not to exceed 56 ft.
Religious Instituti	ions			

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
Place of assembly	10,000	80	1.0	4 stories, not to exceed 56 ft.
COMMERCIAL US	SES			
Bed and breakfast home	5,000	40	1.0	2.5 stories, not to exceed 35 ft.
Child care center	4,000	As approved by C.U.P.	1.0	As approved by C.U.P.
PARKING FA- CILITIES	5,000	40	None	As approved by C.U.P.
PUBLIC SER- VICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

(2000-Or-043, § 5, 5-19-2000; 2007-Or-050, § 12, 6-29-2007)

### ARTICLE VIII. R5 MULTIPLE-FAMILY DISTRICT

**546.540. Purpose.** The R5 Multiple-family District is established to provide an environment of high density apartments, congregate living arrangements and cluster developments on lots with a minimum lot area of five thousand (5,000) square feet and at least nine hundred (900) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.550.** Uses. Permitted and conditional uses in the R5 Multiple-family District shall be as specified in section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.560.** Yard requirements. The minimum yard requirements for uses located in the R5 District shall be as specified in Table 546-14, R5 Yard Requirements.

Table 546-14 R5 District Yard Requirements

Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	15	15
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

**546.570.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R5 District shall be as specified in Table 546-15, R5 Lot Dimension and Building Bulk Requirements.

ZONING CODE 546.580

**546.580.** Building bulk requirements. (a) *In general*. The maximum height and the maximum floor area ratio of all principal structures located in the R5 District shall be as specified in Table 546-15, R5 Lot Dimension and Building Bulk Requirements.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 13, 6-29-2007)

Table 546-15 R5 Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
RESIDENTIAL US Dwellings	ES		April 19.	
Single or two-family dwelling existing on the effective date of this ordinance	5,000	40	0.5 or 2,500 sq. ft. of GFA per unit, whichever is greater	

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
Cluster develop- ment	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40	None	2.5 stories, not to exceed 35 ft.
Multiple-family dwelling	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40	2.0	4 stories, not to exceed 56 ft.
Planned residen- tial development	2 acres or 900 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.	2.0	4 stories, not to exceed 56 ft.
Congregate Living	ğ			
Community residential facility serving six (6) or fewer persons	5,000	40	None	2.5 stories, not to exceed 35 ft.
Community residential facility serving seven (7) to thirty-two (32) persons	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40	2.0	4 stories, not to exceed 56 ft.
Board and care home/ Nursing home/ Assisted liv- ing	20,000	80	2.0	4 stories, not to exceed 56 ft.
Faculty house	10,000	80	2.0	2.5 stories, not to exceed 35 ft.
Fraternity or sorority	10,000 or 750 sq. ft. per rooming unit, whichever is greater	80	2.0	2.5 stories, not to exceed 35 ft.
Hospitality residence	10,000 or 750 sq. ft. per rooming unit, whichever is greater	80	2.0	4 stories, not to exceed 56 ft.
Residential hospice	10,000	80	2.0	2.5 stories, not to exceed 35 ft.
Supportive housing	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40	2.0	4 stories, not to exceed 56 ft.
INSTITUTIONAL	AND PUBLIC USES	<b>S</b>		_
Educational Facil				
Laucanonai Facil	- V. C. U			

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
Early childhood	20,000	100	1.0	4 stories, not to
learning center				exceed 56 ft.
Preschool	5,000	40	1.0	4 stories, not to exceed 56 ft.
School, K—12	20,000	100	1.0	4 stories, not to exceed 56 ft.
Social, Cultural, C	haritable and Rec	reational Facilitie	S	
Athletic field	20,000	100	1.0	4 stories, not to exceed 56 ft.
Cemetery	80 Acres	1,200	None	4 stories, not to exceed 56 ft.
Community garden	None	None	None	None
Developmental achievement center	4,000	As approved by C.U.P.	1.0	As approved by C.U.P.
Golf course	20,000	100	1.0	4 stories, not to exceed 56 ft.
Library, public	20,000	100	1.0	4 stories, not to exceed 56 ft.
Park, public	20,000	100	1.0	4 stories, not to exceed 56 ft.
Religious Instituti	ons			
Place of assembly	10,000	80	1.0	4 stories, not to exceed 56 ft.
COMMERCIAL US	SES			
Bed and breakfast home	5,000	40	1.0	2.5 stories, not to exceed 35 ft.
Child care center	4,000	As approved by C.U.P.	1.0	As approved by C.U.P.
PARKING FA- CILITIES	5,000	40	None	As approved by C.U.P.
PUBLIC SER- VICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

 $(2000\text{-}Or\text{-}043, \S~6, 5\text{-}19\text{-}2000; 2007\text{-}Or\text{-}050, \S~13, 6\text{-}29\text{-}2007)$ 

# ARTICLE IX. R6 MULTIPLE-FAMILY DISTRICT

**546.590. Purpose.** The R6 Multiple-family District is established to provide an environment of high density apartments, congregate living arrangements and cluster developments on lots with a minimum

of five thousand (5,000) square feet of lot area and at least four hundred (400) square feet of lot area per dwelling unit. In addition to residential uses, institutional and public uses and public services and utilities may be allowed.

**546.600.** Uses. Permitted and conditional uses in the R6 District shall be as specified in section 546.30 and Table 546-1, Principal Uses in Residence Districts.

**546.610. Yard requirements.** The minimum yard requirements for uses located in the R6 District shall be as specified in Table 546-16, R6 Yard Requirements.

ZONING CODE 546.630

### Table 546-16 R6 Yard Requirements

Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	15	15
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

**546.620.** Lot dimension requirements. The minimum lot area and minimum lot width for uses located in the R6 District shall be as specified in Table 546-17, R6 Lot Dimension and Building Bulk Requirements.

**546.630.** Building bulk requirements. (a) *In general*. The maximum height and the maximum floor area ratio of all principal structures located in the R6 District shall be as specified in Table 546-17, R6 Lot Dimension and Building Bulk Requirements.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-050, § 14, 6-29-2007)

Table 546-17 R6 Lot Dimension and Building Bulk Requirements

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
RESIDENTIAL US	SES			
Dwellings				
Single or two-fam- ily dwelling exist- ing on the effective date of this ordi- nance	5,000	40	0.5 or 2,500 sq. ft. of GFA per unit, whichever is greater	2.5 stories, not to exceed 30 ft.
Cluster develop- ment	5,000 or 400 sq. ft. per dwelling unit, whichever is greater	40	None	2.5 stories, not to exceed 35 ft.
Multiple-family dwelling	5,000 or 400 sq. ft. per dwelling unit, whichever is greater	40	3.0	6 stories, not to exceed 84 ft.
Planned residential development	2 acres or 400 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.	3.0	6 stories, not to exceed 84 ft.
Congregate Living	g.			
Community residential facility serving six (6) or fewer persons	5,000	40	None	2.5 stories, not to exceed 35 ft.
Community residential facility serving seven (7) to thirty-two (32) persons	5,000 or 400 sq. ft. per rooming unit, whichever is greater	40	3.0	6 stories, not to exceed 84 ft.
Board and care home/Nursing home/Assisted liv- ing	20,000	80	3.0	6 stories, not to exceed 84 ft.
Faculty house	10,000	80	3.0	2.5 stories, not to exceed 35 ft.
Fraternity or sorority	10,000 or 400 sq. ft. per rooming unit, whichever is greater	80	3.0	2.5 stories, not to exceed 35 ft.
Hospitality residence	10,000 or 400 sq. ft. per rooming unit, whichever is greater	80	3.0	4 stories, not to exceed 56 ft.

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)	Maximum Height
Residential hospice	10,000	80	3.0	2.5 stories, not to exceed 35 ft.
Supportive housing	5,000 or 400 sq. ft. per rooming unit, whichever is greater	40	3.0	6 stories, not to exceed 84 ft.
INSTITUTIONAL	AND PUBLIC USE	<u>s</u>		
Educational Facil	ities			
Early childhood learning center	20,000	100	2.0	4 stories, not to exceed 56 ft.
Preschool	5,000	40	2.0	4 stories, not to exceed 56 ft.
School, K—12	20,000	100	2.0	4 stories, not to exceed 56 ft.
Social, Cultural, C	Charitable and Rec	reational Facilitie	S	
Athletic field	20,000	100	2.0	4 stories, not to exceed 56 ft.
Cemetery	80 Acres	1,200	None	4 stories, not to exceed 56 ft.
Community garden	None	None	None	None
Developmental achievement center	4,000	As approved by C.U.P.	2.0	As approved by C.U.P.
Golf course	20,000	100	2.0	4 stories, not to exceed 56 ft.
Library, public	20,000	100	2.0	4 stories, not to exceed 56 ft.
Park, public	20,000	100	2.0	4 stories, not to exceed 56 ft.
Religious Instituti	ions			
Place of assembly	10,000	80	2.0	4 stories, not to exceed 56 ft.
COMMERCIAL US	SES			
Bed and breakfast home	5,000	40	2.0	2.5 stories, not to exceed 35 ft.
Child care center	4,000	As approved by C.U.P.	2.0	As approved by C.U.P.
Parking Facilities	5,000	40	None	As approved by C.U.P.
PUBLIC SER- VICES AND UTIL- ITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

 $(2000\text{-}Or\text{-}043,\,\S\,7,\,5\text{-}19\text{-}2000;\,2007\text{-}Or\text{-}050,\,\S\,14,\,6\text{-}29\text{-}2007)$ 

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ZONING CODE 547.30

#### CHAPTER 547. OFFICE RESIDENCE DISTRICTS

#### ARTICLE I. GENERAL PROVISIONS

**547.10. Purpose.** The office residence districts are established to provide an environment of mixed residential, office, institutional, and where appropriate, small scale retail sales and service uses designed to serve the immediate surroundings. These office residence districts may serve as small to medium scale mixed use areas within neighborhoods, as higher density transitions between downtown and residential neighborhoods, or as freestanding institutions and employment centers throughout the city.

#### **547.20. District names.** The office residence district names are:

OR1 Neighborhood Office Residence District

OR2 High Density Office Residence District

OR3 Institutional Office Residence District

- **547.30.** Principal uses for the office residence districts. (a) *In general*. Table 547-1 Principal Uses in the Office Residence Districts, lists all permitted and conditional uses in the office residence districts.
- (b) *Permitted uses*. Uses specified with a "P" are permitted as of right in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish a permitted use shall obtain a zoning certificate for such use as specified in Chapter 525, Administration and Enforcement.
- (c) Conditional uses. Uses specified with a "C" are allowed as a conditional use in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish or expand a conditional use shall obtain a conditional use permit for such use, as specified in Chapter 525, Administration and Enforcement.
- (d) *Prohibited uses*. Any use not listed as either "P" (permitted) or "C" (conditional) in a particular district or any use not determined by the zoning administrator to be substantially similar to a use listed as permitted or conditional shall be prohibited in that district.
- (e) Specific development standards. Permitted and conditional uses specified with an "✓" under the Specific Development Standards column shall be subject to the specific development standards of Chapter 536, Specific Development Standards.
- (f) Neighborhood serving retail sales and services. Neighborhood serving retail sales and services include activities that serve the surrounding neighborhood by offering basic goods and services often needed on a day to day basis. The limited nature and scale of the uses minimizes their impact on surrounding properties. Neighborhood serving retail sales and services shall be subject to the following standards:
  - (1) Neighborhood serving retail sales and services shall be limited to the following uses:
    - a. Barber shop/beauty salon.
    - b. Bookstore, new or used.
    - c. Coffee shop, with limited entertainment, maximum thirty (30) seats.
    - d. Drug store.
    - e. Dry cleaning pickup station.

- f. Florist.
- g. Grocery store.
- h. Hardware store.
- i. Performing, visual or martial arts school.
- j. Restaurant, sit down or delicatessen, with limited entertainment, provided no alcoholic beverages, maximum thirty (30) seats.
- k. Self service laundry.
- 1. Sports and health facility, minor.
- (2) The maximum size of neighborhood serving retail sales and services uses shall be two thousand (2,000) square feet of gross floor area.
- (3) All neighborhood serving retail sales and services shall be located on the ground floor of a mixed use building of at least two (2) stories, with no more than two (2) such retail sales and services uses on a single zoning lot.
- (4) Drive-through facilities shall be prohibited.
- (5) Wholesale and off-premise sales shall be prohibited.
- (6) The minimum floor area of the structure in which the neighborhood serving retail sales and service use is located shall be twenty thousand (20,000) square feet.

Table 547-1 Principal Uses in the Office Residence Districts

	,,			Specific Dev.
Use	OR1	OR2	OR3	Standards
RESIDENTIAL USES				
Dwellings				
Single or two-family dwelling	P			
Single or two-family dwelling existing on		P	P	
the effective date of this ordinance				
Cluster development	C	C	C	<b>/</b>
One (1) to four (4) dwelling units, as part	P	P	P	
of a mixed use building				
Multiple-family dwelling, three (3) and	P	P	P	
four (4) units				
Multiple-family dwelling, five (5) units or	$\mathbf{C}$	C	C	
more				
Planned residential development	C	C	C	/
Congregate Living				
Community residential facility serving	Р	P	P	1
six (6) or fewer persons				
Community residential facility serving	С	С	C	<b>√</b>
seven (7) to sixteen (16) persons				
Community residential facility serving		C	C	/
seventeen (17) to thirty-two (32) persons				

F7	OP1	OP9	OR3	Specific Dev. Standards
Use Name of Association (Name	OR1	OR2	C	Sianaaras
Board and care home/ Nursing home/ As-				"
sisted living		С	C	
Dormitory	***	C	C	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Faculty house		C	C	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Fraternity or sorority		C	C	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Hospitality residence				V
Residential hospice		C	C	
Supportive housing		l C	C	<u> </u>
INSTITUTIONAL AND PUBLIC USES				
Educational Facilities		_	T	
College or university			C	/
Early childhood learning center	C	P	P	<b>√</b>
Preschool	C	P	P	<b>√</b>
School, grades K-12	C	P	P	<b>√</b>
School, vocational or business		P	P	1
Social, Cultural, Charitable and Recrea	tional Facil	ities		
Athletic field	C	C	C	<b>/</b>
Cemetery	C	С	C	
Club or lodge, with limited entertain-		С	С	/
ment				
Community center		P	P	<b>/</b>
Community garden	P	P	P	/
Developmental achievement center	C	P	P	<b>✓</b>
Educational arts center	С	P	P	/
Library	С	P	P	
Museum		P	P	
Park, public	P	P	P	
Theater, indoor, provided live perfor-	 P	P	P	/
mances only	-	_		
Religious Institutions				
Convent, monastery or religious retreat		P	P	/
Place of assembly	P	P	P	
Medical Facilities				
Hospital			C	<b>✓</b>
COMMERCIAL USES				
Office	P	P	P	
Bed and breakfast home	C	C	C	1
Child care center	С	P	P	1
Clinic, medical or dental	C	P	P	
Farmers' market		P	P	/
Funeral home		C	C	/

Use	OR1	OR2	OR3	Specific Dev. Standards
Neighborhood serving retail sales and		P	P	
services				
Planned commercial development	27711747	C	С	1
PARKING FACILITIES				
Parking facility		C	C	
Parking lot, serving institutional and	C	C	С	
public uses				
Parking lot, serving multiple-family	C	C	C	
dwellings				
PUBLIC SERVICES AND UTILITIES				
Bus turnaround	$\mathbf{C}$	C	C	
Electric or gas substation	C	C	C	
Fire station	C	C	C	
Heating or cooling facility		C	C	
Passenger transit station	C	C	C	
Police station	C	C	C	
Post office		C	C	
Railroad right-of-way	С	C	C	
Stormwater retention pond	C	C	C	
Telephone exchange	C	C	C	
Water pumping and filtration facility	C	C	C	

(2000-Or-044, § 1, 5-19-2000; 2006-Or-014, § 2, 2-10-06; 2006-Or-088, § 1, 7-21-06)

- **547.40.** Accessory uses and structures. Accessory uses and structures shall comply with the provisions of Chapter 537, Accessory Uses and Structures.
- **547.50. Maximum occupancy.** (a) *Dwelling units*. The maximum occupancy of a dwelling unit located in the office residence districts shall not exceed one (1) family plus four (4) unrelated persons living together as a permanent household, provided that the family plus the unrelated persons shall not exceed a total of five (5) persons.
- (b) *Rooming units*. The maximum occupancy of a rooming unit shall be as regulated by Chapter 244 of the Minneapolis Code of Ordinances, Housing Maintenance Code.
- **547.60.** Hours open to the public. (a) *In general*. All uses located in the office residence districts, except residential uses, religious institutions, hotels, hospitals and colleges and universities, shall comply with the following regulations governing maximum hours open to the public, except where the city planning commission further restricts such hours:

Sunday through Thursday, from 7:00 a.m. to 10:00 p.m.

Friday and Saturday, from 7:00 a.m. to 11:00 p.m.

- (b) Extension of hours open to the public. The hours open to the public may be extended by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the hours open to the public:
  - (1) Proximity to permitted or conditional residential uses.

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- (2) Nature of the business and its impacts of noise, light and traffic.
- (3) Conformance with applicable zoning regulations, including but not limited to use, yards, gross floor area and specific development standards.
- (4) History of complaints related to the use.
- (c) Operations not open to the public. Operations incidental to and commonly associated with the use and performed during the hours the use is closed to the public may occur.
- **547.70.** Parking and loading requirements. Parking and loading requirements for uses in the office residence districts shall be as set forth in Chapter 541, Off-Street Parking and Loading.
- **547.80.** Truck and commercial vehicle parking. (a) Residential uses. Parking of commercial vehicles shall be prohibited.
- (b) Nonresidential uses. Parking of commercial vehicles accessory to permitted or conditional nonresidential uses shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. Such vehicles shall be parked in an enclosed structure. These regulations shall apply only to vehicles that are parked regularly at a site and shall not apply to pick-up and delivery activities or to the temporary use of vehicles during construction.
- **547.90.** Signs. Sign requirements for uses in the office residence districts shall be as set forth in Chapter 543, On-Premise Signs.
- **547.100. Height.** Except for communication antennas otherwise allowed by administrative review in Chapter 535, Regulations of General Applicability, the maximum height requirements of principal structures located in the office residence districts shall be as set forth within each office residence district. Parapets not exceeding three (3) feet in height shall be exempt from such limitations, except where located on single or two-family dwellings or cluster developments.
- **547.110. Increasing maximum height.** The height limitations of principal structures located in the office residence districts, except single and two-family dwellings, may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the maximum height:
  - (1) Access to light and air of surrounding properties.
  - (2) Shadowing of residential properties or significant public spaces.
  - (3) The scale and character of surrounding uses.
  - (4) Preservation of views of landmark buildings, significant open spaces or water bodies.
- **547.120.** Lot dimension and building bulk requirements. Lot dimensions and building bulk requirements shall be as set forth in each office residence district. The maximum floor area ratio (F.A.R.) may not be attainable without obtaining conditional use permit approval for increasing maximum height.
- **547.130. Density bonuses.** (a) *Bonus for enclosed parking*. In the OR2 and OR3 office residence districts, the maximum number of dwelling units and the maximum floor area ratio of multiple-family dwellings may be increased by twenty (20) percent if all required parking is provided within the building, entirely below grade, or in a parking garage of at least two (2) levels.
- (b) Bonus for affordable housing. The maximum number of dwelling units and the maximum floor area ratio of new cluster developments and new multiple-family dwellings of five (5) units or more may be increased by twenty (20) percent if at least twenty (20) percent of the dwelling units meet the definition of affordable housing. (2002-Or-182, § 1, 11-22-02)

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- **547.140. Maximum lot coverage.** Principal and accessory structures shall not cover more than seventy (70) percent of any zoning lot located in the office residence districts.
- **547.150. Impervious surface coverage.** Impervious surfaces shall not cover more than eighty-five (85) percent of any zoning lot located in the office residence districts. The remainder of the zoning lot shall be covered with turf grass, native grasses, perennial flowering plants, shrubs, trees or similar landscape material sufficient to prevent soil erosion, minimize off-site stormwater runoff, and encourage natural filtration function.

(2007-Or-051, § 1, 6-29-07)

- **547.160.** Yard requirements. (a) In general. The minimum yard requirements for uses located in the office residence districts shall be as specified in Table 547-2, Office Residence District Yard Requirements, and in Chapter 535, Regulations of General Applicability, except as provided below. Required yards shall be unobstructed from the ground level to the sky, except as provided as a permitted obstruction in Chapter 535, Regulations of General Applicability.
- (b) Front yard increased. The required front yard shall be increased where the established front yard of the closest principal building originally designed for residential purposes located on the same block face on either side of the property exceeds the front yard required by the zoning district. In such case, the required front yard shall be not less than such established front yard, provided that where there are principal buildings originally designed for residential purposes on both sides of the property, the required front yard shall be not less than that established by a line joining the nearest front corners of both buildings. Nothing in this provision shall authorize a front yard less than that required by the zoning district.
- (c) Corner side yard. Where a corner side yard is required, it shall not exceed the applicable front yard requirement. (2000-Or-044, § 2, 5-19-00)

Table 547-2 Office Residence District Yard Requirements

Yards	Required Yards for Single- and Two-Family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Uses (Feet)
Front	15	15
Rear and Interior Side	5	5+2X
Corner Side	8	8+2X

X = Number of stories above the first floor

(2007-Or-086, § 1, 10-19-07)

**547.170.** Landscaped yards for nonresidential uses. Required yards for nonresidential uses shall be landscaped as specified in Chapter 530, Site Plan Review. Notwithstanding the obstructions permitted in Chapter 535, Regulations of General Applicability, required interior side yards shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed. Where a rear yard abuts a required side yard, such rear yard shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed.

### 547.180. Reserved.

Editor's note—Ord. No. 2007-Or-040, § 1, adopted June 15, 2007, repealed § 547.180, which pertained to separate access required for commercial and residential uses. See also the Code Comparative Table.

Supp. No. 35

547.240

**547.190.** Enclosed building requirement. All production, processing, storage, sales, display, or other business activity shall be conducted within a completely enclosed building, except as otherwise provided in this ordinance. (2000-Or-044, § 3, 5-19-2000)

**547.200.** Compliance with performance standards. All uses in the office residence districts shall comply with all general performance standards contained in Chapter 535, Regulations of General Applicability, and with all other applicable regulations or law.

### ARTICLE II. OR1 NEIGHBORHOOD OFFICE RESIDENCE DISTRICT

- **547.210. Purpose.** The OR1 Neighborhood Office Residence District is established to provide a small scale mixed use environment of low to moderate density dwellings and office uses. This district may serve as a transition between neighborhood commercial centers and the surrounding residential uses.
- **547.220.** Uses. Permitted and conditional uses in the OR1 District shall be as specified in section 547.30 and Table 547-1, Principal Uses in the Office Residence Districts.
- **547.230.** Lot dimension requirements. The minimum lot area and lot width for uses located in the OR1 District shall be as specified in Table 547-3, Lot Dimension and Building Bulk Requirements in the OR1 District.
- **547.240.** Building bulk requirements. (a) In general. The maximum height of all principal buildings, except for single and two-family dwellings, located in the OR1 District shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum height for all single or two-family dwellings located in the OR1 District shall be two and one-half (2.5) stories or thirty (30) feet, whichever is less. The maximum floor area ratio shall be as specified in Table 547-3, Lot Dimension and Building Bulk Requirements in the OR1 District.
- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio.

- When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
- (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-051, § 2, 6-29-2007)
- **547.250. Maximum lot size of office uses.** Office uses shall be limited to a maximum zoning lot size of ten thousand (10,000) square feet.
- **547.255. Maximum lot size of theaters, indoor, provided live performances only.** Theaters, indoor, provided live performances only, shall be limited to a maximum zoning lot size of ten thousand (10,000) square feet. (2006-Or-014, § 3, 2-10-06)
- **547.260. Maximum size of clinics.** Clinics shall be limited to a maximum gross floor area of two thousand (2,000) square feet.
- **547.270.** Preservation of residential character. (a) *Commercial uses in existing buildings.* Exterior alterations or modifications that change the residential character or appearance of the dwelling, any accessory buildings or the zoning lot shall be prohibited where the property originally was designed or used for residential purposes.
- (b) New construction of commercial uses. All new construction shall be compatible with the scale and character of the surroundings, and exterior building materials shall be harmonious with other buildings in the neighborhood.

Table 547-3 Lot Dimension and Building Bulk Requirements in the OR1 District

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES			
Dwellings			
Single or two-family dwelling	5,000	40	0.5 or 2,500 sq. ft. of GFA per unit, whichever is greater
Cluster development	5,000 or 1,500 sq. ft. per dwelling unit, whichever is greater	40	None
Dwelling unit, as part of a mixed use building	5,000 or 1,500 sq. ft. per dwelling unit, whichever is greater	40	1.5
Multiple-family dwelling	5,000 or 1,500 sq. ft. per dwelling unit, whichever is greater	40	1.5

Uses	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)	Maximum Floor Area Ratio (Multiplier)
Planned residential develop- ment	2 acres or 1,500 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.	1.5
Congregate Living			
Community residential facility serving six (6) or fewer per- sons	5,000	40	None
Community residential facility serving seven (7) to sixteen (16) persons	5,000 or 1,250 sq. ft. per rooming unit, whichever is greater	40	1.5
INSTITUTIONAL AND PUB	LIC USES		
Educational Facilities			
Early childhood learning center	20,000	100	1.0
Preschool	5,000	40	1.0
School, grades K—12	20,000	100	1.0
Social, Cultural, Charitable	and Recreational Facilities		
Athletic field	20,000	100	1.0
Cemetery	80 acres	1,200	None
Community garden	None	None	None
Developmental achievement center	4,000	As approved by C.U.P.	1.0
Educational arts center	4,000	40	1.0
Library	20,000	100	1.0
Park, public	20,000	100	1.0
Theater, indoor, provided live performances only	4,000	40	1.0
Religious Institutions			
Place of assembly	10,000	80	1.0
COMMERCIAL USES			
Office	4,000	None	1.0
Bed breakfast home	5,000	40	1.0
Child care center	4,000	As approved by C.U.P.	1.0
Clinic, medical or dental	4,000	None	1.0
PARKING FACILITIES	5,000	40	None
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

(2000-Or-044, § 4, 5-19-2000; 2006-Or-014, § 4, 2-10-06; 2007-Or-051, § 3, 6-29-2007)

# ARTICLE III. OR2 HIGH DENSITY OFFICE RESIDENCE DISTRICT

**547.280. Purpose.** The OR2 High Density Office Residence District is established to provide a mixed use environment of moderate to high density dwellings and large office uses, with additional small scale retail sales and services uses designed to serve the immediate surroundings. This district may serve as a transition between downtown and surrounding moderate to low density residential neighborhoods.

- **547.290.** Uses. Permitted and conditional uses in the OR2 District shall be as specified in section 547.30 and Table 547-1, Principal Uses in the Office Residence Districts.
- **547.300.** Lot dimension requirements. The minimum lot area for uses located in the OR2 District shall be as specified in Table 547-4 Lot Dimension and Building Bulk Requirements in the OR2 District.
- **547.310.** Building bulk requirements. (a) *In general*. The maximum height and floor area ratio of buildings located in the OR2 District shall be as specified in Table 547-4, Lot Dimension and Building Bulk Requirements in the OR2 District.
- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.
  - (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
  - (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-051, § 4, 6-29-2007)

Table 547-4 Lot Dimension and Building Bulk Requirements in the OR2 District

Uses	Minimum Lot Area (Square Feet)	Maximum Height	Maximum Floor Area Ratio (Multiplier)
RESIDENTIAL USES			AL-11-11-11-11-11-11-11-11-11-11-11-11-11
Dwellings			

### ZONING CODE

Minimum Lot Area (Sauare Feet)	Maximum Height	Maximum Floor Area Ratio (Multiplier)
5,000	2.5 stories, not to exceed 30 ft.	0.5 or 2,500 sq. ft. of GFA per
		unit, whichever is greater
	2.5 stories, not to exceed 35 ft.	None
5,000 or 700 sq. ft. per dwell-	4 stories, not to exceed 56 ft.	2.5
5,000 or 700 sq. ft. per dwell-	4 stories, not to exceed 56 ft.	2.5
2 acres or 700 sq. ft. per dwelling unit, whichever is	4 stories, not to exceed 56 ft.	2.5
5,000	2.5 stories, not to exceed 35 ft.	None
	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
10,000 or 700 sq. ft. per rooming unit, whichever is greater	4 stories, not to exceed 56 ft.	2.5
10,000	2.5 stories, not to exceed 35 ft.	2.5
10,000 or 700 sq. ft. per room-	2.5 stories, not to exceed 35 ft.	2.5
10,000 or 700 sq. ft. per room-	4 stories, not to exceed 56 ft.	2.5
	2.5 stories, not to exceed 35 ft.	2.5
5,000 or 700 sq. ft. per rooming unit, whichever is greater	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
5 000	4 stories, not to exceed 56 ft.	2.5
		2.5
		2.5
· · · · · · · · · · · · · · · · · · ·		
	4 stories, not to exceed 56 ft.	2.5
		None
20,000	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
None	None	None
4,000	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
None	4 stories, not to exceed 56 ft.	2.5
20,000	4 stories, not to exceed 56 ft.	2.5
	Square Feet   5,000	Square Feet   5,000   2.5 stories, not to exceed 30 ft.

Uses	Minimum Lot Area (Square Feet)	Maximum Height	Maximum Floor Area Ratio (Multiplier)
Convent, monastery or reli-	5,000 or 750 sq. ft. per room-	4 stories, not to exceed 56 ft.	2.5
gious retreat center	ing unit, whichever is greater		
Place of assembly	20,000	4 stories, not to exceed 56 ft.	2.5
COMMERCIAL USES			
Office	4,000	4 stories, not to exceed 56 ft.	2.5
Bed and breakfast home	5,000	2.5 stories, not to exceed 35 ft.	2.5
Child care center	4,000	4 stories, not to exceed 56 ft.	2.5
Clinic, medical or dental	4,000	4 stories, not to exceed 56 ft.	2.5
Funeral home	15,000	4 stories, not to exceed 56 ft.	2.5
Neighborhood serving retail sales and service	10,000	As approved by C.U.P.	As approved by C.U.P.
Planned commercial development	2 acres	4 stories, not to exceed 56 ft.	2.5
PARKING FACILITIES	5,000	4 stories, not to exceed 56 ft.	2.5
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

(2000-Or-044, § 5, 5-19-2000; 2007-Or-051, § 4, 6-29-2007)

#### ARTICLE IV. OR3 INSTITUTIONAL OFFICE RESIDENCE DISTRICT

**547.320. Purpose.** The OR3 Institutional Office Residence District is established to provide a mixed use environment of very high density dwellings, large office uses, and major institutions, with additional small scale retail sales and services uses designed to serve the immediate surroundings. This district may serve freestanding institutions and employment centers or as a transition between downtown and surrounding moderate to low density residential neighborhoods.

**547.330.** Uses. Permitted and conditional uses in the OR3 District shall be as specified in section 547.30 and Table 547-1, Principal Uses in the Office Residence Districts.

**547.340.** Lot dimension requirements. The minimum lot area for uses located in the OR3 District shall be as specified in Table 547-5, Lot Dimension and Building Bulk Requirements in the OR3 District.

**547.350.** Building bulk requirements. (a) *In general*. The maximum height and floor area ratio of buildings located in the OR3 District shall be as specified in Table 547-5, Lot Dimension and Building Bulk Requirements in the OR3 District.

- (b) Gross floor area computation for single or two-family dwellings. The floor area will be counted twice for each story with a ceiling height greater than fourteen (14) feet. Gross floor area for single or two-family dwellings shall not include the following:
  - (1) Detached accessory structures.
  - (2) Up to two hundred and fifty (250) square feet of any attached accessory use designed or intended to be used for the parking of vehicles.
  - (3) Open porches.

- (4) The basement floor area if the finished floor of the first story is four (4) feet or less from natural grade for more than fifty (50) percent of the total perimeter.
- (5) The habitable portion of a half story if the floor area of the half story is under a hip or gable roof and does not exceed fifty (50) percent of the floor area of the floor below.
- (c) Floor area ratio increase. Notwithstanding the floor area ratio limitations of this chapter, the maximum floor area ratio may be increased as follows:
  - (1) The maximum floor area ratio of single and two-family dwellings may be increased when the established floor area ratio of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum floor area ratio. When floor area ratio is increased through this method, the floor area ratio shall not exceed the maximum floor area ratio of the largest single and two-family dwelling within the one hundred (100) foot radius.
  - (2) Single and two-family dwellings existing on January 1, 2008, that exceed the maximum floor area ratio, or building additions that would cause the building to exceed the maximum floor area ratio, may increase the gross floor area one time by no more than five hundred (500) square feet.
- (d) *Height increase*. Notwithstanding the height limitations of this chapter, the maximum height of single and two-family dwellings may be increased to thirty five (35) feet when the established height of a minimum of fifty (50) percent of the single and two-family dwellings within one hundred (100) feet of the subject site exceed the maximum height. (2007-Or-051, § 5, 6-29-2007)

Table 547-5 Lot Dimension and Building Bulk Requirements in the OR3 District

	Minimum Lot Area		Maximum Floor Area Ratio
Uses	(Square Feet)	Maximum Height	(Multiplier)
RESIDENTIAL USES			
Dwellings			
Single or two-family dwelling	5,000	2.5 stories, not to exceed 30 ft.	0.5 or 2,500 sq. ft. of GFA per unit, whichever is greater
Cluster development	5,000 or 300 sq. ft. per dwelling unit, whichever is greater	2.5 stories, not to exceed 35 ft.	None
Dwelling unit, as part of a mixed use building	5,000 or 300 sq. ft. per dwelling unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Multiple-family dwelling	5,000 or 300 sq. ft. per dwelling unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Planned residential development	2 acres or 300 sq. ft. per dwelling unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Congregate Living			
Community residential facility six (6) or fewer persons	5,000	2.5 stories, not to exceed 35 ft.	None
Community residential facility serving seven (7) to thirty-two (32) persons	5,000 or 300 sq. ft. per rooming unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Board and care home/Nursing home/Assisted living	20,000	6 stories, not to exceed 84 ft.	3.5
Dormitory	10,000 or 300 sq. ft. per rooming unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Faculty house	10,000	2.5 stories, not to exceed 35 ft.	3.5

Uses	Minimum Lot Area (Square Feet)	Maximum Height	Maximum Floor Area Ratio (Multiplier)
Fraternity or sorority	10,000 or 300 sq. ft. per rooming unit, whichever is greater	2.5 stories, not to exceed 35 ft.	3.5
Hospitality residence	10,000 or 300 sq. ft. per rooming unit, whichever is greater	4 stories, not to exceed 56 ft.	3.5
Residential hospice	10,000	2.5 stories, not to exceed 35 ft.	3.5
Supportive housing	5,000 or 300 sq. ft. per rooming unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Institutional and Public Use	es		
Educational Facilities			
College or university	2 acres	6 stories, not to exceed 84 ft.	3.5
Early childhood learning center	20,000	6 stories, not to exceed 84 ft.	3.5
Preschool	5,000	6 stories, not to exceed 84 ft.	3.5
School, grades K—12	20,000	6 stories, not to exceed 84 ft.	3.5
School, vocational or business	20,000	6 stories, not to exceed 84 ft.	3.5
		, 5 555165, 155 55 616564 5 1 10i	
Social, Cultural, Charitable		1	
Athletic field	20,000	6 stories, not to exceed 84 ft.	3.5
Club or lodge	20,000	6 stories, not to exceed 84 ft.	3.5
Community center	20,000	6 stories, not to exceed 84 ft.	3.5
Community garden	None	None	None
Developmental achievement center	4,000	6 stories, not to exceed 84 ft.	3.5
Educational arts center	20,000	6 stories, not to exceed 84 ft.	3.5
Library	20,000	6 stories, not to exceed 84 ft.	3.5
Museum	20,000	6 stories, not to exceed 84 ft.	3.5
Park, public	None	4 stories, not to exceed 56 ft.	3.5
Theater, indoor	20,000	6 stories, not to exceed 84 ft.	3.5
Religious Institutions			
Convent, monastery or religious retreat center	5,000 or 300 sq. ft. per rooming unit, whichever is greater	6 stories, not to exceed 84 ft.	3.5
Place of assembly	20,000	6 stories, not to exceed 84 ft.	3.5
Medical Facilities			
Hospital	20,000	6 stories, not to exceed 84 ft.	3.5
COMMERCIAL USES			
Office	4,000	6 stories, not to exceed 84 ft.	3.5
Bed and breakfast home	5,000	2.5 stories, not to exceed 35 ft.	3.5
Child care center	4,000	6 stories, not to exceed 84 ft.	3.5
Clinic, medical or dental	4,000	6 stories, not to exceed 84 ft.	3.5
Funeral home	15,000	6 stories, not to exceed 84 ft.	3.5
Neighborhood serving retail	10,000	As approved by C.U.P.	As approved by C.U.P.
sales and service			
Planned commercial develop-	2 acres	6 stories, not to exceed 84 ft.	3.5
ment			
PARKING FACILITIES	5,000	6 stories, not to exceed 84 ft.	3.5
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.	As approved by C.U.P.

 $(2000\text{-}Or\text{-}044, \S~6, 5\text{-}19\text{-}2000; 2007\text{-}Or\text{-}051, \S~5, 6\text{-}29\text{-}2007)$ 

## **CHAPTER 548. COMMERCIAL DISTRICTS**

### ARTICLE I. GENERAL PROVISIONS

**548.10. Purpose.** The commercial districts are established to provide a range of goods and services for city residents, to promote employment opportunities and the adaptive reuse of existing commercial buildings, and to maintain and improve compatibility with surrounding areas. In addition to commercial uses, residential uses, institutional and public uses, parking facilities, limited production and processing and public services and utilities are allowed.

## 548.20. District names. The commercial district names are:

- C1 Neighborhood Commercial District
- C2 Neighborhood Corridor Commercial District
- C3A Community Activity Center District
- C3S Community Shopping Center District
- C4 General Commercial District
- **548.30.** Principal uses for the commercial districts. (a) *In general*. Table 548-1, Principal Uses in the Commercial Districts, lists all permitted and conditional uses in the commercial districts.
- (b) Permitted uses. Uses specified with a "P" are permitted as of right in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish a permitted use shall obtain a zoning certificate for such use as specified in Chapter 525, Administration and Enforcement.
- (c) Conditional uses. Uses specified with a "C" are allowed as a conditional use in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish or expand a conditional use shall obtain a conditional use permit for such use, as specified in Chapter 525, Administration and Enforcement.
- (d) Prohibited uses. Any use not listed as either "P" (permitted) or "C" (conditional) in a particular district or any use not determined by the zoning administrator to be substantially similar to a use listed as permitted or conditional shall be prohibited in that district.
- (e) Specific development standards. Permitted and conditional uses specified with an "\" under the Specific Development Standards column shall be subject to the specific development standards of Chapter 536, Specific Development Standards.
- (f) General use categories. Table 548-1 employs general use categories for some types of uses. A particular use may be determined to be within a general use category if not listed specifically elsewhere in Table 548-1 and if not determined to be within another general use category. Determination of whether a particular use is included within a general use category shall be made by the zoning administrator in the manner provided for in Chapter 525, Administration and Enforcement, governing determination of substantially similar uses.
  - (1) General retail sales and services. General retail sales and services uses include the retail sale of products or the provision of services to the general public that produce minimal off-site impacts. General retail sales and services include but are not limited to the following uses:
    - a. Bakery.
    - b. Barber shop/beauty salon.

- c. Bicycle sales and repair.
- d. Clothing and accessories.
- e. Drug store.
- f. Dry cleaning pick-up station.
- g. Electronics.
- h. Film developing.
- i. Furniture store.
- j. Hardware store.
- k. Interior decorating/upholstery.
- l. Jewelry store.
- m. Locksmith.
- n. Picture framing.
- o. Radio and television service and repair.
- p. Shoe repair/tailor.
- (2) Limited production and processing. Limited production and processing uses include activities that are consistent and compatible with retail sales and services. These uses produce minimal off-site impacts due to their limited nature and scale. Limited production and processing shall not include any use which may be classified as a medium industrial use or a general industrial use or any use which is first allowed in the I2 or I3 Districts. Limited production and processing is allowed as a principal use, and may include wholesale and off-premise sales, notwithstanding the restrictions of this chapter, provided the use shall not exceed one thousand two hundred (1,200) square feet of gross floor area, and the main entrance shall open to a retail or office component equal to not less than fifteen (15) percent of the floor area of the use, except in the C4 District where such district standards shall apply. Limited production and processing includes but is not limited to the following uses:
  - a. Apparel, and other finished products made from fabrics.
  - b. Computers and accessories, including circuit boards and software.
  - c. Electronic components and accessories.
  - d. Film, video and audio production.
  - e. Food and beverage products, except no live slaughter, grain milling, cereal, vegetable oil or vinegar.
  - f. Precision medical and optical goods.
  - g. Printing and publishing.
  - h. Signs, including electric and neon signs.
  - i. Watches and clocks.
  - j. Wood crafting and carving.
  - k. Wood furniture and upholstery.

Table 548-1 Principal Uses in the Commercial Districts

Use	C1	C2	C3A	C3S	C4	Specific Development Standards
	<u> </u>	02	Con			
COMMERCIAL USES						
Retail Sales and Services						
General retail sales and ser-	P	P	P	P	P	
vices					_	
Antiques and collectibles	Р	P	P	P	P	
store		_				
Art gallery	<u>P</u>	P	P	P	P	
Art studio	P	P	P	P	P	/
Bank or financial institution	P	P	P	P	P	
Bed and breakfast home	P					<b>/</b>
Bookstore, new or used	P	P	P	P	P	
Building material sales	P	P		P	C	
Child care center	P	P	P	P	P	/
Consignment clothing store	P	P	P	P	P	<b>_</b>
Contractor's office	C	C	C	C	C	
Currency exchange		P		P	P	/
Day labor agency					С	<b>/</b>
Exterminating shop			1.	-	P	
Farmers' market	P	P	P	P	P	/
Firearms dealer		H-8-Sig			C	<b>✓</b>
Funeral home	P	P	P	P	P	. /
Greenhouse, lawn and gar-	P	P		P	P	
den supply store	_					
Grocery store	P	P	P	P	P	/
Laundry, self service	P	P	P	P	P	
Memorial monuments		P			Р	/
Office supplies sales and	P	P	P	P	P	
service	т		1	1		
Pawnshop					P	<b>V</b>
Performing, visual or mar-	P	P	P	P	P	
tial arts school	_					
Pet store	P	P	P	P	P	<b>✓</b>
Photocopying	P	P	P	P	P	
Rental of household goods		P	P	P	P	
and equipment						
Secondhand goods store	P	P	P	P	P	1
Shopping center	C	C	C	C	C	/
Small engine repair		C		P	P	<b>/</b>
Tattoo and body piercing	P	P	P	P	P	
parlor						
Tobacco shop		P	P	P	P	/
Veterinary clinic	P	P	P	P	P	<b>/</b>
Video store	P	P	P	P	P	

Use	C1	C2	C3A	C3S	C4	Specific Development Standards
Offices	P	P	P	P	P	
Automobile Services						
Automobile convenience fa-		]	1			
cility existing on the effec-	C	C		C	C	
tive date of this ordinance					Ü	
Automobile convenience fa-			<b> </b>			
cility		C		C	$\mathbf{C}$	/
Automobile rental		C			C	
Automobile repair, major					C	/
Automobile repair, minor		C		C	C	/
Automobile repair, minor,						
existing on the effective	C	C		$\mid  c  \mid$	C	/
date of this ordinance	_				_	_
Automobile sales		C		C		1
Car wash		C		C	C	/
Food and Beverages		•	•			, . , ,
Catering	P	P	P	P	P	
Coffee shop, with limited						
entertainment	P	P	P	P	P	✓
Liquor store, off-sale		C	С	C	<u>C</u>	
Nightclub		<del>                                     </del>	C			-/
Restaurant, delicatessen	P	P	$\frac{\circ}{P}$	P	P	/
Restaurant, fast food	C	C	C	C	C	1
Restaurant, sit down, in-			<u> </u>			•
cluding the serving of alco-			_	_	_	
holic beverages, with lim-	P	P	P	P	$\mathbf{P}$	<b>✓</b>
ited entertainment						
Restaurant, sit down, in-						
cluding the serving of alco-		_			-	
holic beverages, with gen-		P	P	P	P	/
eral entertainment						,
Commercial Recreation, E	ntertain	nent and	Ladging			
Hotel			P	P	P	/
Indoor recreation area		P	P	P	P	•
Outdoor recreation area		C	C	C	$\frac{1}{C}$	/
Radio or television station		P	P	P	<u>U</u>	i i
Reception or meeting hall		P	P	P	<del>_</del> P	
Regional sports arena			P	-		
Sports and health facility,						
major		C	C	C	$\mathbf{C}$	
Sports and health facility,		_	_			
minor	P	P	P	P	P	
Theater, indoor	Р	P	P	P	P	/
						. •

						Specific Development
Use	<b>C1</b>	<b>C2</b>	C3A	C3S	C4	Standards
Blood/plasma collection facility		-			С	
Clinic, medical or dental	P	P	P	P	P	**************************************
Laboratory, medical or dental	P	P	P	P	P	
Planned Commercial Development	C	С	C	C	С	/
Transportation						
Ambulance service					C	
Bus garage or maintenance facility					С	
Limousine service					C	
Package delivery service					С	<b>√</b>
Taxicab service					C	
Truck, trailer, boat, recreational vehicle or mobile home sales, service and rental					С	
	*		<u> </u>	<u> </u>	<u> </u>	
PARKING FACILITIES	~	7 ~				Г
Parking facility	C	C	С	C	C	
RESIDENTIAL USES						
Dwellings						
Single or two-family dwelling	P	P				
Single or two-family dwelling existing on the effective date of this ordinance			Р	P	P	
Cluster development	C	C	C	С	С	✓
One (1) to four (4) dwelling units, as part of a mixed use building	P	P	P	Р	P	
Multiple-family dwelling, three (3) and four (4) units	P	P	Р	P	P	
Multiple-family dwelling, five (5) units or more	С	С	C	C	С	
Planned residential development	С	C	C	C	C	J
Congregate Living						
Community residential facility serving six (6) or fewer persons	P	P	P	Р	P	1

IIoo	C1	C2	C3A	C3S	C4	Specific Development Standards
Use Community residential facil-	<u> U</u>	\ \C2	CoA	Cos	04	Sianaaras
ity serving seven (7) to six-	C	$\mathbf{c}$	c	c	C	
teen (16) persons	O					•
Community residential facil-						
ity serving seventeen (17) to		C	$\mathbf{c}$	c	C	
thirty-two (32) persons						·
Board and care home/Nurs-						
ing home/Assisted living		C			$\mathbf{C}$	/
Inebriate housing		C			C	/
Residential hospice		C			C	/
Supportive housing	•••	C			C	<b>✓</b>
	DT TO TIO	EC	· · ·	Auro		
INSTITUTIONAL AND PU	BLIC US	ES		· ·		
Educational Facilities						
Early childhood learning	P	P	P	P	P	1
center	Г	Г	Г			V
Preschool	P	P	P	P	P	1
School, grades K—12	C	С	C	C	C	<b>✓</b>
School, vocational or busi-	$\mathbf{C}$	P	P	$\mid  \mathbf{P}  \mid$	P	
ness		1	1	1		<u> </u>
Social, Cultural, Charitabl	a and Re	ocrastions	l Facilitie	æ		
Athletic field	C	C	C	C	С	1
Club or lodge, with limited						
entertainment	$\mathbf{C}$	P	P	P	P	
Club or lodge, with general			_			
entertainment		P	P	P	P	
Community center	C	P	P	P	P	1
Community garden	P	P	Р	P	P	1
Developmental achievement				ъ	D	
center	$\mathbf{C}$	P	P	P	Р	
Library	$\overline{C}$	P	P	P	P	
Mission					C	<b>√</b>
Museum	C	P	P	P	P	
Park, public	P	P	P	$\mathbf{P}^{-}$	P	
Religious Institutions						
Convent, monastery or reli-	C	P	P	P	P	1
gious retreat center						٧ -
Place of assembly	P	P	P	P	P	
PRODUCTION, PROCESS	ING AND	STORAG	E			
Limited production and pro-	- C	C	C	$\mid  \mathbf{c}  \mid$	$\mathbf{C}$	
cessing	<u> </u>					_
Dry cleaning establishment		C			<u>C</u>	<b>√</b>
Film, video and audio pro-		C	C		C	
duction						

Use	C1	C2	C3A	C3S	C4	Specific Development Standards
Furniture moving and stor-						
age		_			C	
Industrial machinery and						
equipment sales, service					C	
and rental						
Laundry, commercial	_	C			C	<b>√</b>
Packaging of finished goods					C	
Printing and publishing		C			C	
Self-service storage				-	C	
Wholesaling, warehousing					С	
and distribution						
PUBLIC SERVICES AND U	J <b>TILITIE</b>	S				
Bus turnaround	C	C	C	C	C	
Electric or gas substation	C	C	- C	C	C	
Fire station	C	C	- C	C	C	
Garage for public vehicles					C	
Heating or cooling facility	C	C	C	C	C	
Passenger transit station	C	C	C	C	C	
Police station	C	C	C	C	C	
Post office	C	C	C	C	C	
Railroad right-of-way	С	C	C	C	С	
Regional financial service			С			, -
center						<b>V</b>
Stormwater retention pond	C	C	C	C	C	
Street and equipment main-					С	
tenance facility						
Telephone exchange	C	C	С	C	C	
Water pumping and filtration facility	C	С	C	С	C	

(2000-Or-045, § 1, 5-19-2000; 2005-Or-045, § 1, 5-13-05; 2006-Or-015, § 1, 2-10-06; 2006-Or-089, § 1, 7-21-06)

- **548.40.** Accessory uses and structures. Accessory uses and structures shall comply with the provisions of Chapter 537, Accessory Uses and Structures.
- **548.50. Maximum occupancy.** (a) *Dwelling units*. The maximum occupancy of a dwelling unit located in the commercial districts shall not exceed one (1) family plus four (4) unrelated persons living together as a permanent household, provided that the family plus the unrelated persons shall not exceed a total of five (5) persons.
- (b) *Rooming units*. The maximum occupancy of a rooming unit shall be as regulated by Chapter 244 of the Minneapolis Code of Ordinances, Housing Maintenance Code.

- **548.60.** Hours open to the public. (a) *In general*. All uses located in the commercial districts, except residential uses, religious institutions and hotels, shall comply with the regulations governing maximum hours open to the public as set forth in each district, except where the city planning commission further restricts such hours.
- (b) Extension of hours open to the public. The hours open to the public may be extended by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the hours open to the public:
  - (1) Proximity to permitted or conditional residential uses.
  - (2) Nature of the business and its impacts of noise, light and traffic.
  - (3) Conformance with applicable zoning regulations, including but not limited to use, yards, gross floor area and specific development standards.
  - (4) History of complaints related to the use.

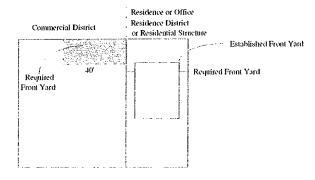
- (c) Uses licensed to sell alcoholic beverages. The hours open to the public for uses licensed to sell alcoholic beverages shall be those permitted by the liquor, wine or beer license and any special late hours entertainment license approved for the facility. Hours open to the public beyond those permitted by the license may be requested by applying for a conditional use permit.
- (d) Operations not open to the public. Operations incidental to and commonly associated with the use and performed during the hours the use is closed to the public, for example production or processing activities or the stocking of inventory, may occur.
- 548.70. Parking and loading requirements. Parking and loading requirements for uses in the commercial districts shall be as set forth in Chapter 541, Off-Street Parking and Loading.
- 548.80. Truck and commercial vehicle parking. (a) Residential uses. Parking of commercial vehicles shall be prohibited.
- (b) Nonresidential uses. Regulations governing the parking of trucks and other commercial vehicles accessory to permitted or conditional nonresidential uses shall be as specified in each commercial district. These regulations shall apply only to vehicles that are parked regularly at a site and shall not apply to pick-up and delivery activities or to the temporary use of vehicles during construction. Outdoor storage of motorized equipment other than motor vehicles in operable condition shall be prohibited.
- **548.90.** Signs. Sign requirements for uses in the commercial districts shall be as set forth in Chapter 543, On-Premise Signs.
- **548.100.** Height. Except for communication antennas subject to Chapter 535, Regulations of General Applicability, the maximum height requirements of principal structures located in the commercial districts shall be as specified within each commercial district. Parapets not exceeding three (3) feet in height shall be exempt from such limitations, except where located on single or two-family dwellings or cluster developments.
- 548.110. Increasing maximum height. The height limitations of principal structures located in the commercial districts, except single and two-family dwellings, may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the maximum height:
  - (1) Access to light and air of surrounding properties.
  - (2) Shadowing of residential properties or significant public spaces.
  - (3) The scale and character of surrounding uses.
  - (4) Preservation of views of landmark buildings, significant open spaces or water bodies.
- 548.120. Lot dimension and building bulk requirements. (a) Maximum floor area ratio. The maximum floor area ratio of all structures located in the commercial districts shall be as set forth within each commercial district. The maximum floor area ratio (F.A.R.) may not be attainable without obtaining conditional use permit approval for increasing maximum height.
- (b) Minimum lot dimension requirements. Lot dimension requirements for all uses located in the commercial districts, except residential uses, shall be as specified in Table 548-2, Lot Dimension Requirements in the Commercial Districts. Lot dimension requirements for residential uses shall be as set forth in each commercial district.

Table 548-2 Lot Dimension Requirements in the Commercial Districts

	Minimum Lot Area	Minimum Lot Width
Use	(Square Feet)	(Feet)
COMMERCIAL USES		
Retail Sales and Services	None	None
With drive-through facility	12,000	100
Offices	None	None
Automobile Services	None	None
With car wash or fuel pump	12,000	100
Automobile sales	12,000	100
Food and Beverages	None	None
With drive-through facility	12,000	100
Commercial Recreation, Entertainment and Lodging	None	None
	None	None
Medical Facilities	2 acres	None
Planned Commercial Development		100
Transportation	12,000	
PARKING FACILITIES	5,000	40
Institutional and Public Uses		8° .
Educational Facilities	Loc occ	1100
Early childhood learning center	20,000	None
Preschool	None	100
School, grades K—12	20,000	None
School, vocational or business	None	None
Social, Cultural, Charitable and Recreational Facilities	20,000	100
Athletic field	None	None
Club or lodge	None	None
Community center	None	None
Community garden	None	None
Developmental achievement center	None	None
Library	None	None
Mission	None	None
Museum	None	None
Park, public	ivone	TYONG
Religious Institutions	As required for congre-	140
Convent, monastery or religious retreat center	as required for congregate living in each com-	40
	mercial district	
Place of assembly	None	None
Production, Processing, and Storage	None	None
Public Services and Utilities	As approved by C.U.P.	As approved by C.U.P.

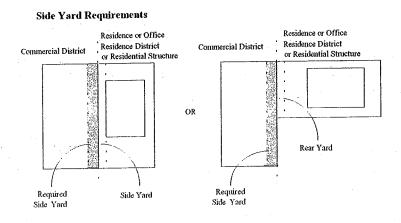
- **548.130. Density bonuses.** (a) *Bonus for enclosed parking*. The maximum number of dwelling units and the maximum floor area ratio of multiple-family dwellings may be increased by twenty (20) percent if all required parking is provided within the building, entirely below grade, or in a parking garage of at least two (2) levels.
- (b) Bonus for mixed commercial-residential buildings. The maximum number of dwelling units and the maximum floor area ratio may be increased by twenty (20) percent where residential uses are located above a ground floor in which at least fifty (50) percent of the gross floor area is devoted to commercial uses. In addition, in the C1 District, the maximum height of such structure may be increased to three (3) stories or forty-two (42) feet, whichever is less.
- (c) Bonus for affordable housing. The maximum number of dwelling units and the maximum floor area ratio of new cluster developments and new multiple-family dwellings of five (5) units or more may be increased by twenty (20) percent if at least twenty (20) percent of the dwelling units meet the definition of affordable housing. (2002-Or-183, § 1, 11-22-02)
- **548.140.** Yard requirements. (a) In general. Unless subject to the provisions of sections (b) and (c) below, uses located in the commercial districts shall not be subject to minimum yard requirements.
  - (b) Commercial districts near residence and office residence districts or residential structures.
  - (1) Front yard requirements. Where a street frontage includes property zoned as a residence or office residence district and property zoned as a commercial district, or where a street frontage includes structures used for permitted or conditional residential purposes, a front yard equal to the lesser of the front yard required by such residence or office residence district or the established front yard of such residential structure shall be provided in the commercial district for the first forty (40) feet from such residence or office residence district boundary or residential property.

## Front Yard Requirement



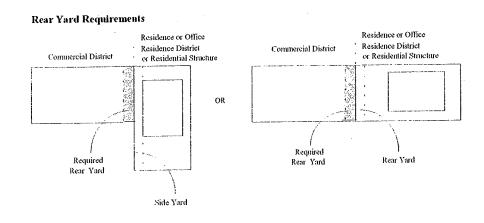
Commercial Districts: Front Yard Requirement

(2) Side yard requirements. Where a side lot line abuts a side or rear lot line in a residence or office residence district, or abuts a side or rear lot line of a structure used for permitted or conditional residential purposes, a yard equal to the minimum side yard that would be required for a conditional use on the abutting residential lot shall be provided along such side lot line.



Commercial Districts: Side Yard Requirements

(3) Rear yard requirements. Where a rear lot line abuts a side or rear lot line in a residence or office residence district, or abuts a side or rear lot line of a structure used for permitted or conditional residential purposes, a yard equal to the minimum side yard that would be required for a conditional use on the abutting residential lot shall be provided along such rear lot line.

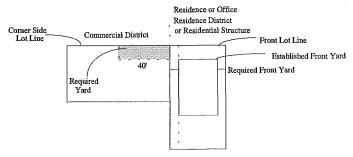


Commercial Districts: Rear Yard Requirements

(4) Reverse corner side yard requirements. Where the extension of a corner side lot line coincides with a front lot line in an adjacent residence or office residence district, or with a front lot line of a structure used for permitted or conditional residential purposes, a yard equal to the lesser of the

front yard required by such residence or office residence district or the established front yard of such residential structure shall be provided along such side lot line for the first forty (40) feet from such residence or office residence district boundary or residential property.

### **Reverse Corner Side Yard Requirements**



(c) Residential uses and hotels. Unless subject to a greater yard requirement in section (b) above, or in Chapter 535, Regulations of General Applicability, the uses listed in Table 548-3, Residential and Hotel Yard Requirements, shall be subject to the following minimum yard requirements:

Table 548-3 Residential and Hotel Yard Requirements

Yards	Required Yards for Single and Two-family Dwellings and Permitted Community Residential Facilities (Feet)	Required Yards for All Other Residential Uses and Hotels Where the Use Contains Win- dows Facing an Interior Side Yard or Rear Yard (Feet)
Front	15	0
Rear	5	5+2X provided that this section (c) shall not require a minimum rear yard greater than fifteen (15) feet.
Interior Side	5	5+2X provided that this section (c) shall not require a minimum interior side yard greater than fifteen (15) feet.
Corner Side	8	0

X = Number of stories above the first floor

(2000-Or-045, § 2, 5-19-00; 2005-Or-106, § 1, 11-4-05)

**548.150. Prohibition on decreasing front yards.** The established front yard of residential structures or structures originally designed as such shall not be decreased, except as a permitted obstruction, as specified in Chapter 535, Regulations of General Applicability, or as a variance of yard requirements, as specified in Chapter 525, Administration and Enforcement.

**548.160.** Landscaped yards for nonresidential uses. Required yards for nonresidential uses shall be landscaped as specified in Chapter 530, Site Plan Review. Notwithstanding the obstructions permitted in Chapter 535, Regulations of General Applicability, required interior side yards shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed. Where a rear yard abuts a required side yard, such rear yard shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed.

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#### 548,170. Reserved.

Editor's note—Ord. No. 2007-Or-041, § 1, adopted June 15, 2007, repealed § 548.170, which pertained to separate access required for commercial and residential uses. See also the Code Comparative Table.

- **548.180.** Enclosed building requirement. (a) *In general*. All production, processing, storage, sales, display or other business activity shall be conducted within a completely enclosed building, except as otherwise provided in sections (b) and (c) below or elsewhere in this ordinance.
  - (b) Outdoor dining. Outdoor dining shall be allowed, provided the following conditions are met:
  - (1) The outdoor dining area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use, as specified in Chapter 530, Site Plan Review.
  - (2) Sidewalk cafes shall comply with the requirements contained in Chapter 265 of the Minneapolis Code of Ordinances, Special Permits for Specific Businesses and Uses.
- (c) Outdoor sales and display. The following may include outdoor sales and display provided such outdoor sales and display area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use, as specified in Chapter 530, Site Plan Review:
  - (1) Automobile sales.
  - (2) Direct refueling of motor vehicles.
  - (3) Lawn and garden sales, provided the outdoor sales and display area shall be included in the maximum gross floor area of such use, as regulated in each district.
  - (4) Permitted drive-through facilities.
  - (5) Building material sales located in the C4 District only.
  - (6) Truck, trailer, boat or recreational vehicle sales, service or rental, subject to the regulations of the C4 District governing the outdoor parking of trucks and other commercial vehicles. (2002-Or-090, § 1, 9-13-02)
- **548.190.** Compliance with performance standards. All uses in the commercial districts shall comply with all general performance standards contained in Chapter 535, Regulations of General Applicability, and with all other applicable regulations or law.

### ARTICLE II. C1 NEIGHBORHOOD COMMERCIAL DISTRICT

**548.200. Purpose.** The C1 Neighborhood Commercial District is established to provide a convenient shopping environment of small scale retail sales and commercial services that are compatible with adjacent residential uses. In addition to commercial uses, residential uses, institutional and public uses, parking facilities, limited production and processing and public services and utilities are allowed.

**548.210.** Uses. Permitted and conditional uses in the C1 District shall be as specified in section 548.30 and Table 548-1, Principal Uses in the Commercial Districts.

**548.220.** Lot dimension requirements. The minimum lot area and lot width for all nonresidential uses located in the C1 District shall be as specified in Table 548-2, Lot Dimension Requirements in the Commercial Districts. The minimum lot area and lot width for residential uses located in the C1 District shall be as specified in Table 548-4, Residential Lot Dimension Requirements in the C1 District.

Table 548-4 Residential Lot Dimension Requirements in the C1 District

Use	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)
RESIDENTIAL USES		
Dwellings		
Single or two-family dwelling	5,000	40
Cluster development	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Dwelling unit, as part of a mixed use building	900 sq. ft. per dwelling unit	None
Multiple-family dwelling	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Planned residential development		As approved by C.U.P.
Congregate Living		
Community residential facility	5,000	40
serving six (6) or fewer persons	,	_ <b></b>
Community residential facility serving seven (7) to sixteen (16) persons	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40

(2002-Or-057, § 1, 6-21-02; 2006-Or-070, § 1, 6-16-06)

**548.230.** Building bulk requirements. The maximum height of all principal structures located in the C1 District shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum floor area ratio of all structures shall be one and seven-tenths (1.7).

# 548.240. General district regulations. The following conditions govern uses in the C1 District:

- (1) Maximum floor area.
  - a. In general. All commercial uses, including shopping centers, shall be limited to a maximum gross floor area of four thousand (4,000) square feet per use, except for planned unit developments and as provided in sections b. and c. below.
  - b. Bonus for no parking located between the principal structure and the street. If parking is not located between the principal structure and the street, the maximum gross floor area of a commercial use shall be increased to six thousand (6,000) square feet.
  - c. Bonus for additional stories. If parking is not located between the principal structure and the street, and the structure in which the commercial use is located is at least two (2) stories (not including the basement), the maximum gross floor area of a commercial use shall be increased to eight thousand (8,000) square feet.

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- (2) Maximum lot size. All commercial uses, except for planned unit developments, shall be limited to a maximum zoning lot size of twenty thousand (20,000) square feet.
- (3) Wholesale and off-premise sales. Wholesale and off-premise sales accessory to retail sales shall be limited to two thousand (2,000) square feet of gross floor area or forty-five (45) percent of gross floor area, whichever is less, provided that the main entrance opens to the retail component of the establishment.
- (4) Hours open to the public. Hours open to the public shall be as follows: Sunday through Thursday, from 6:00 a.m. to 10:00 p.m. Friday and Saturday, from 6:00 a.m. to 11:00 p.m.
- (5) Drive-through facilities and car washes prohibited. Drive-through facilities and car washes shall be prohibited.
- (6) Outdoor speakers prohibited. Commercial outdoor speakers shall be prohibited, except when used in conjunction with self-service fuel pumps. Speaker boxes designed to communicate from pump islands shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (7) Fast food restaurants. Fast food restaurants shall be located only in storefront buildings existing on the effective date of this ordinance, provided further that no significant changes shall be made to the exterior of the structure and freestanding signs shall be prohibited.
- (8) Automobile convenience facility and minor automobile repair. Automobile convenience facilities and minor automobile repair uses shall not expand beyond the boundaries of the zoning lot existing on the effective date of this ordinance, and may not be reestablished if changed to another use.
- **548.250.** Truck and commercial vehicle parking for nonresidential uses. Outdoor parking of trucks and other commercial vehicles shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.

# ARTICLE III. C2 NEIGHBORHOOD CORRIDOR COMMERCIAL DISTRICT

- **548.260. Purpose.** The C2 Neighborhood Corridor Commercial District is established to provide an environment of retail sales and commercial services that are larger in scale than allowed in the C1 District and to allow a broader range of automobile related uses. In addition to commercial uses, residential uses, institutional and public uses, parking facilities, limited production and processing and public services and utilities are allowed.
- **548.270.** Uses. Permitted and conditional uses in the C2 District shall be as specified in section 548.30 and Table 548-1, Principal Uses in the Commercial Districts.
- **548.280.** Lot dimension requirements. The minimum lot area and lot width for all nonresidential uses located in the C2 District shall be as specified in Table 548-2, Lot Dimension Requirements in the Commercial Districts. The minimum lot area and lot width for residential uses located in the C2 District shall be as specified in Table 548-5, Residential Lot Dimension Requirements in the C2 District.

Table 548-5 Residential Lot Dimension Requirements in the C2 District

Use	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)
RESIDENTIAL USES		
Dwellings		
Single or two-family dwelling	5,000	40
Cluster development	5,000 or 900 sq. ft. per dwelling	40
	unit, whichever is greater	
Dwelling unit, as part of a mixed use building	900 sq. ft. per dwelling unit	None
Multiple-family dwelling	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Planned residential development	2 acres or 900 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.
Congregate Living		
Community residential facility serving six (6) or fewer persons	5,000	40
Community residential facility serving seven (7) to thirty-two (32) persons	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40
Board and care home/Nursing home/Assisted living	20,000	80
Inebriate housing	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40
Residential hospice	10,000	80
	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40

(2002-Or-057, § 2, 6-21-02)

548.290. Building bulk requirements. The maximum height of all principal structures located in the C2 District, except single and two-family dwellings and cluster developments, shall be four (4) stories or fifty-six (56) feet, whichever is less. The maximum height of single and two-family dwellings and cluster developments shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum floor area ratio of all structures shall be one and seven -tenths (1.7).

## 548.300. General district regulations. The following conditions govern uses in the C2 District:

- (1) Maximum floor area. All commercial uses, including shopping centers, shall be limited to a maximum gross floor area of thirty thousand (30,000) square feet per use, except for planned unit developments.
- (2) Wholesale and off-premise sales. Wholesale and off-premise sales accessory to retail sales shall be limited to four thousand (4,000) square feet of gross floor area or forty-five (45) percent of gross floor area, whichever is less, provided that the main entrance opens to the retail component of the establishment, except as otherwise provided in this ordinance.
- (3) Hours open to the public. Hours open to the public shall be as follows: Sunday through Thursday, from 6:00 a.m. to 10:00 p.m.

- Friday and Saturday, from 6:00 a.m. to 11:00 p.m.
- (4) Drive-through facilities permitted. Drive-through facilities shall be permitted, subject to the standards of Chapter 530, Site Plan Review and Chapter 541, Off-Street Parking and Loading, except as otherwise prohibited by this article.
- (5) Outdoor speakers permitted. Outdoor speakers shall be permitted, provided that speaker boxes shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (6) Fast food restaurants. Fast food restaurants established after the effective date of this ordinance shall be located only in storefront buildings existing on the effective date of this ordinance, provided further that no significant changes shall be made to the exterior of the structure and freestanding signs shall be prohibited, except where the property is part of an area of at least six hundred sixty (660) feet of continuous C2, C3S, C4 or industrial zoning fronting along the same side of the street as the fast food restaurant, without interruption by a residence, office residence, C1, C3A or Pedestrian Oriented Overlay District.
- (7) Automobile sales. Automobile sales shall be limited to new and vintage passenger automobiles only, except that leased automobiles and used automobiles received in trade may be sold as an accessory use.
- (8) Production, processing and storage. Limited production and processing uses shall be limited to one thousand two hundred (1,200) square feet of gross floor area. Other production, processing, and storage uses shall be limited to four thousand (4,000) square feet of gross floor area.
- **548.310.** Truck and commercial vehicle parking for nonresidential uses. Outdoor parking of trucks and other commercial vehicles shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.

# ARTICLE IV. C3A COMMUNITY ACTIVITY CENTER DISTRICT

- **548.320. Purpose.** The C3A Community Activity Center District is established to provide for the development of major urban activity and entertainment centers with neighborhood scale retail sales and services. In addition to entertainment and commercial uses, residential uses, institutional and public uses, parking facilities, limited production and processing and public services and utilities are allowed.
- **548.330.** Uses. Permitted and conditional uses in the C3A District shall be as specified in section 548.30 and Table 548-1, Principal Uses in the Commercial Districts.
- **548.340.** Lot dimension requirements. The minimum lot area and lot width for all nonresidential uses located in the C3A District shall be as specified in Table 548-2, Lot Dimension Requirements in the Commercial Districts. The minimum lot area and lot width for residential uses located in the C3A District shall be as specified in Table 548-6, Residential Lot Dimension Requirements in the C3A District.

ZONING CODE

Table 548-6 Residential Lot Dimension Requirements in the C3A District

Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)
5,000	40
5,000 or 400 sq. ft. per dwelling unit	40
400 sq. ft. per dwelling unit	None
5,000 or 400 sq. ft. per dwelling unit, whichever is greater	40
2 acres or 400 sq. ft. per dwell- ing unit, whichever is greater	As approved by C.U.P.
5,000	40
5,000 or 400 sq. ft. per rooming unit, whichever is greater	40
	5,000 5,000 or 400 sq. ft. per dwelling unit 400 sq. ft. per dwelling unit 5,000 or 400 sq. ft. per dwelling unit, whichever is greater 2 acres or 400 sq. ft. per dwelling unit, whichever is greater  5,000  5,000 or 400 sq. ft. per rooming

(2002-Or-057, § 3, 6-21-02)

**548.350.** Building bulk requirements. The maximum height of all principal structures located in the C3A District, except single and two-family dwellings and cluster developments, shall be four (4) stories or fifty-six (56) feet, whichever is less. The maximum height of single and two-family dwellings and cluster developments shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum floor area ratio of all structures shall be two and seven-tenths (2.7).

## 548.360. General district regulations. The following conditions govern uses in the C3A District:

- (1) Maximum floor area of retail sales and services.
  - a. In general. All retail sales and services, including shopping centers, shall be limited to a maximum gross floor area of four thousand (4,000) square feet per use, except as provided in sections (1)b. and c. and (6) below.
  - b. Bonus for no parking between the principal structure and the street. If parking is not located between the principal structure and the street, the maximum gross floor area of a retail sales and service use shall be increased to six thousand (6,000) square feet.
  - c. Bonus for additional stories. If parking is not located between the principal structure and the street, and the structure in which the commercial use is located is at least two (2) stories (not including the basement), the maximum gross floor area of a retail sales and service use shall be increased to eight thousand (8,000) square feet.
- (2) Wholesale and off-premise sales. Wholesale and off-premise sales accessory to retail sales shall be limited to two thousand (2,000) square feet of gross floor area or forty-five (45) percent of gross floor area, whichever is less, provided that the main entrance opens to the retail component of the establishment, except as otherwise provided in this ordinance.

- (3) Hours open to the public. Hours open to the public shall be as follows:
  - Sunday through Saturday, from 6:00 a.m. to 1:00 a.m.
- (4) Drive-through facilities and car washes prohibited. Drive-through facilities and car washes shall be prohibited.
- (5) Outdoor speakers prohibited. Commercial outdoor speakers shall be prohibited.
- (6) Shopping centers. Notwithstanding section (1) above, shopping centers with primarily interior access to individual uses shall be allowed, provided that the individual uses shall be limited to four thousand (4,000) square feet. Shopping centers with primarily exterior access to individual uses shall be subject to the maximum floor area requirements of section (1) above.
- (7) Fast food restaurants. Fast food restaurants shall be located only in storefront buildings existing on the effective date of this ordinance, provided further that no significant changes shall be made to the exterior of the structure and freestanding signs shall be prohibited, or as part of a shopping center with interior access to individual uses, provided further that freestanding signs shall be prohibited.
- (8) Production, processing and storage. Limited production and processing uses shall be limited to one thousand two hundred (1,200) square feet of gross floor area. Other production, processing, and storage uses shall be limited to four thousand (4,000) square feet of gross floor area.
- (9) Community residential facilities. Community residential facilities serving six (6) or fewer persons shall be located in structures existing on the effective date of this ordinance.
- (10) Secondhand goods stores. Secondhand goods stores shall be limited to the sale of used clothing and related accessories.
- **548.370.** Truck and commercial vehicle parking for nonresidential uses. Outdoor parking of trucks and other commercial vehicles shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.

# ARTICLE V. C3S COMMUNITY SHOPPING CENTER DISTRICT

- **548.380. Purpose.** The C3S Community Shopping Center District is established to provide for the development of major retail centers throughout the city, where both adequate land area and transportation access can be provided. In addition to commercial uses, residential uses, institutional and public uses, parking facilities, limited production and processing and public services and utilities are allowed.
- **548.390.** Uses. Permitted and conditional uses in the C3S District shall be as specified in section 548.30 and Table 548-1, Principal Uses in the Commercial Districts.
- **548.400.** Lot dimension requirements. The minimum lot area and lot width for all nonresidential uses located in the C3S District shall be as specified in Table 548-2, Lot Dimension Requirements in the Commercial Districts. The minimum lot area and lot width for residential uses located in the C3S District shall be as specified in Table 548-7, Residential Lot Dimension Requirements in the C3S District.

Table 548-7 Residential Lot Dimension Requirements in the C3S District

	Minimum Lot Area	Minimum Lot Width
Use	(Square Feet)	(Feet)
RESIDENTIAL USES		
Dwellings		
Single or two-family dwelling	5,000	40
Cluster development	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Dwelling unit, as part of a mixed use building	900 sq. ft. per dwelling unit	None
Multiple-family dwelling	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Planned residential development	2 acres or 900 sq. ft. per dwell- ing unit, whichever is greater	As approved by C.U.P.
Congregate Living		
Community residential facility	5,000	40
serving six (6) or fewer persons	·	
Community residential facility	5,000 or 750 sq. ft. per rooming	40
serving seven (7) to thirty-two	unit, whichever is greater	
(32) persons		

(2002-Or-057, § 4, 6-21-02)

**548.410.** Building bulk requirements. The maximum height of all principal structures located in the C3S District, except single and two-family dwellings and cluster developments, shall be four (4) stories or fifty-six (56) feet, whichever is less. The maximum height of single and two-family dwellings and cluster developments shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum floor area ratio of all structures shall be one and seven-tenths (1.7).

### 548.420. General district regulations. The following conditions govern uses in the C3S District:

- (1) Wholesale and off-premise sales. Wholesale and off-premise sales accessory to retail sales shall be limited to four thousand (4,000) square feet of floor area or forty-five (45) percent of gross floor area, whichever is less, provided that the main entrance opens to the retail component of the establishment, except as otherwise provided in this ordinance.
- (2) Hours open to the public. Hours open to the public shall be as follows: Sunday through Thursday, from 6:00 a.m. to 10:00 p.m. Friday and Saturday, from 6:00 a.m. to 11:00 p.m.
- (3) Drive-through facilities permitted. Drive-through facilities shall be permitted, subject to the standards of Chapter 530, Site Plan Review and Chapter 541, Off-Street Parking and Loading.
- (4) Outdoor speakers permitted. Outdoor speakers shall be permitted, provided speaker boxes shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (5) Automobile sales. Automobile sales shall be limited to new and vintage passenger automobiles only, except that leased automobiles and used automobiles received in trade may be sold as an accessory use.

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- (6) Community residential facilities. Community residential facilities serving six (6) or fewer persons shall be located in structures existing on the effective date of this ordinance.
- **548.430.** Truck and commercial vehicle parking for nonresidential uses. Outdoor parking of trucks and other commercial vehicles shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.

# ARTICLE VI. C4 GENERAL COMMERCIAL DISTRICT

- **548.440. Purpose.** The C4 General Commercial District is established to provide for a wide range of commercial development allowing a mix of retail, business services and limited industrial uses. In addition to these uses, residential uses, institutional and public uses, parking facilities, and public services and utilities are allowed.
- **548.450.** Uses. Permitted and conditional uses in the C4 District shall be as specified in section 548.30 and Table 548-1, Principal Uses in the Commercial Districts.
- **548.460.** Lot dimension requirements. The minimum lot area and lot width for all nonresidential uses located in the C4 District shall be as specified in Table 548-2, Lot Dimension Requirements in the Commercial Districts. The minimum lot area and lot width for residential uses located in the C4 District shall be as specified in Table 548-8, Residential Lot Dimension Requirements in the C4 District.

Table 548-8 Residential Lot Dimension Requirements in the C4 District

Use	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)
RESIDENTIAL USES		
Dwellings		
Single or two-family dwelling	5,000	40
Cluster development	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Dwelling unit, as part of a mixed use building		None
Multiple-family dwelling	5,000 or 900 sq. ft. per dwelling unit, whichever is greater	40
Planned residential development	2 acres or 900 sq. ft. per dwelling unit, whichever is greater	As approved by C.U.P.
Congregate Living		
Community residential facility serving six (6) or fewer persons	5,000	40
Community residential facility serving seven (7) to thirty-two	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40
(32) persons		
Board and care home/ Nursing home/ Assisted living	20,000	80

Use	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)
Inebriate housing	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40
Residential hospice	10,000	80
Supportive housing	5,000 or 750 sq. ft. per rooming unit, whichever is greater	40

ZONING CODE

(2002-Or-057, § 5, 6-21-02)

**548.470.** Building bulk requirements. The maximum height of all principal structures located in the C4 District, except single and two-family dwellings and cluster developments, shall be four (4) stories or fifty-six (56) feet, whichever is less. The maximum height of single and two-family dwellings and cluster developments shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The maximum floor area ratio of all structures shall be one and seven-tenths (1.7).

### 548.480. General district regulations. The following conditions govern uses in the C4 District:

- (1) Wholesale and off-premise sales. Wholesale and off-premise sales shall be allowed.
- (2) Hours open to the public. Hours open to the public shall be as follows:
  - Sunday through Thursday, from 6:00 a.m. to 10:00 p.m.
  - Friday and Saturday, from 6:00 a.m. to 11:00 p.m.
- (3) Drive-through facilities permitted. Drive-through facilities shall be permitted, subject to the standards of Chapter 530, Site Plan Review and Chapter 541, Off-Street Parking and Loading.
- (4) Outdoor speakers permitted. Outdoor speakers shall be permitted, provided speaker boxes shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (5) Production, processing and storage.
  - a. *In general.* Production, processing and storage uses shall be limited to thirty thousand (30,000) square feet of gross floor area.
  - b. Hazardous materials. Warehousing and distribution uses shall not include the storage of hazardous materials in excess of consumer commodities which are packaged for consumption by individuals for personal care or household use, except as provided in Chapter 535, Regulations of General Applicability, regarding the storage of Class I flammable liquids, flammable gases and flammable liquefied gases.
- (6) Community residential facilities. Community residential facilities serving six (6) or fewer persons shall be located in structures existing on the effective date of this ordinance.
- **548.490.** Truck and commercial vehicle parking for nonresidential uses. (a) Parking within one hundred (100) feet of a residence or office residence district boundary. Outdoor parking of trucks and other commercial vehicles shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight when located within one hundred (100) feet of a residence or office residence district boundary.
  - (1) *Increasing weight*. The gross vehicle weight limitation for trucks and other commercial vehicles parked within one hundred (100) feet of a residence or office residence district boundary may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforce-

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ment. Preference may be given to applications for conditional use permit approval which limit parking to single rear axle vehicles of not more than thirty-three thousand (33,000) pounds gross vehicle weight and which exclude truck tractors or semitrailers. In addition to the conditional use standards, the city planning commission shall consider but not be limited to the following factors when determining gross vehicle weight limitations:

- a. Number and size of vehicles to be parked.
- b. Proximity of parking area to residential uses.
- c. Screening and landscaping of parking area.
- d. Location of truck routes and amount of truck traffic.
- (b) Screening. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.
- (c) Parking more than one hundred (100) feet from a residence or office residence district boundary. There shall be no limit on the size of trucks and other commercial vehicles parked more than one hundred (100) feet from a residence or office residence district boundary. (2007-Or-087, § 1, 10-19-07)

549.30

## CHAPTER 549. DOWNTOWN DISTRICTS

## ARTICLE I. GENERAL PROVISIONS

**549.10. Purpose.** The downtown districts are established to provide a range of retail, entertainment, office, employment, residential, institutional and governmental activities of citywide and regional significance. The regulations recognize the unique qualities of downtown as the business and cultural center of the region, as a community of high-density residential choices, and as a place where the combined environment attracts businesses, workers, shoppers, visitors, tourists, and residents. (2006-Or-123, § 1, 10-20-06)

## 549.20. District names. The downtown district names are:

**B4** Downtown Business District

**B4S Downtown Service District** 

**B4C Downtown Commercial District** 

- **549.30.** Principal uses for the downtown districts. (a) *In general*. Table 549-1, Principal Uses in the Downtown Districts, lists all permitted and conditional uses in the downtown districts.
- (b) *Permitted uses*. Uses specified with a "P" are permitted as of right in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish a permitted use shall obtain a zoning certificate for such use as specified in Chapter 525, Administration and Enforcement.
- (c) Conditional uses. Uses specified with a "C" are allowed as a conditional use in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish or expand a conditional use shall obtain a conditional use permit for such use, as specified in Chapter 525, Administration and Enforcement.
- (d) *Prohibited uses*. Any use not listed as either "P" (permitted) or "C" (conditional) in a particular district or any use not determined by the zoning administrator to be substantially similar to a use listed as permitted or conditional shall be prohibited in that district.
- (e) Specific development standards. Permitted and conditional uses specified with an "✓" under the Specific Development Standards column shall be subject to the specific development standards of Chapter 536, Specific Development Standards.
- (f) General use categories. Table 549-1 employs general use categories for some types of uses. A particular use may be determined to be within a general use category if not listed specifically elsewhere in Table 549-1 and if not determined to be within another general use category. Determination of whether a particular use is included within a general use category shall be made by the zoning administrator in the manner provided for in Chapter 525, Administration and Enforcement, governing determination of substantially similar uses.
  - (1) General retail sales and services. General retail sales and services uses include the retail sale of products or the provision of services to the general public that produce minimal off-site impacts. General retail sales and services include but are not limited to the following uses:
    - a. Bakery.
    - b. Barber shop/beauty salon.
    - c. Bicycle sales and repair.

- d. Clothing and accessories.
- e. Drug store.
- f. Dry cleaning pick-up station.
- g. Electronics.
- h. Film developing.
- i. Furniture store.
- j. Hardware store.
- k. Interior decorating/upholstery.
- 1. Jewelry store.
- m. Locksmith.
- n. Picture framing.
- o. Radio and television service and repair.
- p. Shoe repair/tailor.
- Limited production and processing. Limited production and processing uses include activities that are consistent and compatible with retail sales and services. These uses produce minimal off-site impacts due to their limited nature and scale. Limited production and processing shall not include any use which may be classified as a medium industrial use or a general industrial use or any use which is first allowed in the I2 or I3 Districts. Limited production and processing is allowed as a principal use provided the use shall not exceed the maximum floor area as set forth in each downtown district, and the main entrance shall open to a retail or office component equal to not less than fifteen (15) percent of the floor area of the use, except in the B4C District where such district standards shall apply. Limited production and processing includes but is not limited to the following uses:
  - a. Apparel and other finished products made from fabrics.
  - b. Computers and accessories, including circuit boards and software.
  - c. Electronic components and accessories.
  - d. Food and beverage products, except no live slaughter, grain milling, cereal, vegetable oil or vinegar.
  - e. Precision medical and optical goods.
  - f. Signs, including electric and neon signs.
  - g. Watches and clocks.
  - h. Wood crafting and carving.
  - i. Wood furniture and upholstery.

Table 549-1 Principal Uses in the Downtown Districts

Use	<b>B4</b>	B4S	B4C	Specific Development Standards
COMMERCIAL USES				
Retail Sales and Services				
General retail sales and services	P	P	P	

Antiques and collectibles store	77.	B4	B4S	B4C	Specific Development Standards
Art studio	Use				Standards
Art studio					
Bank or financial institution				1	
Bookstore, new or used					<u> </u>
Building material sales					
Child care center		<u> </u>	P		
Consignment clothing store			D		
Contractor's office	The state of the s				
P P P					<u> </u>
Day labor agency		<u>C</u>			
Dormitory   C		*****	Р		
Exterminating shop					<u> </u>
Farmers market		C	C		<u> </u>
Firearms dealer					
Funeral home		P	P P		<u> </u>
Greenhouse, lawn and garden supply store   P					<u> </u>
Post   Post			P	P	
Digital Store   P	Greenhouse, lawn and garden sup-			ъ	
Description					
Office supplies sales and service         P         P         P           Pawnshop         P         P         P           Performing, visual or martial arts school         P         P         P           Pet store         P         P         P         P           Photocopying         P         P         P         P           Rental of household goods and equipment         P         P         P         P           Secondhand goods store         P         P         P         P           Shopping center         P         P         P         V           Small engine repair         P         P         P         V           Tattoo and body piercing parlor         P         P         P         P         V           Tobacco shop         P         P         P         P         V	Grocery store				✓-
Pawnshop	Laundry, self service				
Performing, visual or martial arts school  Pet store	Office supplies sales and service	P	P		
Performing, visual or martial arts school	Pawnshop			P	<b>√</b>
School   Pet store   P		D	ъ	D	
Photocopying P P P P Rental of household goods and equipment Secondhand goods store P P P Shopping center P P P P Small engine repair P P P Tattoo and body piercing parlor P P P P Tobacco shop P P P P P Veterinary clinic P P P P P Video store P P P P P Offices P P P P P  Automobile Services Automobile rental C C C C  Automobile repair, major C C C Automobile repair, minor C C C Automobile sales C C C C Food and Beverages		Г	Г		
Rental of household goods and equipment   P	Pet store				<b>√</b>
Rental of household goods and equipment   P	Photocopying	P	P	P	
Secondhand goods store			D	ъ	
Secondhand goods store  Shopping center  P P P P Small engine repair  Tattoo and body piercing parlor  P P P P P P P P P P P P P P P P P P			P	P	
Shopping center         P         P         P         ✓           Small engine repair         P         P         ✓           Tattoo and body piercing parlor         P         P         P           Tobacco shop         P         P         P         P           Veterinary clinic         P         P         P         P           Video store         P         P         P         P           Offices         P         P         P         P           Automobile Services         C         C         C         ✓           Automobile rental         C         C         C         ✓           Automobile repair, major         C         C         ✓           Automobile sales         C         C         C         ✓           Food and Beverages         C         C         ✓			P	P	/
Small engine repair  Tattoo and body piercing parlor  P P P Tobacco shop P Veterinary clinic P P P P P P P P P P P P P P P P P P P		P	P	P	<i>J</i>
Tattoo and body piercing parlor  Tobacco shop P P P P P P Veterinary clinic P P P P P P P Video store P P P P P P P P P P P P P P P P P P P				P	<b>√</b>
Tobacco shop  Veterinary clinic  P P P P P Video store  P P P P P P Offices  P P P P P P P P P P P P P P P P P P			P		100
Veterinary clinic  P P P P P Video store  P P P P P P Offices  P P P P P P P P P Automobile Services  Automobile convenience facility C C C C C C Automobile rental C C C C C C C C C C C C C C C C C C C		P			J
Video store P P P  Offices P P P  Automobile Services  Automobile convenience facility C C C C  Automobile rental C C C C  Automobile repair, major C C  Automobile repair, minor C C C  Automobile sales C C C C  Car wash C C C C					
Offices P P P  Automobile Services  Automobile convenience facility C C C  Automobile rental C C C C  Automobile repair, major C C  Automobile repair, minor C C C  Automobile sales C C C C  Car wash C C C C					
Automobile Services  Automobile convenience facility  Automobile rental  C C C C C C Automobile repair, major  C C C C C C C C C C C C C C C C C C	Video store	1			
Automobile convenience facility  Automobile rental  C  C  C  C  C  C  Automobile repair, major  Automobile repair, minor  C  C  C  C  C  C  C  C  C  C  C  C  C	Offices	P	P	P	
Automobile rental  C C C C C C C C C C C C C C C C C C					
Automobile repair, major  Automobile repair, minor  C C C C C C C C C C C C C C C C C C					
Automobile repair, minor  Automobile sales  C  C  C  C  C  C  C  C  C  C  C  C  C		C	C		
Automobile repair, minor  Automobile sales  C  C  C  C  C  C  C  C  C  C  C  C  C	Automobile repair, major				
Automobile sales  Car wash  Cond and Beverages					<b>✓</b>
Car wash  Food and Beverages		C	C		<b>/</b>
Food and Beverages				C	- J
	-		•		
18 - 541-547 11114	Catering	P	P	P	

Use	<b>B4</b>	B4S	B4C	Specific Development Standards
Coffee shop, with limited entertain-		<u> </u>		
ment	P	P	P	J
Liquor store, off-sale	P	P	P	<b>√</b>
Nightclub	 P	P	P	
Restaurant, delicatessen	P	P	P	
Restaurant, fast food	 P	P	P	<b>√</b>
Restaurant, sit down, including the	<u>_</u>			
serving of alcoholic beverages, with	${f P}$	P	P	✓
general entertainment				
	4 4	T - Josies at		
Commercial Recreation, Entertain Hotel	ment and P	Loaging P	P	
	<u>r</u> P	P	P	
Indoor recreation area	C	C	C	
Outdoor recreation area	P -	P	P	<b>V</b>
Radio or television station	P P	P	P P	
Reception or meeting hall	Г	Г	P	
Regional sports arena Sports and health facility, major	P	P	P	
Sport and health facility, minor	 P	P	P	
Theater, indoor	P P	P	P	
Theater, indoor	Г	Ι Γ	F	- <b>V</b>
Medical Facilities				
Blood/plasma collection facility			C	-
Clinic, medical or dental	$\mathbf{P}^{-}$	P	P	
Hospital		C	C	/
Laboratory, medical or dental	P	P	P	
Planned Commercial Development	C	С	С	<b>/</b>
Transportation				
Ambulance service			C	
Limousine service			C	
Package delivery service		C	C	/
Truck, trailer, boat, recreational ve-				10000
hicle or mobile home sales, service			- C	
and rental				
PARKING FACILITIES				
Parking facility	C	C	C	
RESIDENTIAL USES				
Dwellings				
Cluster development -	C	C	C	<b>√</b>
One (1) to four (4) dwelling units, as	P	P	Р	
part of a mixed use building	Г	P P		
Multiple-family dwelling, five (5) units or more	Р	P	P	

Use	B4	B4S	B4C	Specific Development Standards
Planned Residential Development	C	C	C	- /
Congregate Living				
Community residential facility serv-	C	С	С	/
ing seven (7) to sixteen (16) persons		C	C	<b>V</b>
Community residential facility serving seventeen (17) to thirty-two (32) persons	С	C	C	1
Board and care home/Nursing home/Assisted living	C	С	C	<b>✓</b>
Dormitory	C	C	C	/
Hospitality residence	<u>C</u>	P	$\frac{\circ}{P}$	/
Inebriate housing		- C	$\frac{1}{C}$	/
Residential hospice	C	C	C	
Supportive housing	C	C	C	<b>✓</b>
INSTITUTIONAL AND PUBLIC US	SES			
Educational Facilities			-	
College or university	C	С	C	<b>/</b>
Early childhood learning center	<u>C</u>	P	P	
Preschool	P	P	P	/
School, grades K—12		C	$\frac{1}{C}$	_
School, vocational or business	P	P	P	/
Social, Cultural, Charitable and R	ecreationa	l Facilities		
Club or lodge, with general entertainment	P	P	P	
Community center	P	Р	P	
Community garden		P	P	
Convention center, public		P	P	
Developmental achievement center		P	P	
Library	P	P	P	
Mission			C	1
Museum	P	P	P	
Park, public	P	P	P	
Religious Institutions				
Convent, monastery or religious re-	P	P	P	1
treat center Place of assembly	P	P	P	
			r	
PRODUCTION, PROCESSING ANI			D.	-
Limited production and processing	P	P C	P C	,
Dry cleaning establishment				· · · · · · · · · · · · · · · · · · ·
Film, video and audio production	P	P	P	<b>/</b>
Furniture moving and storage		<u> </u>	P	

Use	<b>B4</b>	B4S	B4C	Specific Development Standards
Industrial machinery and equip-			С	
ment sales, service and rental				-
Laundry, commercial		P	P	/
Packaging of finished goods		P	P	
Printing and publishing	P	P	P	
Self-service storage			C	
Wholesaling, warehousing and dis-	P	Р	P	
tribution	P	P	Г	
PUBLIC SERVICES AND UTILITY	ES			-
Bus turnaround	C	C	C	
Electric or gas substation	C	C	C	13000000
Fire station	C	C	C	
Garage for public vehicles			C	
Heating or cooling facility	C	C	C	
Mounted patrol stable			C <sub>a</sub>	<b>√</b>
Passenger transit station	Ρ .	P	C	
Police station	P	P	P	
Post office	P	P	P	
Pre-trial detention facility, adult			C	✓
Pre-trial detention facility, juvenile			C	✓
Railroad right-of-way	С	C	C	
Regional financial service center	P	P	P	
Stormwater retention pond	C	C	C	
Street and equipment maintenance facility			С	
Telephone exchange	P	P	P	W
Water pumping and filtration facility	C	С	C	

(2000-Or-046, § 1, 5-19-2000; 2001-Or-014, § 1, 2-2-01; 2006-Or-016, § 1, 2-10-06; 2006-Or-090, § 1, 7-21-06; 2006-Or-123, § 2, 10-20-06)

- **549.40.** Accessory uses and structures. Accessory uses and structures shall comply with the provisions of Chapter 537, Accessory Uses and Structures.
- **549.50. Maximum occupancy.** (a) *Dwelling units*. The maximum occupancy of a dwelling unit located in the downtown districts shall not exceed one (1) family plus four (4) unrelated persons living together as a permanent household, provided that the family plus the unrelated persons shall not exceed a total of five (5) persons.
- (b) *Rooming units*. The maximum occupancy of a rooming unit shall be as regulated by Chapter 244 of the Minneapolis Code of Ordinances, Housing Maintenance Code.
- **549.60.** Hours open to the public. (a) *In general.* All uses located in the downtown districts, except residential uses, religious institutions, hotels, colleges and universities, hospitals and parking facilities, shall comply with the following regulations governing maximum hours open to the public, except where the city planning commission further restricts such hours:

Sunday through Saturday, from 6:00 a.m. to 1:00 a.m.

- (b) *Extension of hours open to the public*. The hours open to the public may be extended by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the hours open to the public:
  - (1) Proximity to permitted or conditional residential uses.
  - (2) Nature of the business and its impacts of noise, light and traffic.
  - (3) Conformance with applicable zoning regulations, including but not limited to use, yards, gross floor area and specific development standards.
  - (4) History of complaints related to the use.
- (c) Uses licensed to sell alcoholic beverages. The hours open to the public for uses licensed to sell alcoholic beverages shall be those permitted by the liquor, wine or beer license and any special late hours entertainment license approved for the facility. Hours open to the public beyond those permitted by the license may be requested by applying for a conditional use permit.
- (d) Operations not open to the public. Operations incidental to and commonly associated with the use and performed during the hours the use is closed to the public, for example production or processing activities or the stocking of inventory, may occur.
- **549.70. Parking and loading requirements.** Parking and loading requirements for uses in the downtown districts shall be as set forth in Chapter 541, Off-Street Parking and Loading.
- **549.80.** Truck and commercial vehicle parking. (a) Residential uses. Parking of commercial vehicles shall be prohibited.
- (b) Nonresidential uses. Regulations governing the parking of trucks and other commercial vehicles accessory to permitted or conditional nonresidential uses shall be as specified in each downtown district. These regulations shall apply only to vehicles that are parked regularly at a site and shall not apply to pick-up and delivery activities or to the temporary use of vehicles during construction. Outdoor storage of motorized equipment other than motor vehicles in operable condition shall be prohibited.
- **549.90.** Signs. Sign requirements for uses in the downtown districts shall be as set forth in Chapter 543, On-Premise Signs, and this chapter.

549.100. Lot dimension and building bulk requirements. (a) Maximum floor area ratio. The maximum floor area ratio of all structures located in the downtown districts shall be as set forth within each downtown district

(b) Minimum lot dimension requirements. Lot dimension requirements for all uses located in the downtown districts shall be as specified in Table 549-2, Lot Dimension Requirements in the Downtown Districts.

Table 549-2 Lot Dimension Requirements in the Downtown Districts

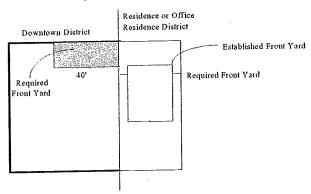
Use	Minimum Lot Area (Square Feet)	Minimum Lot Width (Feet)
COMMERCIAL USES		
Retail Sales and Services	None	None
With drive-through facility	12,000	100
Offices	None	None
Automobile Services	None	None
With car wash or fuel pump	12,000	100
Automobile sales	12,000	100
Food and Beverages	None	None
With drive-through facility	12,000	100
Downtown Recreation, Entertainment and Lodging	None	None
Medical Facilities	None	None
Planned Commercial Development	2 acres	None
Transportation	12,000	100
PARKING FACILITIES	5,000	40
RESIDENTIAL USES	1	
Dwellings	5,000	40
Planned Residential Development	2 acres	As approved by C.U.P.
Congregate Living	5,000	40
Institutional and Public Uses	None	None
PRODUCTION, PROCESSING, AND STORAGE	None	None
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P.	As approved by C.U.P.

**<sup>549.110.</sup>** Density bonuses. (a) Bonus for enclosed parking. The maximum floor area ratio of multiple-family dwellings may be increased by twenty (20) percent if all required parking is provided within the building, entirely below grade, or in a parking garage of at least two (2) levels.

<sup>(</sup>b) Bonus for affordable housing. The maximum floor area ratio of new cluster developments and new multiple-family dwellings of five (5) units or more may be increased by twenty (20) percent if at least twenty (20) percent of the dwelling units meet the definition of affordable housing. (2002-Or-184, § 1, 11-22-02)

- **549.120.** Yard requirements. (a) In general. Unless subject to the provisions of subsections (b) and (c) below, uses located in the downtown districts shall not be subject to minimum yard requirements.
  - (b) Downtown districts near residence and office residence districts.
  - (1) Front yard requirements. Where a street frontage includes property zoned as a residence or office residence district and property zoned as a downtown district, a front yard equal to the lesser of the front yard required by such residence or office residence district or the established front yard shall be provided in the downtown district for the first forty (40) feet from such residence or office residence district boundary.

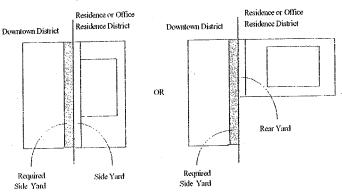
### Front Yard Requirement



# Downtown Districts: Front Yard Requirement

(2) Side yard requirements. Where a side lot line abuts a side or rear lot line in a residence or office residence district, a yard equal to the minimum side yard that would be required for a conditional use on the abutting residential lot shall be provided along such side lot line.

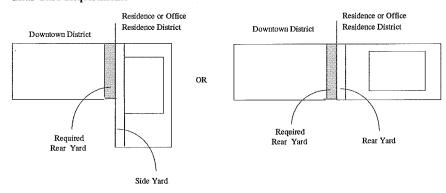
**Side Yard Requirements** 



Downtown Districts: Side Yard Requirements

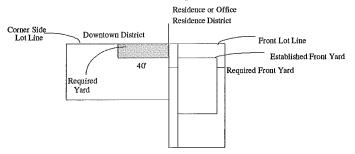
(3) Rear yard requirements. Where a rear lot line abuts a side or rear lot line in a residence or office residence district, a yard equal to the minimum side yard that would be required for a conditional use on the abutting residential lot shall be provided along such rear lot line.

### **Rear Yard Requirements**



(4) Reverse corner side yard requirements. Where the extension of a corner side lot line coincides with a front lot line in an adjacent residence or office residence district, a yard equal to the lesser of the front yard required by such residence or office residence district or the established front yard shall be provided along such side lot line for the first forty (40) feet from such residence or office residence district boundary.

### **Reverse Corner Side Yard Requirements**



- (c) Side yard and rear yard requirements for residential uses and hotels. Unless subject to a greater yard requirement in section (b) above, or in Chapter 535, Regulations of General Applicability, residential uses and hotels containing windows facing an interior side yard or rear yard shall provide an interior side yard or rear yard of at least five (5) feet plus two (2) feet for each story above the first floor provided that this section (c) shall not require a minimum interior side yard or rear yard greater than fifteen (15) feet. (2000-Or-046, § 2, 5-19-00; 2005-Or-107, § 1, 11-4-05)
- **549.130.** Prohibition on decreasing front yards. The established front yard of residential structures or structures originally designed as such shall not be decreased, except as a permitted obstruction, as specified in Chapter 535, Regulations of General Applicability, or as a variance of yard requirements, as specified in Chapter 525, Administration and Enforcement.
- **549.140.** Landscaped yards for nonresidential uses. Required yards for nonresidential uses shall be landscaped as specified in Chapter 530, Site Plan Review. Notwithstanding the obstructions permitted in Chapter 535, Regulations of General Applicability, required interior side yards shall remain

unobstructed from the ground level to the sky, except that fencing shall be allowed. Where a rear yard abuts a required side yard, such rear yard shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed.

### 549.150. Reserved.

Editor's note—Ord. No. 2007-Or-042, § 1, adopted June 15, 2007, repealed § 549.150, which pertained to separate access required for commercial and residential uses. See also the Code Comparative Table.

**549.160.** Enclosed building requirement. (a) *In general*. All production, processing, storage, sales, display or other business activity shall be conducted within a completely enclosed building, except as otherwise provided in subsections (b) and (c) below or elsewhere in this ordinance.

- (b) Outdoor dining. Outdoor dining shall be allowed, provided the following conditions are met:
- (1) The outdoor dining area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary, as specified in Chapter 530, Site Plan Review.
- (2) Sidewalk cases shall comply with the requirements contained in Chapter 265 of the Minneapolis Code of Ordinances, Special Permits for Specific Businesses and Uses.
- (c) Outdoor sales and display. The following may include outdoor sales and display provided such outdoor sales and display area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use, as specified in Chapter 530, Site Plan Review:
  - (1) Automobile sales in the B4C District only.
  - (2) Direct refueling of motor vehicles.
  - (3) Lawn and garden sales in the B4C District only.
  - (4) Permitted drive-through facilities.
  - (5) Building material sales in the B4C District only.
  - (6) Truck, trailer, boat or recreational vehicle sales, service or rental, subject to the regulations of the B4C District governing the outdoor parking of trucks and other commercial vehicles. (2002-Or-091, § 1, 9-13-02)
- **549.170.** Bicycle facilities in new developments. (a) *In general.* All developments containing five hundred thousand (500,000) square feet or more of new or additional gross floor area shall include secure bicycle parking spaces, shower facilities and clothing storage areas as provided in Table 549-3, Required Bicycle Facilities. Such facilities shall be for the use of the employees and occupants of the building. Where a development includes automobile parking spaces that are monitored or are covered or weather protected, bicycle parking spaces required by this section shall be provided on the same basis. For the purposes of this section, a secure bicycle parking space shall include a bicycle rack that permits the locking of the bicycle frame and one (1) wheel to the rack, and that supports the bicycle in a stable position without damage to wheels, frame or components.
- (b) *Exceptions*. This section shall not apply to buildings used primarily as hotels or for retail or residential purposes.

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<b>Table</b>	549-3	Requir	red Bic	vcle	<b>Facilities</b>
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Minimum	Building Area						
Required Facilities	At Least 500,000 sq. ft.	At Least 750,000 sq. ft.	At Least 1,000,000 sq. ft.	At Least 1,250,000 sq. ft.	At Least 1,500,000 sq. ft.		
Bicycle Parking Spaces	30	45	60	75	90		
Showers*	4	5	6	7	88		
Full-Size Lock- ers*	15	22	30	37	45		

<sup>\*</sup>The minimum required shall be distributed between men's and women's facilities.

**549.180.** Compliance with performance standards. All uses in the downtown districts shall comply with all general performance standards contained in Chapter 535, Regulations of General Applicability, and with all other applicable regulations or law.

#### ARTICLE II. FLOOR AREA RATIO PREMIUMS

- **549.190. Purpose.** These regulations are established to promote development of exceptional quality by allowing the maximum floor area ratio of structures on a zoning lot to be increased where it is determined that the development on such zoning lot includes amenities that benefit the public and that contribute positively to the design and function of the downtown districts.
- **549.200.** Application for floor area ratio premium. Any person having a legal or equitable interest in land may file an application for floor area ratio premium on a form approved by the zoning administrator, as specified in Chapter 525, Administration and Enforcement.
- **549.210.** Administrative review of applications. The planning director shall conduct the administrative review of all applications for floor area ratio premium. All findings and decisions of the planning director shall be final, subject to appeal to the city planning commission, as specified in Chapter 525, Administration and Enforcement.
- **549.220.** Floor area ratio premiums. The following floor area ratio premiums shall be available as specified in Table 549-4, Maximum Floor Area Ratio Premiums in the Downtown Districts, subject to the provisions of this article, provided all other requirements of this zoning ordinance are met:
  - (1) Urban open space, outdoor, subject to the following standards:
    - a. Outdoor open space shall comprise at least fifty (50) feet of street frontage. Small outdoor open space shall contain not less than five thousand (5,000) contiguous square feet. Large outdoor open space shall contain not less then seven thousand five hundred (7,500) contiguous square feet.
    - b. Outdoor open space shall be easily accessible from the adjacent sidewalk and shall contain lighting for nighttime illumination.
    - c. Outdoor open space shall be located near building entrances. Not less than forty (40) percent of the first floor facade facing the outdoor open space shall include windows of clear or lightly tinted glass that allow views into and out of the building at eye level.
    - d. Outdoor open space shall be paved with materials that exceed city standards for sidewalk finishes and shall be landscaped with not less than one (1) permanent canopy tree and not less than five (5) shrubs for each one thousand (1,000) square feet of open space. All

landscaping shall comply with the plant material and installation standards as specified in Chapter 530, Site Plan Review. Outdoor open space may include additional sidewalk area where the existing sidewalk is less then fifteen (15) feet wide. The remainder of the area shall be covered with turf grass, native grasses or other perennial flowering plants.

- e. Outdoor open space shall be open to the sky and located to maximize the access of sunlight, except that up to thirty (30) percent of the space may include a covered arcade with a minimum height of twenty-eight (28) feet.
- f. Outdoor open space shall be designed to encourage use by the general public through the provision of facilities and features including convenient and comfortable seating at a rate of not less than one (1) seat per two hundred (200) square feet of open space, tables, trash receptacles, plants, water features, and areas for public entertainment or public display of art or cultural exhibits
- g. Outdoor open space may contain tables and facilities for food service, but a majority of the space shall be available for general public use without charge.
- h. The outdoor open space shall be open to the general public at least during the normal business hours of the surrounding area.
- i. The outdoor open space shall be maintained in good order for the life of the principal structure.
- (2) Urban open space, indoor, subject to the following standards:
  - a. Indoor open space shall be located at street level and shall be not more than three (3) feet above or below the level of the sidewalk. Small indoor open space shall contain not less than five thousand (5,000) contiguous square feet. Large indoor open space shall contain not less then seven thousand five hundred (7,500) contiguous square feet.
  - b. Indoor open space shall be clearly visible and easily accessible from adjacent sidewalks or streets. Walls of an indoor open space area facing sidewalks or an outdoor open space area shall provide a clear view between interior and exterior space.
  - c. Indoor open space shall include an average height not less than thirty-five (35) feet and a minimum height of twenty (20) feet, and shall include natural light through a glazed roof or windows at a level sufficient to sustain a variety of plants and trees.
  - d. Indoor open space shall be designed to encourage use by the general public through the provision of facilities and features including convenient and comfortable seating at a rate of not less than one (1) seat per two hundred (200) square feet of open space, tables, trash receptacles, plants and trees, water features, drinking fountains and toilet facilities, and areas for public entertainment or public display of art or cultural exhibits. Not less than twenty (20) percent of the open space shall consist of landscaping or landscaping and water features.
  - e. Indoor open space may contain tables and facilities for food service, but a majority of the space shall be available for general public use without charge. Food preparation areas shall not qualify as required space.
  - f. The indoor open space shall be open to the general public at least during the normal business hours of the surrounding area.
  - g. The indoor open space shall be maintained in good order for the life of the principal structure.

549.220

- (3) Interior through-block connection, subject to the following standards:
  - a. The connection shall connect two public streets on opposite sides of the block, or shall connect a public street to an urban open space on the opposite side of the block, or shall connect two urban open spaces on opposite sides of the block, or shall connect to another interior through-block connection. In addition, on developments involving less than one-half block, the interior through-block connection may connect two public streets on opposite sides of the block in combination with corridors in one (1) or more buildings.
  - b. The connection shall be located not more than three (3) feet above or below the level of the sidewalk, shall have a minimum interior clear width of twelve (12) feet and a minimum height of twelve (12) feet. The maximum interior through-block connection premium shall be increased by one (1) where the interior through-block connection has a minimum interior clear width of sixteen (16) feet.
  - c. The connection shall be open to the general public at least during the normal business hours of the surrounding area.
  - d. The connection entrances shall be clearly visible from adjacent sidewalks or streets.
  - e. The connection shall be maintained in good order for the life of the principal structure.
- (4) Skyway connection, subject to the following standards:
  - a. The skyway shall connect two blocks on opposite sides of the street.
  - b. The bottom of the skyway shall be a minimum of sixteen (16) feet six (6) inches above the street. If street lights are removed, street lighting shall be provided at the bottom of the skyway.
  - c. Skyways and connecting corridors shall have a minimum interior clear width of twelve (12) feet. Skyways shall be no wider than thirty (30) feet. The maximum skyway premium shall be increased by one (1) where the skyway and connecting corridor have a minimum interior clear width of sixteen (16) feet.
  - d. Skyways shall be single story and designed to be horizontally level with the street. Changes in grade shall be accommodated so that the skyway appears level from the exterior.
  - e. Except where crossing streets and alleys, skyways shall be located within private property.
  - f. At least eighty (80) percent of the vertical enclosure of the skyway shall be windows of clear or lightly tinted glass that allow views into and out of the skyway.
  - g. Skyways shall be designed to facilitate access between street and skyway levels. Elevators, stairs and escalators linking the street and skyway levels shall be conveniently located with clear directional signs.
  - h. Skyways shall be heated to a minimum of fifty-five (55) degrees in winter and ventilated to not exceed outdoor temperatures in the summer.
  - i. The skyway shall be open to the general public at least during the hours recommended by the skyway advisory board and approved by the city council.
  - j. The skyway shall be maintained in good order for the life of the principal structure.
- (5) Transit facility, subject to the following standards:
  - a. The transit facility shall be located at a transit stop location approved by the planning director in consultation with the city engineer. The maximum transit facility premium shall be increased by one (1) where the transit facility is located at an approved light rail transit stop.

- b. The transit facility shall be open to the general public at least during the normal hours of transit service.
- c. The transit facility shall be similar to the principal structure in design and materials, shall be weather protected, heated and lighted, and shall contain at least two (2) entries.
- d. The transit facility shall be clearly visible from the street and sidewalk, and transit users shall be able to see oncoming transit vehicles from the facility.
- e. The transit facility shall contain a combination of leaning rails and seating for at least thirty (30) percent of projected peak demand, trash receptacles and connections for transit schedule monitors.
- f. The transit facility shall be maintained in good order for the life of the principal structure.
- (6) Street level retail uses, subject to the following standards:
  - Retail uses shall be limited to Retail Sales and Services uses and Food and Beverages uses included in Table 549-1 Principal Uses in the Downtown Districts.
  - b. Retail uses shall extend along at least sixty (60) percent of the building wall fronting on any street.
  - c. Each retail use shall have at least one (1) separate entrance from the sidewalk.
  - d. Street level uses shall include awnings or canopies to provide protection to pedestrians and to emphasize individual uses and building entrances.
  - e. At least forty (40) percent of the first floor facade that faces a public street, sidewalk or parking lot shall be windows or doors of clear or lightly tinted glass that allow views into and out of the building at eye level, except within the NM Nicollet Mall Overlay District, where such district standards shall apply.
  - f. The street level retail space shall be maintained in good order for the life of the principal structure.
- (7) Public art, subject to the following standards:
  - a. The art shall be valued at not less than one-fourth (.25) of one (1) percent of the capital cost of the principal structure.
  - b. The art shall be located where it is highly visible to the public. If the art is located indoors, such space shall meet the minimum requirements for an indoor open space, interior through-block connection or skyway connecting corridor, as specified in this article.
  - c. The art shall be maintained in good order for the life of the principal structure.
- (8) Freight loading terminal, subject to the following standards:
  - a. All freight loading facilities shall be located entirely below grade or entirely enclosed within the principal structure served.
  - b. The freight loading facilities shall be designed to meet the needs and requirements of all uses on the zoning lot.
  - c. The freight loading facility shall be maintained in good order for the life of the principal structure.

- (9) Sidewalk widening, subject to the following standards:
  - a. The existing sidewalk shall be less than fifteen (15) feet wide.
  - b. The widened sidewalk shall be at least fifteen (15) feet wide, open to the sky, paved with materials that meet or exceed city standards for sidewalk finishes, and shall include the provision of street trees as approved by the planning director.
  - c. The widened sidewalk shall be maintained in good order for the life of the principal structure.
- (10) Mixed-use residential, subject to the following standards:
  - a. At least ten (10) percent of the gross floor area of the principal structure shall be occupied by dwelling units.
  - b. The dwelling units shall be located above the first floor.
  - c. The dwelling units shall be maintained in good order for the life of the principal structure.
- (11) Historic preservation, subject to the following standards:
  - a. The structure shall be a locally designated historic structure or shall be determined to be eligible to be locally designated as a historic structure, as provided in Chapter 34 of the Minneapolis Code of Ordinances, Heritage Preservation Commission
  - b. The historic structure, if undesignated, shall be subject to the same restrictions that are applicable to locally designated historic structures and the recommendations contained in The Secretary of the Interior's Standards for Rehabilitation.
  - c. The historic structure shall be rehabilitated pursuant to the applicable guidelines of the heritage preservation commission and the recommendations contained in The Secretary of the Interior's Standards for Rehabilitation, if necessary.
  - d. The historic structure shall be maintained in good order for the life of the principal structure.
- (12) Energy efficiency, subject to the following standards:
  - a. Submission of a high performance building plan. The applicant shall submit a high performance building plan that includes all information to demonstrate to the satisfaction of the planning director a minimum of thirty-five (35) percent increase in overall building energy efficiency as compared to the Minnesota Energy Code. The demonstration shall include all reports, modeling, and approval processes described in the High Performance Building Policy Guide.
  - b. Energy-saving strategies that are missing must be brought to design specification or installed within ninety (90) days of the city's verification report or submittal to the city of a third-party commissioning report by a licensed engineer. As an alternative to the above, the developer of a building that is not in compliance with the approved energy efficiency premium can mitigate the deficiency through alternative actions as defined in the High Performance Building Policy Guide.
  - c. The energy efficiency measures shall be maintained in good working order for the life of the principle structure.

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Table 549-4 Maximum Floor Area Ratio Premiums in the Downtown Districts<sup>1</sup>

	Zoning District and Premium Value					
Premium Type	B4-2	B4-1 & B4S-2	B4S-1	B4C-1, 2		
Urban open space, small	4.0	3.0	2.0			
Urban open space, large	8.0	6.0	4.0			
Interior through-block connection	1.0 or 2.0	1.0 or 2.0	1.0 or 2.0	1.0 or 2.0		
Skyway connection	1.0 or 2.0	1.0 or 2.0	1.0 or 2.0			
Transit facility	2.0 or 3.0	2.0 or 3.0	2.0 or 3.0	2.0 or 3.0		
Street level retail	2.0	1.0	1.0			
Public art	2.0	2.0	1.0	1.0		
Freight loading terminal	2.0	2.0	2.0	2.0		
Sidewalk widening	2.0	2.0	1.0	1.0		
Mixed-use residential	4.0	3.0		2.0		
Historic preservation	4.0	3.0	2.0	2.0		
Energy efficiency @ 35%	1.0	1.0	1.0	1.0		
Energy efficiency @ 45%	2.0	2.0	2.0	2.0		

<sup>&</sup>lt;sup>1</sup>Less than the maximum premium may be approved where the amenity includes alternatives to the standards of this article, pursuant to section 549.240.

(2001-Or-182, § 1, 12-28-01)

# **549.230.** Limitations on premiums. The following limitations shall apply to floor area ratio premiums:

- (1) A zoning lot shall not qualify for more than two (2) small urban open space premiums and two (2) large open space premiums. The urban open space premium may be obtained by providing adjacent indoor and outdoor open space that in combination meets the minimum size and dimensional requirements for an urban open space, and that meets all of the other standards for such open space.
- (2) A zoning lot shall not qualify for more than two (2) interior through-block connection premiums.
- (3) A zoning lot shall not qualify for more than four (4) skyway connection premiums.
- (4) A zoning lot shall not qualify for more than two (2) street level retail premiums.
- (5) A zoning lot shall not qualify for more than two (2) public art premiums.
- (6) A zoning lot shall not qualify for more than one (1) freight loading terminal premium.
- (7) A zoning lot shall not qualify for more than four (4) sidewalk widening premiums.
- (8) A zoning lot shall not qualify for more than two (2) mixed-use residential premiums. The gross floor area of the dwelling units and related elevator shafts and stairwells qualifying for the mixed-use residential premium shall not be included in the calculation of total gross floor area of the zoning lot.
- (9) A zoning lot may qualify for a historic preservation premium or as a sending site for transfer of development rights pursuant to Article III, Transfer of Development Rights, but not both.
- (10) A zoning lot shall not qualify for more than one (1) energy efficiency premium.
- (11) A zoning lot in the B4S-1 District shall not qualify for more than five (5) premiums. (2001-Or-182, § 2, 12-28-01; 2006-Or-123, § 3, 10-20-06)

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- **549.240.** Exceptions to standards. Exceptions to the floor area ratio premium standards of this article may be approved where the alternative meets the intent of the standards and includes an exceptional design or style that will enhance the area or that is more consistent with the design of the site.
- **549.250.** Existing buildings. Buildings existing on the effective date of this ordinance that were built pursuant to the floor area ratio premiums of the 1963 zoning code shall be considered legally conforming, except that additions to such buildings or other redevelopment shall be subject to the standards of this article.

#### ARTICLE III. TRANSFER OF DEVELOPMENT RIGHTS

**549.260. Purpose.** These regulations are established to promote the preservation and rehabilitation of historic resources by allowing the transfer of undeveloped floor area from zoning lots containing locally designated historic structures, or structures that have been determined to be eligible to be locally designated as historic structures, to other zoning lots.

**549.270. Definitions.** As used in this article, the following words shall mean:

Heritage preservation commission. The heritage preservation commission of the City of Minneapolis.

Receiving site. The zoning lot on which transferred floor area is to be developed.

Sending site. The zoning lot containing a locally designated historic structure or a structure determined to be eligible to be locally designated as a historic structure, as provided in Chapter 34 of the Minneapolis Code of Ordinances, Heritage Preservation Commission, and from which undeveloped floor area is to be transferred.

- **549.280.** Eligible areas. The transfer of development rights shall be limited to sending sites and receiving sites located within the downtown districts.
- **549.290.** Application for transfer of development rights. Any person having a legal or equitable interest in land that qualifies as a sending site may file an application for transfer of development rights on a form approved by the zoning administrator, as provided in Chapter 525, Administration and Enforcement.
- **549.300.** Administrative review of applications. The planning director shall conduct the administrative review of all applications for transfer of development rights. All findings and decisions of the planning director shall be final, subject to appeal to the city planning commission, as specified in Chapter 525, Administration and Enforcement.
- **549.310.** Transfer of development rights conditions and guarantees. Any approval of an application for transfer of development rights shall be subject to the following conditions:
  - (1) The maximum amount of undeveloped floor area that may be transferred from the sending site shall be the difference between the gross floor area of development on the sending site and the maximum gross floor area permitted by the zoning district regulations.
  - (2) The floor area of the receiving site may be increased by up to thirty (30) percent of the maximum gross floor area permitted by the zoning district regulations, except where the receiving site is

- adjacent to the sending site, provided all other requirements of this zoning ordinance are met. For the purposes of this section, where a sending site is adjacent to a receiving site, they may be considered a single zoning lot.
- (3) The transfer of development rights shall be limited to four (4) such transfers from any sending site.
- (4) The development potential of the sending site shall be reduced by the amount of undeveloped floor area transferred for the life of the principal structure on the receiving site whose construction is made possible by the transfer.
- (5) Following the transfer of development rights, the historic structure on the sending site, if undesignated, shall be subject to the same restrictions that are applicable to locally designated historic structures and the recommendations contained in The Secretary of the Interior's Standards for Rehabilitation.
- (6) The transfer of development rights shall not result in the destruction of a locally designated historic structure or structure determined to be eligible to be locally designated as historic on the receiving site.
- (7) The approval of the transfer of development rights shall be filed by the applicant with the Office of the Hennepin County Recorder or Registrar of Titles in the form of a conservation easement or similar restriction acceptable to the city which shall specify the amount of undeveloped floor area transferred to the receiving site and the reduction in the development rights of the sending site.
- (8) No building permit or other approval for the construction or establishment of transferred development rights on the receiving site shall be granted by the city until the historic structure on the sending site has been rehabilitated pursuant to the applicable guidelines of the heritage preservation commission and the recommendations contained in The Secretary of the Interior's Standards for Rehabilitation, if necessary, or until a plan for such rehabilitation has been submitted to and approved by the heritage preservation commission.
- (9) Such additional conditions and guarantees as the planning director deems reasonable and necessary to protect the public interest and to ensure compliance with the standards and purposes of this zoning ordinance and policies of the comprehensive plan.

#### ARTICLE IV. SEXUALLY ORIENTED USES

**549.320. Purpose.** It is recognized that there are some uses which, because of their very nature, are recognized as having serious objectionable operational characteristics, thereby having a harmful effect upon the use and enjoyment of adjacent areas. Special regulation of these uses is necessary to insure that these adverse effects will not contribute to the blighting or downgrading of the surrounding neighborhood. These special regulations are included in this article.

**549.330.** Regulated uses. All sexually oriented uses shall be subject to the regulations of this article and shall not be subject to Minn. Statute Section 617.242. (2000-Or-088, § 1, 9-15-00; 2002-Or-030, § 1, 4-5-02; 2006-Or-122, § 1, 10-20-06)

**549.340. Definitions.** As used in this article, the following words and phrases shall mean:

Adult entertainment center. An enclosed building or a part of an enclosed building, wherein an admission is charged for entrance into the facility, or for food, alcoholic beverages or other beverages intended for consumption within the facility, wherein may be observed, or which contains one (1) or more

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coin-operated mechanisms which when activated permit a customer to view, one (1) or more live persons unclothed or in such attire, costume or clothing as to expose to view any portion of the female breast below the top of the areola, or any portion of the male or female pubic hair, anus, cleft of the buttocks, vulva or genitals.

Adults-only bookstore or video store. An establishment having as a substantial or significant portion of its stock in trade for sale, rental or display, books, magazines, periodicals, films, videos, digital video disks, slides, or other media, which are distinguished or characterized by an emphasis on matters depicting, describing or relating to nudity, sexual conduct, sexual excitement or sadomasochism, or an establishment with a segment or section devoted to the sale, rental or display of such material which comprises fifteen (15) percent or more of the total sale, rental or display area of such establishment, or five hundred (500) square feet, whichever is less. An adults-only bookstore or video store also shall include an establishment that offers films, videos, digital video disks, slides or similar media for viewing on premises.

Adults-only motion picture theater. An enclosed building used regularly and routinely for presenting programs or material distinguished or characterized by an emphasis on matters depicting, describing or relating to nudity, sexual conduct, sexual excitement or sadomasochism, for observation by patrons therein.

Massage parlor. An establishment or place primarily in the business of providing massage services.

*Nudity.* The showing of the human male or female genitals, pubic area or buttocks with less than a fully opaque covering, or the showing of the female breast with less than a fully opaque covering of any portion thereof below the top of the areola, or the depiction of covered male genitals in a discernibly turgid state.

Rap parlor. An establishment or place primarily in the business of providing nonprofessional conversation or similar services for adults.

Sadomasochism. The derivation of sexual pleasure from the infliction of pain or from the condition of being fettered, bound or otherwise physically restrained.

Sauna. An establishment or place primarily in the business of providing steam bath and massage services.

Sexual conduct. Acts of masturbation, sexual intercourse or fondling or other erotic physical contact with a person's genitals, pubic area, buttocks, anus or, if such person be a female, her breast.

Sexual excitement. The condition of human male or female genitals when in a state of sexual stimulation or arousal.

Sexually oriented use. An adult entertainment center, adults-only bookstore or video store, adults-only motion picture theater, massage parlor, rap parlor, sauna, or any other use that is distinguished or characterized by an emphasis on matters or conduct depicting, describing or relating to nudity, sexual conduct, sexual excitement or sadomasochism. (2000-Or-088, § 2, 9-15-00; 2002-Or-030, § 2, 4-5-02)

**549.350.** Location restrictions. (a) Zoning district requirements. Sexually oriented uses shall be permitted only in the B4, B4S and B4C Districts, subject to the provisions of this article, except as otherwise provided in this section. However, no sexually oriented use shall be permitted on any property with its main public entrance on Nicollet Avenue, on any property located north/northwest of the centerline of the Burlington Northern Railway right-of-way, nor on any property located east/southeast

of the centerline of Fifth Avenue South. In addition, a massage parlor, rap parlor or sauna may be allowed as a conditional use in the C4 General Commercial District, subject to the provisions of this article and Chapter 525, Administration and Enforcement.

- (b) Distance requirements. No sexually oriented use shall be allowed within one thousand (1,000) feet of a residence district or office residence district, or within five hundred (500) feet of a religious institution place of assembly, a child care center established prior to November 1, 1986, a public library, a public educational facility that serves persons age seventeen (17) or younger, or a school, grades K—12. Distances shall be measured in a straight line from the lot line of properties in a residence or office residence district and from the main public entrances of uses.
- (c) Spacing of sexually oriented uses. Only one (1) sexually oriented use shall be allowed per block face. (2000-Or-087, § 1, 9-15-00; 2000-Or-088, § 3, 9-15-00; 2002-Or-030, § 3, 4-5-02; 2006-Or-123, § 4, 10-20-06)
- **549.360.** Existing uses; amortization. (a) *In general*. Uses existing on the effective date of this zoning ordinance that do not conform to the December 1, 1988 compliance deadline of the 1963 zoning code governing the zoning district requirements of sexually oriented uses shall remain unlawful. All other uses that do not conform to the zoning district requirements of section 549.350(a) shall become unlawful one (1) year from the date such use becomes nonconforming, except as otherwise provided in this section. Lawfully nonconforming uses that do not conform to the distance requirements of section 549.350(b) or the spacing requirements of section 549.350(c) shall be permitted to operate as a nonconforming use in accordance with the provisions of Chapter 531, Nonconforming Uses and Structures.
- (b) Adults-only bookstores or video stores. Adults-only bookstores or video stores existing on September 23, 2000, and not otherwise governed by an earlier amortization requirement, shall be permitted to operate as a nonconforming use in accordance with the provisions of Chapter 531, Nonconforming Uses and Structures, provided that uses that do not conform to the zoning district requirements of section 549.350(a) shall become unlawful on and after October 1, 2001.
- (c) Adult entertainment centers. Adult entertainment centers existing on April 13, 2002, and not otherwise governed by an earlier amortization requirement, shall be permitted to operate as a nonconforming use in accordance with the provisions of Chapter 531, Nonconforming Uses and Structures, provided that uses that do not conform to the zoning district requirements of section 549.350(a) shall become unlawful on and after May 1, 2003.
- (d) *Extension of time*. The city council may extend the date upon which a nonconforming use becomes unlawful under this section where it is established that the amortization period is unreasonable as applied to a particular use.
  - (1) Procedure for requesting extension of time. Any person with a legal or equitable interest in the use to be amortized may seek an extension by making a written request to the zoning administrator together with all supporting information, such as purchase agreements, leases, property appraisals, evidence of costs of improvements to the property, or business records and tax returns that the applicant would like to be considered. The burden of proving that an amortization period is unreasonable is on the applicant.
  - (2) Determination. In determining whether such date should be extended, the city council may consider information relating to the useful life of the nonconforming use and any other factors or information relevant to determination of the reasonableness of the amortization period. Information relevant to the useful life of the nonconforming use may include: the cost of the property and any improvements, the tax depreciation status of the property or use, the condition of the

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structures on the property, the potential for alternative use of the property, and the potential and cost to relocate the use or otherwise bring the use into compliance with the zoning district requirements. (2000-Or-088, § 4, 9-15-00; 2002-Or-030, § 4, 4-5-02)

**549.370.** Sign requirements. All sexually oriented uses shall comply with the following sign requirements, notwithstanding any other provision of this ordinance:

- (1) All signs shall be flat wall signs or window signs.
- (2) Signs may be illuminated, except that flashing signs, including signs containing changing written messages, and signs with moving or swinging parts or elements shall be prohibited.
- (3) The amount of allowable sign area shall be one (1) square foot of sign area per foot of lot frontage on a street. Window signs shall be included in the calculation of total allowed sign area.
- (4) Window sign area shall be limited by the amount of total allowable sign area for the use, except that no merchandise or pictures of the products or entertainment on the premises shall be displayed in window areas or any area where they can be viewed from outside the building. (2002-Or-030, § 5, 4-5-02)

### ARTICLE V. B4 DOWNTOWN BUSINESS DISTRICT

**549.380. Purpose.** The B4 Downtown Business District is established to provide an environment for retail and office activities of citywide and regional significance. The district also allows entertainment, residential and public uses which complete the mixed use character of the area. The B4 District allows the highest density office development within the downtown area.

**549.390.** Uses. Permitted and conditional uses in the B4 District shall be as specified in section 549.30 and Table 549-1, Principal Uses in the Downtown Districts.

**549.400.** Building bulk requirements. The B4 District is divided into two subdistricts for building bulk requirements. In the B4-1 District the maximum floor area ratio of all structures shall be eight (8). In the B4-2 District the maximum floor area ratio of all structures shall be sixteen (16).

### **549.410.** General district regulations. The following conditions govern uses in the B4 District:

- (1) Drive-through facilities prohibited. Drive-through facilities shall be prohibited.
- (2) Outdoor speakers permitted. Outdoor speakers shall be permitted, provided that speaker boxes shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (3) Automobile sales. Automobile sales shall be limited to new and vintage passenger automobiles only, except that leased automobiles and used automobiles received in trade may be sold as an accessory use. The storage and dispensing of fuels and outdoor display is prohibited.
- (4) Production, processing and storage. Limited production and processing uses shall be limited to one thousand two hundred (1,200) square feet of gross floor area. Other production, processing and storage uses shall be limited to four thousand (4,000) square feet of gross floor area.
- (5) Parking garages. The ground floor of principal and accessory parking garages shall have commercial, residential, office, or hotel uses located between the parking garage and any public sidewalk except where frontage is needed to provide vehicular and pedestrian access to the

facility. Principal parking garages shall have all parking spaces located entirely below grade except where the garage includes integrated transit facilities within the structure. (2006-Or-123, § 5, 10-20-06)

**549.420.** Truck and commercial vehicle parking for nonresidential uses. Outdoor parking of trucks and other commercial vehicles shall be limited to single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.

### ARTICLE VI. B4S DOWNTOWN SERVICE DISTRICT

**549.430. Purpose.** The B4S Downtown Service District is established to provide an environment that promotes the development of mixed-use neighborhoods in a higher density, transit- and pedestrian-oriented, urban environment with a wide range of retail and office activities and high density residential uses and hotels. The B4S District also allows supportive goods and services not allowed in the B4 District. (2006-Or-123, § 6, 10-20-06)

**549.440.** Uses. Permitted and conditional uses in the B4S District shall be as specified in section 549.30 and Table 549-1, Principal Uses in the Downtown Districts.

**549.450.** Building bulk requirements. The B4S District is divided into two subdistricts for building bulk requirements, the B4S-1 District and the B4S-2 District. The minimum and maximum floor area ratio of all structures in the B4S District shall be as specified in Table 549-5, B4S Downtown Service District Building Bulk Requirements.

Table 549-5 B4S Downtown Service District Building Bulk Requirements

B4S-1 District	B4S-2 District
Minimum floor area ratio	Minimum floor area ratio
2.0 (Non-residential)	2.0
2.0 (Dwellings & Hotels)	
Maximum floor area ratio	Maximum floor area ratio
4.0 (Non-residential)	8.0
8.0 (Dwellings & Hotels)	

(2006-Or-123, § 7, 10-20-06)

549.460. General district regulations. The following conditions govern uses in the B4S District:

- (1) Drive-through facilities prohibited. Drive-through facilities shall be prohibited.
- (2) Outdoor speakers permitted. Outdoor speakers shall be permitted, provided that speaker boxes shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (3) Automobile sales. Automobile sales shall be limited to new and vintage passenger automobiles only, except that leased automobiles and used automobiles received in trade may be sold as an accessory use. The storage and dispensing of fuels and outdoor display is prohibited.
- (4) Production, processing and storage. Production, processing, and storage uses shall be limited to four thousand (4,000) square feet of gross floor area. (5) Parking garages. The ground floor of principal and accessory parking garages shall have commercial, residential, office, or hotel uses located between the parking garage and any public sidewalk except where frontage is needed to

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provide vehicular and pedestrian access to the facility. Principal parking garages shall have all parking spaces located entirely below grade except where the garage includes integrated transit facilities within the structure.

(2006-Or-123, § 8, 10-20-06; 2007-Or-088, § 1, 10-19-07)

**549.470.** Truck and commercial vehicle parking for nonresidential uses. Outdoor parking of trucks and other commercial vehicles shall be limited to single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.

#### ARTICLE VII. B4C DOWNTOWN COMMERCIAL DISTRICT

**549.480.** Purpose. The B4C Downtown Commercial District is established to provide an environment for a wide range of commercial uses including a mix of retail, office, business services and limited industrial uses.

**549.490.** Uses. Permitted and conditional uses in the B4C District shall be as specified in section 549.30 and Table 549-1, Principal Uses in the Downtown Districts.

**549.500.** Building bulk requirements. The B4C District is divided into two subdistricts for building bulk requirements. In the B4C-1 District the maximum floor area ratio of all structures shall be four (4). In the B4C-2 District the maximum floor area ratio of all structures shall be eight (8).

# 549.510. General district regulations. The following conditions govern uses in the B4C District:

- (1) Drive-through facilities permitted. Drive-through facilities shall be permitted, subject to the standards of Chapter 530, Site Plan Review and Chapter 541, Off-Street Parking and Loading.
- (2) Outdoor speakers permitted. Outdoor speakers shall be permitted, provided speaker boxes shall not be audible from a residence or office residence district boundary or from a permitted or conditional residential use.
- (3) Production, processing and storage.
  - a. *In general*. Production, processing and storage uses shall be limited to thirty thousand (30,000) square feet of gross floor area.
  - b. Hazardous materials. Warehousing and distribution uses shall not include the storage of hazardous materials in excess of consumer commodities which are packaged for consumption by individuals for personal care or household use, except as provided in Chapter 535, Regulations of General Applicability, regarding the storage of Class I flammable liquids, flammable gases and flammable liquefied gases.
- (4) Parking garages. The ground floor of principal and accessory parking garages shall have commercial, residential, office, or hotel uses located between the parking garage and any public sidewalk except where frontage is needed to provide vehicular and pedestrian access to the facility. Principal parking garages shall have all parking spaces located entirely below grade except where the garage includes integrated transit facilities within the structure. (2006-Or-123, § 9, 10-20-06)

**549.520.** Truck and commercial vehicle parking for nonresidential uses. (a) *Parking within three hundred (300) feet of a residence or office residence district boundary.* Outdoor parking of trucks and

other commercial vehicles shall be limited to single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight when located within three hundred (300) feet of a residence or office residence district boundary.

- (1) Increasing weight. The gross vehicle weight limitation for trucks and other commercial vehicles parked within three hundred (300) feet of a residence or office residence district boundary may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. Preference may be given to applications for conditional use permit approval which limit parking to single rear axle vehicles of not more than thirty-three thousand (33,000) pounds gross vehicle weight and which exclude truck tractors or semitrailers. In addition to the conditional use standards, the city planning commission shall consider but not be limited to the following factors when determining gross vehicle weight limitations:
  - a. Number and size of vehicles to be parked.
  - b. Proximity of parking area to residential uses.
  - c. Screening and landscaping of parking area.
  - d. Location of truck routes and amount of truck traffic.
- (b) Screening. All outdoor parking of trucks shall be screened from view, as specified in this zoning ordinance.
- (c) Parking more than three hundred (300) feet from a residence or office residence district boundary. There shall be no limit on the size of trucks and other commercial vehicles parked more than three hundred (300) feet from a residence or office residence district boundary.

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# CHAPTER 550. INDUSTRIAL DISTRICTS

### ARTICLE I. GENERAL PROVISIONS

**550.10. Purpose.** The industrial districts are established to provide locations for industrial land uses engaged in production, processing, assembly, manufacturing, packaging, wholesaling, warehousing or distribution of goods and materials. Regulations for the industrial districts are established to promote industrial development and to maintain and improve compatibility with surrounding areas. In addition to industrial uses, limited commercial uses, parking facilities, institutional and public uses and public services and utilities are allowed.

# **550.20. District names.** The Industrial District names are:

- I1 Light Industrial District
- **I2 Medium Industrial District**
- **I3** General Industrial District
- **550.30. Principal uses for the industrial districts.** (a) *In general.* Table 550-1, Principal Uses in the Industrial Districts, lists all permitted and conditional uses allowed in the industrial districts.
- (b) *Permitted uses*. Uses specified with a "P" are permitted in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish a permitted use shall obtain a zoning certificate for such use as specified in Chapter 525, Administration and Enforcement.
- (c) Conditional uses. Uses specified with a "C" are allowed as a conditional use in the district or districts where designated, provided that the use complies with all other applicable provisions of this ordinance. Persons wishing to establish or expand a conditional use shall obtain a conditional use permit for such use, as specified in Chapter 525, Administration and Enforcement.
- (d) *Prohibited uses*. Any use not listed as either "P" (permitted) or "C" (conditional) in a particular district or any use not determined by the zoning administrator to be substantially similar to a use listed as permitted or conditional shall be prohibited in that district.
- (e) Specific development standards. Permitted and conditional uses specified with a "check" under the Specific Development Standards column shall be subject to the specific development standards of Chapter 536, Specific Development Standards.
- (f) General use categories. Table 550-1 employs general use categories for some types of industrial uses. A particular use may be determined to be within a general use category if not listed specifically elsewhere in Table 550-1 and if not determined to be within another less restrictive general use category. Determination of whether a particular use is included within a general use category shall be made by the zoning administrator in the manner provided for in Chapter 525, Administration and Enforcement, governing determination of substantially similar uses.
  - (1) Light industrial uses. Light industrial uses are low impact uses which produce little or no noise, odor, vibration, glare or other objectionable influences and which have little or no adverse effect on surrounding properties. Light industrial uses generally do not include processing of raw materials or production of primary materials. Light industrial uses include, but are not limited to, the production or processing of the following:
    - a. Apparel and other finished products made from fabrics.
    - b. Computers and accessories, including circuit boards and software.

- c. Electronic components and accessories.
- d. Fabricated leather products such as shoes, belts and luggage, except no tanning of hides.
- e. Furniture and fixtures, except no metal working.
- f. Household appliances and components, except no metal working.
- g. Measuring, analyzing, and controlling instruments.
- h. Medical and optical goods and technology.
- i. Musical instruments.
- j. Novelty items, pens, pencils, and buttons.
- k. Office and commercial equipment, except no metal working.
- 1. Paper and paperboard products, except no pulp, paper or paperboard mills.
- m. Pharmaceuticals, health and beauty products.
- n. Precision machined products, including jewelry.
- o. Printing and publishing, including distribution.
- p. Signs, including electric and neon signs.
- q. Sporting and athletic goods.
- r. Telecommunications products.
- (2) Medium industrial uses. Medium industrial uses include metal working, glass and other uses which have the potential to produce greater amounts of noise, odor, vibration, glare or other objectionable influences than light industrial uses and which may have an adverse effect on surrounding properties. Medium industrial uses may include processing of raw materials or production of primary materials. Medium industrial uses include, but are not limited to, the production or processing of the following:
  - a. Electrical equipment such as motors and generators, lighting, wiring, and transmission and distribution equipment.
  - b. Fabricated metal products such as cans and shipping containers, cutlery, hand tools and general hardware.
  - c. Fabricated plastic and rubber products, except tires and inner tubes.
  - d. Glass and glass products, ceramics, and china and earthenware such as dishes and kitchenware.
  - e. Gypsum, drywall and plaster products.
  - f. Latex paints.
  - g. Lumber and wood products, including plywood.
  - h. Machinery and equipment such as engines and turbines, farm, lawn and garden equipment, heating, cooling and refrigeration equipment, and machine tools.
  - i. Metal working such as stamping, welding, machining, extruding, engraving, plating, grinding, polishing, cleaning and heat treating.
  - j. Screw machine products such as bolts, nuts, screws, and washers.
  - k. Textiles and fabrics.
  - 1. Transportation equipment.

- (3) General industrial uses. General industrial uses include high impact and outdoor-uses which are likely to have a substantial adverse effect on the environment or on surrounding properties and which require special measures and careful site selection to ensure compatibility with the surrounding area. General industrial uses often include processing of raw materials and production of primary materials. General industrial uses include, but are not limited to, the production or processing of the following:
  - a. Asphalt, paving and roofing materials.
  - b. Battery manufacture and reprocessing.
  - c. Chemicals and chemical products including ammonia, chlorine, household cleaners, detergent, fertilizer, and industrial and agricultural chemicals.
  - d. Oil-based paints, varnishes, lacquers, and enamels.
  - e. Petroleum and coal products, except no mining or extraction.
  - f. Plastics and synthetic resins and fibers.
  - g. Primary metals, including steelworks, rolling and finishing mills, forge or foundry.
  - h. Sand and gravel, except no mining or extraction.
  - i. Stone, clay and concrete products such as cement, bricks, tile and concrete blocks.
  - j. Tanned hides and leather.
  - k. Tires and inner tubes.

Table 550-1 Principal Uses in the Industrial Districts

Use	I1	I2	<i>I</i> 3	Specific Development Standards
INDUSTRIAL USES				
Generalized Use Categories				
Light industrial	P	P	P	
Medium industrial		P	P	
General industrial			C	
Specific Industrial Uses				
Concrete, asphalt and rock crushing facility			C	/
Contractor yard		P	P	
Dry cleaning establishment	C	P	P	/
Film, video and audio production	P	P	P	/
Food and beverage products	P	P	P	
Furniture moving and storage	P	P	P	
Grain elevator or mill			C	
Greenhouse, wholesale	P	P	P	
Industrial machinery and equipment sales, service and rental	C	P	Р	
Laundry, commercial	P	P	P	/
Packaging of finished goods	P	P	P	
Research, development and testing laboratory	P	P	P	
Recycling facility		C	C	1
Scrap/salvage yard, metal milling facility			C	/
Self service storage	P	P	P	
Wholesaling, warehousing and distribution	P	P	P	

Use	I1	I2	I3	Specific Development Standards
Planned Industrial Development	C		C	1
COMMERCIAL USES		1	•	7
Retail Sales and Services				
Art gallery	P	P	1	
Art studio	P	P		
Building material sales	P	P		
Child care center	P	P		✓
Contractor's office	C	P	P	
Day labor agency	С	C	P	<b>√</b>
Farmers' market	P	P		✓
Liquor store, off-sale	С	C		<b>√</b>
Office supply sales and service	P	P		
Photocopying	P	P		
Offices	P	P	P	
Automobile Services	-		•	
Automobile convenience facility	C	С	С	<b></b>
Automobile rental	C	C	C	/
Automobile repair, major	C	. C	C	/
Automobile repair, minor	C	C	C	/
Automobile sales	C	C	C	/
Car wash	C	С	C	/
Food and Beverages	<u> </u>		1	
Catering	P	P		
Coffee shop, with limited entertainment	P	P		
Nightclub	C	C		/
Restaurant, delicatessen	P	P		1
Restaurant, fast food	C	C		
Restaurant, sit down, including the serving of alcoholic beverages with general entertainment	Р	P		1
Commercial Recreation, Entertainment a	nd Lodging	h.m.		
Indoor recreation area	P	P		
Hotel	P	P		<b>✓</b>
Radio or television station	P	P		
Regional sports arena	P			✓
Medical Facilities			-	
Clinic, medical or dental	P	P	VIII - 1	
Hospital	C	C		<b>✓</b>
Laboratory, medical or dental	P	P		
Transportation				
Ambulance service	C	C	C	
Bus garage or maintenance facility	С	C	C	
Horse and carriage assembly/ transfer site	C	C	C	<b>✓</b>
Intermodal containerized freight facility			C	<b>√</b>
Limousine service	C	C	C	<b>√</b>
Motor freight terminal		C	C	<b>√</b>
Motor vehicle storage lot		C	C	
Package delivery service	C	C	C	✓

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Use	I1	<b>I</b> 2	I3	Specific Development Standards
Railroad switching yards and freight termi-		12	10	Blandarus
nal			C	✓
Taxicab service	C	C	C	
Towing service	<u> </u>	C	C	
Truck, trailer, boat, recreational vehicle or		_		
mobile home sales, service or rental	$\mathbf{C}$	C	C	
Waste hauler		C	С	
PARKING FACILITIES				I
Parking facility	C	С	С	
· · · · · · · · · · · · · · · · · · ·		-	1 0	
Institutional and Public Uses				
Educational Facilities		T 75	Γ	
School, grades K—12	P	P	F	
School, vocational or business	P	P	P	<b>/</b>
Social, Cultural, Charitable, and Recreation	nal Facilities	~		
Athletic field	P	P	P	<u> </u>
Club or lodge, with general entertainment	P	- P		
Community center	P	P		/
Community garden	P	P		<b>√</b>
Development achievement center	P	P		
Educational arts center	P	P		
Mission	C	C	С	/
Park	P	P	P	
Religious Institutions			·	
Place of assembly	P	P		-
RESIDENTIAL USES				
Community correctional facility serving up to		_		
thirty-two (32) persons	$\mathbf{C}$	C	C	✓
PUBLIC SERVICE AND UTILITIES				<del></del>
Animal shelter	С	С	C	/
Bus turnaround	С	С	C	=
Electric or gas substation	C	С	C	
Electricity generation plant, hydroelectric	С	С	C	/
Electricity generation plant, non-nuclear			C	✓
Fire station	C	С	C	
Garage for public vehicles	С	C	C	
Heating or cooling facility	С	С	C	
Mounted patrol stable	C	C	C	✓
Passenger transit station	C	C	C	
Police station	C	C	C	
Post office	C	C	C	
Railroad right-of-way	C	C	C	
River freight terminal			C	
Stormwater retention pond	C	C	C	
Street and equipment maintenance facility	C	C	C	
Telephone exchange	C	C	C	
Vehicle emission testing station	<u>C</u> -	C	C	
Waste transfer or disposal facility			C	1
Water pumping and filtration facility	C	С	C	

 $(2000\text{-}Or\text{-}047, \ \S\ 1,\ 5\text{-}19\text{-}2000;\ 2003\text{-}Or\text{-}136,\ \S\ 1,\ 11\text{-}7\text{-}03;\ 2006\text{-}Or\text{-}091,\ \S\ 1,\ 7\text{-}21\text{-}06})$ 

- **550.40.** Accessory uses and structures. Accessory uses and structures shall comply with the provisions of Chapter 537, Accessory Uses and Structures.
- **550.50.** Retail sales, service and repair. Retail sales, service and repair shall be prohibited in all the industrial districts except where specifically listed in Table 550-1, Principal Uses in the Industrial Districts, or where such activity is accessory to the principal use allowed.
- **550.60.** Residential uses prohibited. Residential uses shall be prohibited in all industrial districts, except for caretaker's quarters and dwelling units allowed pursuant to Chapter 551, Overlay Districts, and certain community correctional facilities as governed by this chapter.
- **550.70.** Community correctional facilities. (a) *Restricted locations*. Community correctional facilities or any residential program whose primary purpose is to treat persons who have violated criminal statutes or have been adjudicated delinquent on the basis of conduct in violation of criminal statutes, except those relating to sex offenses, shall be prohibited within three hundred (300) feet of any zoning district other than an industrial district, including an Industrial Living Overlay District.
- (b) *Prohibited facilities*. Community correctional facilities or any residential program whose primary purpose is to treat persons who have violated criminal statutes relating to sex offenses or have been adjudicated delinquent on the basis of conduct in violation of criminal statutes relating to sex offenses shall be prohibited.
- **550.80.** Enclosed building requirement. All production, processing, storage, sales, display or other business activity in the industrial districts shall be conducted within a completely enclosed building, except as otherwise provided in each industrial district.
- **550.90.** Hours open to the public. (a) *In general.* All uses located in the industrial districts, except residential uses, religious institutions, hotels and hospitals, shall comply with the following regulations governing maximum hours open to the public, except where the city planning commission further restricts such hours:

Sunday through Thursday, from 6:00 a.m. to 10:00 p.m.

Friday and Saturday, from 6:00 a.m. to 11:00 p.m.

- (b) Extension of hours of open to the public. The hours open to the public may be extended by conditional use permit as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the hours open to the public:
  - (1) Proximity to permitted or conditional residential uses.
  - (2) Nature of the business and its impacts of noise, light and traffic.
  - (3) Conformance with applicable zoning regulations, including but not limited to use, yards, gross floor area, and specific development standards.
  - (4) History of complaints related to the use.
- (c) Uses licensed to sell alcoholic beverages. The hours open to the public for uses licensed to sell alcoholic beverages shall be those permitted by the liquor, wine, or beer license and any special late hours food license approved for the facility. Hours open to the public beyond those permitted by the license may be requested by applying for a conditional use permit.

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- (d) Operations not open to the public. Operations incidental to and commonly associated with the use and performed during the hours the use is closed to the public, for example production or processing activities or the stocking of inventory, may occur.
- **550.100. Parking and loading requirements.** Parking and loading requirements for uses in the industrial districts shall be as set forth in Chapter 541, Off-Street Parking and Loading.
- **550.110.** Truck and commercial motor vehicle parking. (a) *In general*. Regulations governing the outdoor parking of trucks and other commercial motor vehicles shall apply only to vehicles that are parked regularly at a site and shall not apply to pick-up and delivery activities or to the temporary use of vehicles during construction. Outdoor storage of motorized equipment other than motor vehicles in operable condition shall be limited to areas where outdoor storage is allowed.
- (b) Parking within one hundred (100) feet of a residence or office residence district boundary. Outdoor parking of trucks and other commercial vehicles shall be limited to operable, single rear axle vehicles of not more than fifteen thousand (15,000) pounds gross vehicle weight when located within one hundred (100) feet of a residence or office residence district boundary.
  - (1) Increasing weight. The gross vehicle weight limitation for trucks and other commercial vehicles parked within one hundred (100) feet of a residence or office residence district boundary may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. Preference may be given to applications for conditional use permit approval which limit parking to single rear axle vehicles of not more than thirty-three thousand (33,000) pounds gross vehicle weight and which exclude truck tractors or semitrailers. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining gross vehicle weight limitations:
    - a. Number and size of vehicles to be parked.
    - b. Proximity of parking area to residential uses.
    - c. Screening and landscaping of parking area.
    - d. Location of truck routes and amount of truck traffic.
- (c) *Required screening*. All outdoor parking of trucks and other commercial vehicles shall be screened from view as required by this zoning ordinance.
- (d) Parking more than one hundred (100) feet from a residence or office residence district boundary. There shall be no limit on the size of trucks and other commercial vehicles parked more than one hundred (100) feet from a residence or office residence district boundary.
- **550.120.** Signs. Sign requirements for uses in the industrial districts shall be as specified in Chapter 543, On-Premise Signs.
- **550.130. Height.** Except for communication antennas otherwise allowed by administrative review in Chapter 535, Regulations of General Applicability, the maximum height of all principal structures located in the industrial districts shall be four (4) stories or fifty-six (56) feet, whichever is less. Parapets not exceeding three (3) feet in height shall be exempt from such limitations, except where located on single or two-family dwellings or cluster developments.
- **550.140. Increasing maximum height.** The height limitations of principal structures located in the industrial districts may be increased by conditional use permit, subject to the standards of Chapter 525,

Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining the maximum height:

- (1) Access to light and air of surrounding properties.
- (2) Shadowing of residential properties or significant public spaces.
- (3) The scale and character of surrounding uses.
- (4) Preservation of views of landmark buildings, significant open spaces or water bodies.
- **550.150.** Lot dimension and building bulk requirements. (a) Maximum floor area ratio. The maximum floor area ratio for all structures located in the industrial districts shall be two and seven-tenths (2.7). The maximum floor area ratio (F.A.R.) may not be attainable without obtaining conditional use permit approval for increasing maximum height.
- (b) *Minimum lot dimension requirements*. There shall be no minimum lot dimension requirements for uses located in the industrial districts except as specified in Table 550-2, Lot Dimension Requirements in the Industrial Districts.

Table 550-2 Lot Dimension Requirements in the Industrial Districts

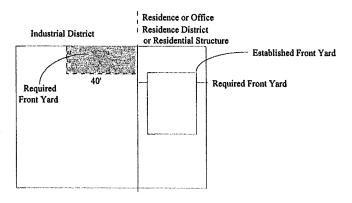
	Minimum Lot Area	Minimum Lot Width
<u>Use</u>	(Square Feet)	(Feet)
INDUSTRIAL USES		
Planned Industrial Development	2 acres	None
COMMERCIAL USES		
Retail Sales and Services		
With drive-through facility	12,000	100
Automobile Services		
With car wash or fuel pump	12,000	100
Automobile sales	12,000	100
Food and Beverages		
With drive-through facility	12,000	100
Transportation	12,000	100
PARKING FACILITIES	5,000	40
RESIDENTIAL USES		
Community correctional facility	5,000 or 750 sq. ft. per room-	40
	ing unit, whichever is greater	
PUBLIC SERVICES AND UTILITIES	As approved by C.U.P	As approved by C.U.P

**550.160.** Yard requirements. (a) *In general*. Unless subject to the provisions of sections (b) and (c) below, uses located in the industrial districts shall not be subject to minimum yard requirements.

- (b) Industrial districts near residence and office residence districts or residential structures.
- (1) Front yard requirements. Where a street frontage includes property zoned as a residence or office residence district and property zoned as an industrial district, or where a street frontage includes structures used for permitted or conditional residential purposes, a front yard equal to the lesser

of the front yard required by such residence or office residence district or the established front yard of such residential structure shall be provided in the industrial district for the first forty (40) feet from such residence or office residence district boundary or residential property.

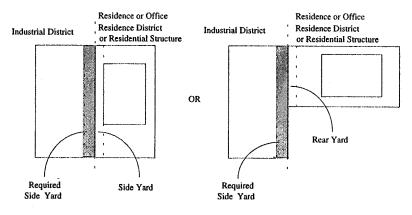
Front Yard Requirement



Industrial Districts: Front Yard Requirement

(2) Side yard requirements. Where a side lot line abuts a side or rear lot line in a residence or office residence district, or abuts a side or rear lot line of a structure used for permitted or conditional residential purposes, a yard equal to the minimum side yard that would be required for a conditional use on the abutting residential lot shall be provided along such side lot line.

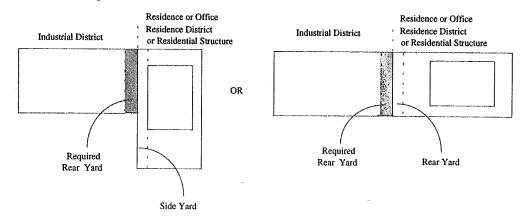
Side Yard Requirements



**Industrial Districts: Side Yard Requirements** 

(3) Rear yard requirements. Where a rear lot line abuts a side or rear lot line in a residence or office residence district, or abuts a side or rear lot line of a structure used for permitted or conditional residential purposes, a yard equal to the minimum side yard that would be required for a conditional use on the abutting residential lot shall be provided along such rear lot line.

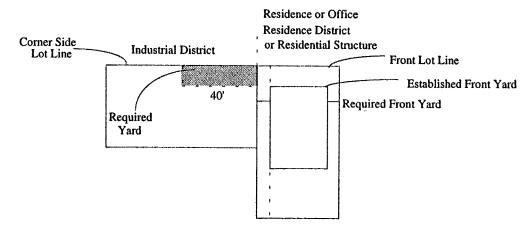
# Rear Yard Requirements



Industrial Districts: Rear Yard Requirements

(4) Reverse corner side yard requirements. Where the extension of a corner side lot line coincides with a front lot line in an adjacent residence or office residence district, or with a front lot line of a structure used for permitted or conditional residential purposes, a yard equal to the lesser of the front yard required by such residence or office residence district or the established front yard of such residential structure shall be provided along such side lot line for the first forty (40) feet from such residence or office residence district boundary or residential property.

# **Reverse Corner Side Yard Requirements**



Industrial Districts: Reverse Corner Side Yard Requirements

(c) Side yard and rear yard requirements for residential uses and hotels. Unless subject to a greater yard requirement in section (b) above, or in Chapter 535, Regulations of General Applicability, residential uses and hotels containing windows facing an interior side yard or rear yard shall provide an interior side

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yard or rear yard of at least five (5) feet plus two (2) feet for each story above the first floor provided that this section (c) shall not require a minimum interior side yard or rear yard greater than fifteen (15) feet. (2000-Or-047, § 1, 5-19-00; 2005-Or-108, § 1, 11-4-05)

- **550.170.** Landscaped yards for nonresidential uses. Required yards for nonresidential uses shall be landscaped as specified in Chapter 530, Site Plan Review. Notwithstanding the obstructions permitted in Chapter 535, Regulations of General Applicability, required interior side yards shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed. Where a rear yard abuts a required side yard, such rear yard shall remain unobstructed from the ground level to the sky, except that fencing shall be allowed.
- 550.180. Compliance with performance standards. All uses in the industrial districts shall comply with all general performance standards contained in Chapter 535, Regulations of General Applicability, and with all other applicable regulations or law.

#### ARTICLE II. I1 LIGHT INDUSTRIAL DISTRICT

- **550.190. Purpose.** The I1 Light Industrial District is established to provide clean, attractive locations for low impact and technology-based light industrial uses, research and development, and similar uses which produce little or no noise, odor, vibration, glare or other objectionable influences, and have little or no adverse effect on surrounding properties.
- **550.200.** Uses. Permitted and conditional uses in the I1 District shall be as specified in section 550.30 and Table 550-1, Principal Uses in the Industrial Districts.
- **550.210.** Enclosed building requirement. (a) *In general*. All production, processing, storage, sales, display or other business activity in the I1 District shall be conducted within a completely enclosed building, except as otherwise provided in sections (b) through (d) below.
  - (b) Outdoor dining. Outdoor dining shall be allowed, provided the following conditions are met:
  - (1) The outdoor dining area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use, as specified in Chapter 530, Site Plan Review.
  - (2) Sidewalk cafes shall comply with the requirements contained in Chapter 265 of the Minneapolis Code of Ordinances, Special Permits for Specific Businesses and Uses.
- (c) Outdoor sales and display. The following uses may include outdoor sales and display provided such outdoor sales and display area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use as specified in Chapter 530, Site Plan Review:
  - (1) Building materials sales.
  - (2) Direct refueling of motor vehicles.
  - (3) Permitted drive-through facilities.
  - (4) Truck, trailer, boat, or recreational vehicle, sales, service or rental, subject to the regulations of this chapter governing the outdoor parking of trucks and other commercial vehicles.
  - (5) Lawn and garden sales.

- (d) *Outdoor speakers*. Outdoor speakers shall not be audible from a residence or office residence district boundary or a permitted or conditional residential use. (2002-Or-092, § 1, 9-13-02; 2006-Or-091, § 2, 7-21-06)
- **550.220.** Food products. Food products uses in the I1 District shall not include live slaughter or the production or processing of cereals, vegetable oil or vinegar.
- **550.230.** Warehousing and distribution; furniture moving and storage. (a) *In general.* Warehousing and distribution uses and furniture moving and storage uses in the I1 District shall be limited to thirty thousand (30,000) square feet of gross floor area.
- (b) Increasing gross floor area. The gross floor area limitation for warehousing and distribution uses and furniture moving and storage uses may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining gross floor area limitations:
  - Proximity to residential uses.
  - (2) Screening and landscaping of truck parking and loading area.
  - (3) Location of truck routes and amount of truck traffic.
- (c) Hazardous materials. Warehousing and distribution uses shall not include the storage of hazardous materials in excess of consumer commodities which are packaged for consumption by individuals for personal care or household use, except as provided in Chapter 535, Regulations of General Applicability, regarding the storage of Class I flammable liquids, flammable gases and flammable liquefied gases.
- **550.240. Automobile sales.** In the I1 District, automobile sales shall be limited to new and vintage passenger automobiles only, except that leased automobiles and used automobiles received in trade may be sold as an accessory use.
- **550.245. Maximum size of food and beverages uses.** Food and beverages uses shall be limited to a maximum gross floor area of five thousand (5,000) square feet. (2007-Or-059, § 1, 8-03-07)
- **550.250.** Fast food restaurants. Fast food restaurants established after the effective date of this ordinance shall be located only in storefront buildings existing on the effective date of this ordinance, provided further that no significant changes shall be made to the exterior of the structure and freestanding signs shall be prohibited, except where the property is part of an area of at least six hundred sixty (660) feet of continuous industrial, C2, C3S or C4 zoning fronting along the same side of the street as the fast food restaurant, without interruption by a residence, office residence, C1, C3A or Pedestrian Oriented Overlay District.

### ARTICLE III. 12 MEDIUM INDUSTRIAL DISTRICT

**550.260. Purpose.** The I2 Medium Industrial District is established to provide locations for medium industrial uses and other specific uses which have the potential to produce greater amounts of noise, odor, vibration, glare or other objectionable influences than uses allowed in the I1 District and which may have an adverse effect on surrounding properties.

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**550.270.** Uses. Permitted and conditional uses in the I2 District shall be as specified in section 550.30 and Table 550-1, Principal Uses in the Industrial Districts.

- **550.280.** Enclosed building requirement. (a) *In general*. All production, processing, storage, sales, display or other business activity in the I2 District shall be conducted within a completely enclosed building, except as otherwise provided in sections (b) through (e) below.
  - (b) Outdoor dining. Outdoor dining shall be allowed, provided the following conditions are met:
  - (1) The outdoor dining area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use, as specified in Chapter 530, Site Plan Review.
  - (2) Sidewalk cafes shall comply with the requirements contained in Chapter 265 of the Minneapolis Code of Ordinances, Special Permits for Specific Businesses and Uses.
- (c) Outdoor sales and display. The following uses may include outdoor sales and display provided such outdoor sales and display area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use as specified in Chapter 530, Site Plan Review:
  - (1) Building materials sales.
  - (2) Direct refueling of motor vehicles.
  - (3) Permitted drive-through facilities.
  - (4) Truck, trailer, boat, or recreational vehicle, sales, service or rental, subject to the regulations of this chapter governing the outdoor parking of trucks and other commercial vehicles.
  - (5) Lawn and garden sales.
- (d) *Outdoor speakers*. Outdoor speakers shall not be audible from a residence or office residence district boundary, or a permitted or conditional residential use.
- (e) *Outdoor storage*. Outdoor storage, and outdoor sales and display not provided for in section (c) above, shall be allowed, provided such outdoor storage area shall be landscaped and screened from view as follows:
  - (1) Areas fronting along or visible from public streets or sidewalks. A landscaped yard at least five (5) feet wide and screening not less than six (6) feet in height and not less than ninety-five (95) percent opaque shall be provided along the public street or sidewalk, as specified in Chapter 530, Site Plan Review.
  - (2) Areas within three hundred (300) feet of a residence or office residence district or adjacent to any zoning district other than an I2 or I3 District. Screening not less than six (6) feet in height and not less than ninety-five (95) percent opaque shall be provided along the property line, as specified in Chapter 530, Site Plan Review. (2002-Or-092, § 2, 9-13-02; 2006-Or-091, § 3, 7-21-06)
  - 550.290. Food products. Food products uses in the I2 District shall not include live slaughter.
- **550.300. Automobile sales.** In the I2 District, automobile sales shall be limited to new and vintage passenger automobiles only, except that leased automobiles and used automobiles received in trade may be sold as an accessory use.

**550.305. Maximum size of food and beverages uses.** Food and beverages uses shall be limited to a maximum gross floor area of five thousand (5,000) square feet. (2007-Or-059, § 2, 8-03-07)

#### ARTICLE IV. 13 GENERAL INDUSTRIAL DISTRICT

**550.310. Purpose.** The I3 General Industrial District is established to provide locations for high impact and outdoor general industrial uses and other specific uses which are likely to have a substantial adverse effect on the environment or on surrounding properties and require special measures and careful site selection to ensure compatibility with the surrounding area.

**550.320.** Uses. Permitted and conditional uses in the I3 District shall be as specified in section 550.30 and Table 550-1, Principal Uses in the Industrial Districts.

**550.330.** Enclosed building requirement. All production, processing, storage, sales, display or other business activity in the I3 District shall be subject to the provisions of this section.

- (1) Outdoor sales and display. The following uses may include outdoor sales and display provided such outdoor sales and display area shall be no closer than twenty (20) feet from an adjacent residence or office residence district boundary or from an adjacent ground floor permitted or conditional residential use, and shall be screened from such district boundary or residential use as specified in Chapter 530, Site Plan Review:
  - a. Building materials sales.
  - b. Direct refueling of motor vehicles.
  - c. Permitted drive-through facilities.
  - d. Truck, trailer, boat, or recreational vehicle, sales, service or rental, subject to the regulations of this chapter governing the outdoor parking of trucks and other commercial vehicles.
  - e. Lawn and garden sales.
- (2) Outdoor speakers. Outdoor speakers shall not be audible from a residence or office residence district boundary, or a permitted or conditional residential use.
- (3) Outdoor storage. Outdoor storage, and outdoor sales and display not provided for in section (b) above, shall be allowed provided such outdoor storage area shall be landscaped and screened from view as follows:
  - a. Areas fronting along or visible from public streets or sidewalks. A landscaped yard at least five (5) feet wide and screening not less than six (6) feet in height and not less than ninety-five (95) percent opaque shall be provided along the public street or sidewalk, as specified in Chapter 530, Site Plan Review.
  - b. Areas within three hundred (300) feet of a residence or office residence district or adjacent to any zoning district other than an I2 or I3 District. Screening not less than six (6) feet in height and not less than ninety-five (95) percent opaque shall be provided along the property line, as specified in Chapter 530, Site Plan Review.
- (4) Outdoor production or processing. Outdoor production or processing shall be allowed in the I3 District, provided such outdoor production or processing area shall be no closer than three

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hundred (300) feet from a residence or office residence district boundary or a ground floor permitted or conditional residential use, and shall be landscaped and screened from view as follows:

- a. Areas fronting along or visible from public streets or sidewalks. A landscaped yard at least ten (10) feet wide and screening not less than eight (8) feet in height and not less than ninety-five (95) percent opaque shall be provided along the public street or sidewalk, as specified in Chapter 530, Site Plan Review.
- All other areas. Screening not less than eight (8) feet in height and not less than ninety-five (95) percent opaque shall be provided along the property line, as specified in Chapter 530, Site Plan Review.

(2006-Or-091, § 4, 7-21-06)

550.340. Food products. Food products uses in the I3 District shall not include live slaughter.

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ZONING CODE 551.60

#### CHAPTER 551. OVERLAY DISTRICTS

#### ARTICLE I. GENERAL PROVISIONS

**551.10. Purpose.** Overlay districts are established to preserve and protect the natural environment, to encourage pedestrian-oriented design, to promote redevelopment and rehabilitation, to promote mixed-use development, and to protect the public health, safety and welfare by preserving the unique character of existing areas for future use and development.

# **551.20.** Establishment of overlay districts. The overlay district names are:

PO Pedestrian Oriented Overlay District

LH Linden Hills Overlay District

IL Industrial Living Overlay District

TP Transitional Parking Overlay District

SH Shoreland Overlay District

FP Floodplain Overlay District

MR Mississippi River Critical Area Overlay District

DP Downtown Parking Overlay District

**B4H** Downtown Housing Overlay District

DH Downtown Height Overlay District

NM Nicollet Mall Overlay District

HA Harmon Area Overlay District

NP North Phillips Overlay District

(2003-Or-018, § 1, 1-31-03)

- **551.30.** Relationship to other applicable regulations. Property located within an overlay district shall be subject to the provisions of both the primary zoning district and the overlay district. Because overlay district regulations may be more or less restrictive than the primary zoning district, where the provisions of the overlay and primary zoning districts are in conflict, the provisions of the overlay district shall govern.
- **551.40.** Established boundaries. Overlay district boundaries shall be as specified in the individual overlay district regulations. The overlay district designation shall be shown on the zoning map in addition to the primary zoning district designation.
- **551.50.** Eligible areas outside of established boundaries. The city council may designate areas outside of the established boundaries in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement. In addition, any person having a legal or equitable interest in property located within eligible areas, as specified in the individual overlay district regulations, but outside of the established boundaries, may file a petition to request the addition of an overlay district classification to their property in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement.

### ARTICLE II. PO PEDESTRIAN ORIENTED OVERLAY DISTRICT

**551.60. Purpose.** The PO Pedestrian Oriented Overlay District is established to preserve and encourage the pedestrian character of commercial areas and to promote street life and activity by regulating building orientation and design and accessory parking facilities, and by prohibiting certain high impact and automobile-oriented uses.

- **551.70.** Established boundaries. The boundaries of the PO Overlay District shall be the areas shown on the official zoning map.
- **551.80.** Eligible areas outside of established boundaries. Any person having a legal or equitable interest in property located outside of the established boundaries may file a petition to request the addition of the PO Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement. The following criteria shall be considered when designating a PO Overlay District:
  - (1) The level of pedestrian interest and activity.
  - (2) The variety of retail sales and services activities.
  - (3) The extent to which properties have limited or no front setbacks.
  - (4) The availability of public transit service in the area.

# 551.90. Prohibited uses. The following uses shall be prohibited in the PO Overlay District:

- (1) Drive-through facilities.
- (2) Automobile services uses.
- (3) Transportation uses.
- **551.100. Fast food restaurants.** Fast food restaurants shall be located only in storefront buildings existing on the effective date of this ordinance, provided further that no significant changes shall be made to the exterior of the structure and freestanding signs shall be prohibited.
- **551.110.** Building placement. The placement of buildings shall reinforce the street wall, maximize natural surveillance and visibility, and facilitate pedestrian access and circulation. The first floor of buildings shall be located not more than eight (8) feet from the front lot line, except where a greater yard is required by this zoning ordinance. In the case of a corner lot, the building wall abutting each street shall be located not more than eight (8) feet from the lot line, except where a greater yard is required by this zoning ordinance. The area between the building and the lot line shall include amenities such as landscaping, tables and seating. Buildings shall be oriented so that at least one (1) principal entrance faces the public street rather than the interior of the site.
- **551.120.** Building facade. (a) Window area. At least forty (40) percent of the first floor facade of any nonresidential use that faces a public street or sidewalk shall be windows or doors of clear or lightly tinted glass that allow views into and out of the building at eye level. Windows shall be distributed in a more or less even manner. Minimum window area shall be measured between the height of two (2) feet and ten (10) feet above the finished level of the first floor.
- (b) Awnings and canopies. Awnings and canopies are encouraged in order to provide protection for pedestrians and shall be placed to emphasize individual uses and entrances. Back-lighted awnings and canopies shall be prohibited.
- **551.130. Prohibited on-premise signs.** The following on-premise signs shall be prohibited in the PO Overlay District:
  - (1) Pole signs.
  - (2) Back-lighted awning and canopy signs.
  - (3) Back-lighted insertable panel projecting signs.

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- **551.140.** Accessory parking. (a) *Location*. On-site accessory parking facilities shall be located to the rear or interior side of the site, within the principal building served, or entirely below grade.
  - (b) Dimensions. Parking lots shall be limited to not more than sixty (60) feet of street frontage.
- (c) *Driveways*. The driveway width for all parking facilities shall not exceed twenty (20) feet of street frontage.
- (d) *Shared parking*. The development of shared parking is encouraged, subject to the provisions of Chapter 541, Off-site Parking and Loading.
- (e) Off-site parking. When off-site parking is allowed as specified in Chapter 541, Off-Street Parking and Loading, parking may be located an additional five hundred (500) feet from the use served, subject to the requirements of Chapter 541, Off-Street Parking and Loading, governing the location of off-site parking.
- (f) Maximum number of accessory parking spaces. The number of accessory parking spaces for nonresidential uses shall not exceed one hundred fifty (150) percent of the minimum required parking spaces, as specified in Chapter 541, Off-Street Parking and Loading, or ten (10) spaces, whichever is greater, except where it is determined by the zoning administrator that such excess parking spaces serve to provide parking for another use or uses subject to the requirements of this section.
- **551.150.** Lake and Hennepin area. The following additional regulations shall govern development within the PO Overlay District in and around the intersection of West Lake Street and Hennepin Avenue South, as shown on the official zoning map:
  - (1) Travel demand management plan. All development containing more than four thousand (4,000) square feet of new or additional gross floor area, or more than four (4) new or additional parking spaces, shall include a travel demand management plan (TDM) that addresses the transportation impacts of the development on air quality, parking and roadway infrastructure. The planning director, in consultation with the city engineer, shall conduct the administrative review of the TDM. The planning director shall recommend to the zoning administrator any mitigating measures deemed reasonably necessary, who shall include such recommendation as a condition of the issuance of any building permit, zoning certificate or other approval required by this zoning ordinance or other applicable law. All findings and decisions of the planning director shall be final, subject to appeal to the city planning commission, as specified in Chapter 525, Administration and Enforcement.
- **551.155.** Nicollet Franklin area. The following additional regulations shall govern development within the PO Overlay District along Nicollet Avenue from Franklin Avenue on the north to the Midtown Greenway/Hennepin County Regional Railroad Authority right-of-way on the south, and generally from the alley to the east to the alley on west unless other wise shown; Franklin Avenue between LaSalle Avenue and I35W; and 26th Street between Nicollet Avenue and the alley between Stevens Avenue and 2nd Avenue S., as shown on the official zoning map:
  - (1) Bicycle parking requirement.
    - a. Nonresidential uses. Each nonresidential use shall provide a minimum of two (2) bicycle parking spaces or one (1) space for each ten (10) accessory automobile parking spaces, whichever is greater.
    - b. *Multiple-family dwellings*. For multi-family residential uses, a minimum of one (1) secured bicycle parking space shall be provided for each dwelling unit. Bicycle parking spaces shall be in enclosed and secured or supervised areas providing protection for each bicycle from theft, vandalism and weather.

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- (2) Travel demand management plan. All development containing more than ten thousand (10,000) square feet of new or additional commercial gross floor area or more than seventy-five (75) residential units, shall include a travel demand management plan (TDM) that addresses the transportation impacts of the development on air quality, parking and roadway infrastructure. The planning director, in consultation with the city engineer, shall conduct the administrative review of the TDM. The planning director shall recommend to the zoning administrator any mitigating measures deemed reasonably necessary, who shall include such recommendation as a condition of the issuance of any building permit, zoning certificate or other approval required by this zoning ordinance or other applicable law. All findings and decisions of the planning director shall be final, subject to appeal to the city planning commission, as specified in Chapter 525, Administration and Enforcement.
- (3) Building alteration or replacement. The alteration of an existing building shall not result in a reduction of the existing number of stories (e.g., a two-story building shall not be reduced to a one-story building or be replaced by less than a two-story building).
- (4) Minimum floor area. New development in Commercial, OR2 and OR3, and Industrial districts shall be subject to a minimum floor area ratio requirement of one (1.0). Individual phases of a phased development may be less than this minimum, provided the entire development meets the minimum requirement. This requirement shall not apply to the expansion of buildings existing on the effective date of this section.
- (5) Corner cuts. New development on the corner of two (2) street rights-of way shall have a setback at the sidewalk level on the corner of the building. This setback shall be no less than two (2) feet and no greater than eight (8) feet from the corner of the property.
- (6) Linear frontage of one (1) use. No single commercial use in one (1) building shall extend along more than one hundred and twenty (120) linear feet of the first floor facade fronting any street. (2007-Or-068, § 1, 8-31-07)
- **551.160.** Dinkytown area. The following additional regulations shall govern development within the PO Overlay District in and around the intersection of Fourth Street Southeast and Fourteenth Avenue Southeast, as shown on the official zoning map:
  - (1) Off-street parking. Nonresidential uses shall not be required to provide accessory off-street parking facilities, provided that existing accessory parking facilities shall not be reduced below the requirements for a similar new use, or if existing accessory parking facilities are less than the requirements specified in Chapter 541, Off-Street Parking and Loading, they shall not be reduced further.
- **551.165. South Lyndale Avenue area.** The following additional regulations shall govern development within the PO Overlay District along South Lyndale Avenue south of Minnehaha Parkway, as shown on the official zoning map:
  - (1) Bicycle parking requirement.
    - a. Nonresidential uses. Each nonresidential use shall provide a minimum of two (2) bicycle parking spaces or one (1) space for each ten (10) accessory automobile parking spaces, whichever is greater.
    - b. Multiple-family dwellings. For multi-family residential uses, a minimum of one (1) secured bicycle parking space shall be provided for each dwelling unit. Bicycle parking spaces shall be in enclosed and secured or supervised areas providing protection for each bicycle from theft, vandalism and weather. (2007-Or-072, § 1, 9-21-07)

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**551.170.** Central and Lowry area. The following additional regulations shall govern development within the PO Overlay District in and around the intersection of Central Avenue Northeast and Lowry Avenue Northeast, as shown on the official zoning map:

- (1) Drive-through banking facilities. Notwithstanding any other provision to the contrary, an existing drive-through banking facility may be rebuilt or may add one (1) additional drive-through lane provided the drive-through banking facility or additional drive-through lane is located within the boundaries of the zoning lot existing on the effective date of this ordinance, and subject to all other applicable regulations of this zoning ordinance.
- (2) Building alteration or replacement. The alteration of an existing building shall not result in a reduction of the existing number of stories (e.g., a two-story building shall not be reduced to a one-story building or be replaced by less than a two-story building).

(2002-Or-089, § 1, 8-23-02; 2004-Or-088, § 1, 8-6-04)

**551.175. Transit Station areas.** The following additional regulations shall govern development within PO Overlay Districts in and around the following existing or proposed transit stations, as shown on the official zoning maps:

Cedar-Riverside LRT Station

Franklin Avenue LRT Station

Lake Street/Midtown LRT Station

38th Street LRT Station

46th Street LRT Station

University Avenue Southeast and 29th Avenue Southeast

- (1) Prohibited uses. The following uses shall be prohibited in the PO Overlay District:
  - a. Self service storage.
  - b. Commercial parking lots, including the expansion of any existing commercial parking lot.
  - c. The conversion of any accessory parking lot to a commercial parking lot.
- (2) Wholesaling, warehousing and distribution; furniture moving and storage. Uses shall be limited to thirty thousand (30,000) square feet of gross floor area.
- (3) Density bonuses. Where the primary zoning district provides a density bonus, such bonus shall be thirty (30) percent.
- (4) Minimum floor area. New development shall be subject to a minimum floor area ratio requirement, as specified in Table 551-0, Transit Station Area Minimum Floor Area Ratio Requirements. Individual phases of a phased development may be less than this minimum, provided the entire development meets the minimum requirement. This requirement shall not apply to the expansion of buildings existing on the effective date of this section.

Table 551-0 Transit Station Area Minimum Floor Area Ratio Requirements

Transit Station Area	Minimum FAR				
	Commercial, OR2	Residence and			
	and OR3 Districts	Districts	OR1 Districts		
Cedar-Riverside	1.0	1.0	none		
Franklin Avenue	1.0	1.0	none		
Lake Street/Midtown	1.0	1.0	none		
38th Street	1.0	1.0	none		

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Transit Station Area	Minimum FAR			
	$Commercial,\ OR2$	Industrial	Residence and	
	$and \ OR3 \ Districts$	Districts	OR1 Districts	
46th Street	1.0	1.0	none	
University Avenue Southeast and 29th Ave-	1.0	1.0	none	
nue Southeast				

- (5) Off-street parking.
  - (a) Nonresidential uses. The minimum off-street parking requirement shall be seventy-five (75) percent of the number specified in Chapter 541, Off-Street Parking and Loading.
  - (b) Multiple-family dwellings. The minimum off-street parking requirement shall be ninety (90) percent of the number specified in Chapter 541, Off-Street Parking and Loading.
- (6) Bicycle parking requirement.
  - (a) Nonresidential uses. Each nonresidential use shall provide a minimum of two (2) bicycle parking spaces or one (1) space for each ten (10) accessory automobile parking spaces, whichever is greater.
  - (b) *Multiple-family dwellings*. For multi-family residential uses, a minimum of one secured bicycle parking space shall be provided for each dwelling unit. Bicycle parking spaces shall be in enclosed and secured or supervised areas providing protection for each bicycle from theft, vandalism and weather.

(2005-Or-006, § 1, 1-14-05; 2005-Or-062, § 1, 7-22-05; 2007-Or-038, § 1, 6-15-07)

## ARTICLE III. LH LINDEN HILLS OVERLAY DISTRICT

**551.180. Purpose.** The LH Linden Hills Overlay District is established to preserve and promote the pedestrian character of the Linden Hills commercial districts, to establish parking requirements for certain high impact uses, to reduce the impact of commercial uses and off-street parking and loading facilities on adjacent properties, to maintain the economic viability of the Linden Hills commercial districts while retaining a core of businesses providing neighborhood services, and to mitigate the impacts of vehicular speeds and congestion in the neighborhood. Small, neighborhood scale commercial uses are encouraged.

**551.190.** Established boundaries. All land located within the established boundaries of the LH Overlay District shall be subject to the requirements of this chapter. All applicants are encouraged to meet with the designated neighborhood organizations to discuss and review proposed plans for development within the Linden Hills commercial districts. The boundaries of the LH Overlay District shall be the areas known as the following as shown on the official zoning map:

- (1) Forty-third Street West and Upton Avenue South commercial district.
- (2) Forty-fourth Street West and Beard Avenue South commercial district.

**551.200.** Prohibited uses. The following uses shall be prohibited in the LH Overlay District:

- (1) Drive-through facilities.
- (2) Automobile services uses.
- (3) Video stores of more than two thousand (2,000) square feet gross floor area.
- (4) Bicycle and in-line skate rental.

- **551.210.** Commercial deliveries. All commercial deliveries and shipments of products, merchandise or supplies shall conform to existing road and truck use restrictions on residential streets, and are encouraged to be provided by use of straight trucks or smaller vehicles and not semi-tractor trailers.
- **551.220.** Fast food restaurants. Fast food restaurants shall be located only in storefront buildings existing on the effective date of this ordinance, provided further that no significant changes shall be made to the exterior of the structure and freestanding signs shall be prohibited.
- **551.230.** Restaurant seating plan. All restaurants and coffee shops shall provide to the zoning administrator a complete accounting of the number of seats in the establishment, including all indoor and outdoor customer seating, and shall conspicuously post upon the premises the legal seating permitted and approved site plan for outdoor seating, if any.
- **551.240.** Building placement. The placement of buildings shall reinforce the street wall, maximize natural surveillance and visibility, and facilitate pedestrian access and circulation. The first floor of buildings shall be located not more than eight (8) feet from the front lot line, except where a greater yard is required by

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this zoning ordinance. The area between the building and the lot line shall include amenities such as landscaping, tables and seating. Buildings shall be oriented so that at least one (1) principal entrance faces the public street rather than the interior of the site.

- 551.250. Building facade. (a) Window area. At least forty (40) percent of the first floor facade of any nonresidential use that faces a public street or sidewalk, shall be windows or doors of clear or lightly tinted glass that allow views into and out of the building. Windows shall be distributed in a more or less even manner. Minimum window area shall be measured between the height of two (2) feet and ten (10) feet above the finished level of the first floor.
- (b) Awnings and canopies. Awnings and canopies are encouraged to provide protection for pedestrians and shall be placed to emphasize individual storefronts and entrances. Plastic, vinyl or similar material and back-lighted awnings shall be prohibited.

**551.260. Prohibited on-premise signs.** The following on-premise signs shall be prohibited in the LH Overlay District:

- (1) Pole signs.
- (2) Back-lighted awning signs.
- (3) Back-lighted insertable panel projecting signs.
- **551.270.** Accessory parking. (a) *Location*. On-site accessory parking facilities established after June 1, 1997 shall be located to the rear or interior side of the site, within the principal building served, or entirely below grade.
  - (b) Dimensions. Parking lots shall be limited to not more than sixty (60) feet of street frontage.
- (c) Driveways. Driveway width for all parking areas shall not exceed twenty (20) feet of street frontage. Parking areas existing on or before June 1, 1997 shall not be affected by this provision regardless of the amount of street frontage, provided that street frontages shall not be increased beyond the limits of this section.

**551.280.** Specific parking requirements. Accessory off-street parking shall be provided as specified in Table 551-1, LH Overlay District Minimum Off-Street Parking Requirements.

Table 551-1LH Overlay District Minimum Off-Street Parking Requirements

Use	Minimum Parking Requirement	Specific Parking Standards
Video store not more than 2,000	1 space per 250 square feet of	Nonconforming parking rights
square feet of gross floor area	gross floor area but not less than	shall apply. Off-site parking
-	4 spaces.	shall be prohibited.
Bank or financial institution	1 space per 300 square feet of	Off-site parking shall be permit-
	gross floor area but not less than	ted within 300 feet of the prop-
	4 spaces.	erty line.
Grocery store	1 space per 300 square feet of	Off-site parking shall be prohib-
	gross floor area but not less than	ited.
,	4 spaces.	
Coffee shop	1 space per 3 seats but not less	Off-site parking shall be prohib-
_	than 4 spaces.	ited.

Use	Minimum Parking Requirement	Specific Parking Standards
Restaurants without wine or beer	1 space per 3 seats but not less than 4 spaces	Off-site parking permitted within 300 feet of the main entrance of the premises to the property line of the parking lot.
Restaurants with wine or beer	1 space per 3 seats but not less than 4 spaces. Parking shall be provided for all customer seat- ing, including outdoor seating.	Off-site parking permitted within 300 feet of the main entrance of the premises to the property line of the parking lot.

551.290. Maximum number of accessory parking spaces. The number of accessory parking spaces for nonresidential uses shall not exceed one hundred fifty (150) percent of the minimum required parking spaces, as specified in Chapter 541, Off-street Parking and Loading, except where it is determined by the zoning administrator that such excess parking spaces serve to provide parking for another use, subject to the requirements of this section. Parking areas existing on or before June 1, 1997 shall not be affected by this provision provided that the amount of off-street parking shall not be increased if it is already in excess of one hundred fifty (150) percent of the minimum required parking.

**551.300.** Site plan review required. The following shall be subject to the standards of Chapter 530, Site plan Review, and the site plan review standards of this article:

- (1) All uses listed in Chapter 530, Site Plan Review.
- (2) Any increase in gross floor area to three thousand (3,000) square feet or more through expansion of an existing building or construction of a new building.
- (3) Any increase in impervious parking surface area that results in a principal or accessory parking facility of ten (10) or more spaces.

**551.310. LH Overlay District site plan review requirements.** All uses subject to site plan review shall comply with the standards of Chapter 530, Site Plan Review, and the following requirements:

- (1) Commercial buildings adjacent to residence or office residence districts. Commercial buildings on property adjacent to a residence or office residence district boundary shall comply with the following:
  - a. Exterior materials and appearance of the rear and side walls of any building shall be the same as the front of the building.
  - b. A landscaped setback area of at least five (5) feet containing evergreen or deciduous shrubs that form a continuous screen not less than three (3) feet nor more than six (6) feet in height within two (2) years shall be provided between any building and the residence or office residence district boundary. The city planning commission may consider the substitution of a decorative fence or masonry wall in lieu of planted materials.
- (2) Parking areas fronting along public streets. Parking areas fronting along a public street shall comply with the following:
  - a. A landscaped setback area of at least five (5) feet containing evergreen or deciduous shrubs that form a continuous screen three (3) feet in height within two (2) years shall be provided between the parking area and public street. The city planning commission may consider the substitution of a decorative fence, masonry wall or similar architectural feature in lieu of planted materials.

- b. One canopy tree at least three (3) inches in caliper shall be provided for every fifteen (15) feet of parking lot frontage. Trees shall be planted between the parking area and the sidewalk, or between the sidewalk and the street.
- (3) Parking areas adjacent to residence or office residence districts. Parking areas adjacent to a residence or office residence district boundary shall provide a six (6) foot decorative solid fence or a landscaped setback area of at least five (5) feet containing evergreen or deciduous shrubs that form a continuous screen not less than three (3) feet nor more than six (6) feet in height within two (2) years between the parking area and the residence or office residence district boundary.
- (4) *Maneuvering and loading*. Any expansion of an existing building or construction of a new building resulting in a gross floor area of five thousand (5,000) square feet or more shall be subject to the following additional standards:
  - a. Vehicle maneuvering. In order to encourage pedestrian activity and to enhance public safety to the extent practical, all vehicle maneuvers associated with parking and loading shall occur in the off-street parking or loading area or structure. Public streets shall not be used to conduct any parking maneuver, including backing out onto the street.
  - b. *Commercial deliveries*. The commercial delivery and shipment of products, merchandise or supplies in straight trucks or smaller vehicles shall be encouraged.
  - c. Shared loading. A loading facility shared by two (2) or more uses may be provided in lieu of one (1) required automobile parking space, subject to the provisions of Chapter 541, Off-street Parking and Loading.
- **551.320.** Exceptions to LH Overlay District site plan review requirements. The city planning commission may approve exceptions to the LH Overlay District site plan review requirements upon finding that the use or development includes site amenities that address any adverse effects of the exception or where the planning commission finds that strict adherence to the requirements is impractical because of site location or conditions.

### ARTICLE IV. IL INDUSTRIAL LIVING OVERLAY DISTRICT

- **551.330. Purpose.** The IL Industrial Living Overlay District is established to encourage the rehabilitation and reuse of existing industrial structures and to provide for limited residential and retail uses in the I1 and I2 Industrial Districts where such uses are compatible with other uses in the area.
- **551.340.** Established boundaries. The boundaries of the IL Overlay District shall be the areas shown on the official zoning map.
- **551.350.** Eligible areas outside of established boundaries. Any person having a legal or equitable interest in property located in the I1 or I2 Industrial Districts outside of the established boundaries may file a petition to request the addition of the IL Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement.
- **551.360. Permitted uses.** (a) *Uses.* In addition to the uses permitted in the primary zoning district, the following uses shall be permitted in the Industrial Living Overlay District, provided such uses shall be located in buildings existing on the effective date of this ordinance:
  - (1) General retail sales and services uses.
  - (2) Antiques and collectibles.

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- (3) Banks and financial institutions.
- (4) Bookstore, new or used.
- (5) Grocery store.
- (6) Laundry, self service.
- (7) Performing, visual or martial arts school.
- (8) Reception or meeting hall.
- (9) Sports and health facility, minor.
- (10) Theater, indoor, provided live performance only.
- (11) Video stores up to four thousand (4,000) square feet.
- (b) Maximum floor area. The gross floor area for the uses permitted in sections (a)(1) through (a)(8) above shall be unlimited, provided the use complies with the floor area ratio requirements of the primary zoning district and provided alterations made to the exterior of the building shall maintain the architectural integrity and character of the building and surrounding area. (2000-Or-092, § 1, 9-29-00; 2002-Or-045, § 1, 5-17-02; 2003-Or-139, § 1, 11-21-03; 2006-Or-017, § 1, 2-10-06)
- **551.370.** Conditional uses. In addition to the conditional uses allowed in the primary zoning district, the following conditional uses may be allowed in the IL Overlay District, subject to the provisions of Chapter 525, Administration and Enforcement.
  - (1) Dwelling units and supportive housing, subject to the following conditions:
    - a. Supportive housing shall be subject to the requirements of Chapter 536, Specific Development Standards.
    - b. Alterations made to the exterior of an existing building shall maintain the architectural integrity and character of the building and surrounding area.
    - c. The maximum height of single and two-family dwellings and cluster developments shall be two and one-half stories (2.5) or thirty-five (35) feet, whichever is less.
    - d. No vibration, excessive dust, noise, light, glare, smoke, odor, truck traffic or other substance or condition, shall be generated by uses in the building that will have an adverse impact on the residential use of the building.
- **551.380. Minimum lot area requirements.** Lot area requirements for residential uses in the IL Overlay District shall be a minimum of nine hundred (900) square feet of lot area per dwelling unit and a minimum of seven hundred fifty (750) square feet per rooming unit, except that in no instance shall the lot area be less than five thousand (5,000) square feet. (2002-Or-185, § 1, 11-22-02; 2002-Or-190, § 1, 12-13-02)
- **551.385. Density bonuses.** (a) *Bonus for enclosed parking*. The maximum number of dwelling units and the maximum floor area ratio of multiple-family dwellings may be increased by twenty (20) percent if all required parking is provided within the building, entirely below grade, or in a parking garage of at least two (2) levels.
- (b) Bonus for affordable housing. The maximum number of dwelling units and the maximum floor area ratio of new cluster developments and new multiple-family dwellings of five (5) units or more may be increased by twenty (20) percent if at least twenty (20) percent of the dwelling units meet the definition of affordable housing. (2002-Or-190, § 2, 12-13-02)

- **551.390. Maximum occupancy.** (a) *Dwelling units.* The maximum occupancy of a dwelling unit located in the IL Overlay District shall not exceed one (1) family plus four (4) unrelated persons living together as a permanent household, provided that the family plus the unrelated persons shall not exceed a total of five (5) persons.
- (b) *Rooming units*. The maximum occupancy of a rooming unit shall be as regulated by Chapter 244 of the Minneapolis Code of Ordinances, Housing Maintenance Code.

#### ARTICLE V. TP TRANSITIONAL PARKING OVERLAY DISTRICT

- **551.400. Purpose.** The TP Transitional Parking Overlay District is established to allow parking lots for passenger automobiles in residence and office residence districts when adjacent to a zoning district in need of additional parking for customers and employees that does not meet the requirements of Chapter 541, Off-Street Parking and Loading.
- **551.410.** Established boundaries. The boundaries of the TP Overlay District shall be the areas shown on the official zoning map.
- **551.420.** Eligible areas outside of established boundaries. Any person having a legal or equitable interest in property located in the residence or office residence districts outside of the established boundaries may file a petition to request the addition of the TP Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement.

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- 551.430. Conditional uses. In addition to the conditional uses allowed in the primary zoning district, the following conditional uses may be allowed in the TP Overlay District, subject to the provisions of Chapter 525, Administration and Enforcement.
  - (1) Parking lot, serving customers and employees only. Parking lots for customer and employee automobiles may be located in the TP Overlay District, subject to Chapter 541, Off-Street Parking and Loading, and the following standards:
    - a. The parcel on which the parking lot is located shall have a side lot line that abuts the zoning district served or shall be part of the zoning lot served.

Street

C or 1
District

C or 1
District

R or OR
District

R or OR
District

District

TP Overlay District

Prohibited

Eligible Location of TP Overlay District

- b. The width of the parking lot shall not exceed seventy-five (75) feet.
- c. The use of the parking lot shall be restricted to the parking of passenger automobiles only. No commercial vehicles shall be parked or stored.
- d. The parking lot shall be closed with a secured gate or other appropriate mechanism between the hours of 10:00 p.m. and 6:00 a.m., except as specifically authorized by the conditional use permit.
- e. The parking lot shall at no time be used for outdoor sales, display or storage.
- f. Each entrance to and exit from such parking lot shall be located at least twenty (20) feet from any adjacent property located in a residence or office residence district.
- g. The parking lot shall be landscaped and screened pursuant to the provisions of Chapter 530, Site Plan Review.
- (2) Access to commercial or industrial districts. Driveways, walkways or other access to land in a commercial or industrial district may be located in the TP Overlay District, subject to Chapter 541, Off-Street Parking and Loading, and the following:
  - a. The parcel on which the access area is located shall have a side lot line that abuts the zoning district served or shall be part of the zoning lot served.

- b. No commercial vehicles shall use such access area.
- c. The access area shall be closed with a secured gate or other appropriate mechanism between the hours of 10:00 p.m. and 6:00 a.m., except as specifically authorized by the conditional use permit.
- d. The access area shall at no time be used for outdoor sales, display or storage.
- e. The access area shall be located at least twenty (20) feet from any adjacent property located in a residence or office residence district.
- f. The access area shall be landscaped and screened pursuant to the provisions of Chapter 530, Site Plan Review.

(2000-Or-048, § 1, 5-19-2000)

#### ARTICLE VI. SH SHORELAND OVERLAY DISTRICT

551.440. Purpose. The SH Shoreland Overlay District is established to preserve and enhance the environmental qualities of surface waters and the natural and economic values of shoreland areas within the city, to provide for the efficient and beneficial utilization of those waters and shoreland areas, to comply with the requirements of state law regarding the management of shoreland areas, and to protect the public health, safety and welfare.

551.450. Established boundaries. The boundaries of the SH Overlay District shall be all land located within the following distances from protected waters: (1) One thousand (1,000) feet from the ordinary highwater mark of a lake, pond, wetland or flowage; or (2) Three hundred (300) feet from a river or stream or the landward extent of the floodplain of such river or stream, whichever is greater. (2000-Or-048, § 2, 5-19-2000)

551.460. Definitions. As used in this article, the following words and phrases shall mean:

Best management practices. Erosion and sediment control and water quality practices that are the most effective and practicable means of controlling, preventing and minimizing degradation of surface water.

Bluff. A steep outcropping, hill, cliff or embankment along a river or stream, with an average slope of eighteen (18) percent or greater measured over a horizontal distance of fifty (50) feet or more, and that rises at least twenty-five (25) feet above the ordinary high water mark of the protected water.

Clear cutting. The removal of an entire stand of trees, shrubs, bushes or similar vegetation.

Development. The erection, construction, reconstruction, relocation or enlargement of any structure except walkways, stairways, retaining walls, light poles, piers, docks and similar structures where accessory to a public park, unenclosed structures up to four hundred (400) square feet and not more than twenty (20) feet wide used for the storage of watercraft where accessory to a public park and if located at least ten (10) feet from the ordinary high water mark of any protected water, and stairways and seasonal docks not exceeding four (4) feet in width where accessory to any other use.

Ordinary highwater mark. A mark delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape. The ordinary highwater mark commonly is that point where natural vegetation changes from predominantly aquatic to predominantly terrestrial.

Protected waters. The following lakes, ponds, wetlands, streams and rivers are protected waters: Brownie Lake, Cedar Lake, Lake of the Isles, Lake Calhoun, Lake Harriet, Lake Nokomis, Lake Hiawatha, Mother Lake, Legion Lake, Cemetery Lake, Diamond Lake, Grass Lake, Powderhorn Lake,

Ryan Lake, Spring Lake, Taft Lake, Birch Pond, Bridal Veil Pond, Loring Pond, Webber Pond, wetlands mapped by the city engineer or classified by the United States Fish and Wildlife Service, Bassett Creek, Minnehaha Creek and Shingle Creek and the Mississippi River.

Steep slope. Land having an average slope of eighteen (18) percent or greater measured over a horizontal distance of fifty (50) feet or more. Steep slopes that are less than ten (10) feet in height shall not be considered a steep slope.

Surface water oriented uses. Land uses in which access to or use of a surface water feature is an integral component, such as boathouses, docks, marinas, observation platforms and water control structures including locks and dams.

Top of steep slope. The contour at which the slope ceases to be eighteen (18) percent or more. (2000-Or-048, § 3, 5-19-2000)

**551.470.** Location of development. The following conditions shall apply to development within the SH Overlay District:

- (1) Development shall not be located within fifty (50) feet of the ordinary high water mark of any protected water, except where approved by a conditional use permit as provided in this article and Chapter 525, Administration and Enforcement.
- (2) Development shall not be located on a steep slope or bluff, or within forty (40) feet of the top of a steep slope or bluff, except where approved by a conditional use permit as provided in this article and Chapter 525, Administration and Enforcement. (2000-Or-048, § 4, 5-19-2000)

551.480. Height of structures. The maximum height of all structures within the SH Overlay District shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The height limitation of principal structures may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards contained in Chapter 525 and this article, the city planning commission shall consider, but not be limited to, the following factors when determining maximum height:

- Access to light and air of surrounding properties.
- (2) Shadowing of residential properties or significant public spaces.
- (3) The scale and character of surrounding uses.
- (4) Preservation of views of landmark buildings, significant open spaces or water bodies.

551.490. Conditional uses. (a) Evaluation criteria. In addition to the conditional use standards contained in Chapter 525, Administration and Enforcement, the city planning commission shall consider the following:

- (1) The prevention of soil erosion or other possible pollution of public waters, both during and after construction.
- (2) Limiting the visibility of structures and other development from protected waters.
- (3) The suitability of the protected water to safely accommodate the types, uses and numbers of watercraft that the development may generate.

- (b) Uses allowed. In addition to the conditional uses allowed in the primary zoning district, the following conditional uses may be allowed in the SH Overlay District, subject to the provisions of Chapter 525, Administration and Enforcement:
  - (1) Development on steep slopes or within forty (40) feet of the top of a steep slope, other than bluffs, where allowed by the primary zoning district, provided the development is not located within fifty (50) feet of the ordinary high water mark of any protected water and there is development on the steep slope within five hundred (500) feet of the proposed development, subject to the following conditions:
    - The foundation and underlying material shall be adequate for the slope condition and soil type.
    - b. The development shall present no danger of falling rock, mud, uprooted trees or other materials.
    - c. The view of the developed slope from the protected water shall be consistent with the natural appearance of the slope, with any historic areas, and with surrounding architectural features.
  - (2) Public parks and surface water-oriented development on steep slopes or within forty (40) feet of the top of a steep slope, other than bluffs, or within fifty (50) feet of the ordinary high water mark of any protected water, where allowed by the primary zoning district, provided the development does not cause a hazard to water navigation.
  - (3) Electrical transmission services of under two hundred twenty (220) kilovolts, subject to the following conditions:
    - a. When routing transmission services, all of the following shall be avoided where practicable:
      - 1. Steep slopes, streams, rivers, valleys and open exposures of water, wetlands, wooded areas, ridge crests and open space recreation areas.
      - 2. Soils susceptible to erosion, which would create sedimentation and pollution problems, and areas of unstable soils which would be subject to extensive slippage.
      - 3. Areas with high water tables, especially if construction requires excavation.
    - b. The structural design of transmission services shall consider the following:
      - 1. Underground placement shall be preferred in order to minimize visual impact. If above ground placement is proposed, the applicant shall describe the economic, technological or land characteristics which make underground placement infeasible.
      - If above ground placement is necessary, the appearance of any structures shall be made as compatible as practicable with the natural area with regard to height, width, materials used and color.
      - The cleared portion of the right-of-way shall be kept to a minimum.
      - 4. Crossing points over protected waters shall be consolidated with other public facilities and rights-of-way so that the smallest area possible is devoted to crossing.
    - c. In the construction of transmission service, effective erosion and sedimentation control programs shall be conducted during all clearing, construction or reconstruction operations in order to prevent the degradation of surface waters and adjacent lands.
    - d. Right-of-way maintenance shall comply with the following:
      - 1. Natural vegetation of value to fish or wildlife, which does not pose a hazard to or restrict reasonable use of the utility, shall be allowed to grow in the right-of-way.

- 2. Where vegetation has been removed, new vegetation consisting of native grasses, herbs, shrubs, and lowgrowing trees shall be planted and maintained on the right-of-way.
- 3. Chemical control of vegetation shall be avoided. Where such methods are necessary, chemicals used and the manner of their use shall be in accordance with rules, regulations and other requirements of all state and federal agencies with authority over the use, and best management practices shall be followed.

(2000-Or-048, § 5, 5-19-2000; 2007-Or-089, § 1, 10-19-07)

- **551.500.** Development on slopes between twelve (12) and eighteen (18) percent. Development on slopes between twelve (12) and eighteen (18) percent, other than bluffs, where allowed by the primary zoning district, provided the development is not located within fifty (50) feet of the ordinary high water mark of any protected water, may be allowed in the SH Overlay District subject to the regulations of this article, Chapter 535, Regulations of General Applicability, and the following conditions:
  - (1) The foundation and underlying material shall be adequate for the slope condition and soil type.
  - (2) The development shall present no danger of falling rock, mud, uprooted trees or other materials.
- (3) The view of the developed slope from the protected water shall be consistent with the natural appearance of the slope, with any historic areas, and with surrounding architectural features. (2000-Or-048, § 6, 5-19-2000)
- **551.510. Grading and filling.** Grading or filling involving more than ten (10) cubic yards where the slope of the land is toward a protected water shall be prohibited within the SH Overlay District except where authorized by an erosion control plan approved by the city engineer and the zoning administrator, subject to the following conditions:
  - (1) The smallest amount of bare ground shall be exposed for as short a time as feasible.
  - (2) Temporary ground cover, such as mulch, shall be used and permanent ground cover, such as turf grass, native grasses or other perennial flowering plants, vines, shrubs or trees shall be established.
  - (3) Best management practices to prevent erosion and trap sediment shall be employed to ensure that soil loss levels do not degrade the protected water.
  - (4) Fill shall be stabilized to accepted engineering standards.
  - (5) Any work which will change or diminish the course, current or cross-section of a protected water shall be prohibited except where approved by the commissioner of natural resources.
  - (6) The top of a riverbank or lake bank shall not be moved closer to the protected water.
  - (7) Such grading or filling shall comply with the provisions of Chapter 52, Erosion and Sediment Control for Land Disturbance Activities, of the Minneapolis Code of Ordinances.
- **551.520.** Removal of vegetation. Removal of vegetation on steep slopes or bluffs or within forty (40) feet of the top of steep slopes or bluffs, or within fifty (50) feet of the ordinary high water mark of any protected water, shall be prohibited within the SH Overlay District except as authorized by the zoning administrator subject to the following conditions:
  - (1) Clear cutting of vegetation shall be prohibited, except as necessary for an approved development and subject to the requirements of this article and Chapter 535, Regulations of General Applicability. This provision shall not prevent the removal of noxious weeds or dead or diseased vegetation.

- (2) Selective removal of vegetation shall be allowed, subject to the requirements of this article and Chapter 535, Regulations of General Applicability, provided sufficient vegetative cover remains to screen parking areas, dwellings and other structures when viewed from the protected water and provided a continuous natural cover is maintained.
- (3) Vegetation shall be restored to the extent feasible after any construction project is completed to retard surface runoff and soil erosion and to provide screening. Restoration shall be completed as soon as feasible, but in no case later than the beginning of the next growing season following the completion of a project.
- (4) Best management practices to prevent erosion and trap sediment shall be employed to ensure that soil loss levels do not degrade the protected water.

(2000-Or-048, § 7, 5-19-2000)

**551.530. Stormwater management.** All development shall comply with all applicable regulations governing stormwater management, and shall employ best management practices to minimize off-site stormwater runoff, maximize overland flow and flow distances over surfaces covered with vegetation, increase on-site filtration, replicate predevelopment hydrologic conditions as nearly as possible, minimize off-site discharge of pollutants to ground and surface water, and encourage natural filtration function.

#### ARTICLE VII. FP FLOODPLAIN OVERLAY DISTRICT

- 551.540. Purpose. The FP Floodplain Overlay District is established to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59-78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program. These regulations govern development within the FP Overlay District in order to minimize damage to property due to flooding and promote public health, safety and welfare. (2004-Or-121, § 1, 10-8-04)
- **551.550.** Established boundaries. (a) *In general*. The boundaries of the FP Overlay District shall include those areas within the regional floodplain boundaries and shall be as established in this article and shown on the official zoning map.
- (b) Floodplain districts. The FP Overlay District shall be divided into two (2) districts: Floodway District and Flood Fringe District. The boundaries of these districts shall be as shown on the official Flood Insurance Rate Map.
- (c) Official maps. The following technical data prepared by the Federal Emergency Management Agency are hereby adopted and incorporated by reference as part of this zoning ordinance: Flood Insurance Study, Volume 1 of 2 and Volume 2 of 2, Hennepin County, Minnesota All Jurisdictions, and the Flood Insurance Rate Map Panels numbered 27053C0212E, 27053C0214E, 27053C0216E, 27053C0217E, 27053C0218E, 27053C0219E, 27053C0352E, 27053C0354E, 27053C0356E, 27053C0367E, 27053C0362E, 27053C0364E, 27053C0366E, 27053C0367E, 27053C0368E, 27053C0369E, 27053C0376E, 27053C0378E, 27053C0379E, 27053C0386E, 27053C0387E, 27053C0388E, and 27053C0389E, for the City of Minneapolis, dated September 2, 2004, as developed by the Federal Emergency Management Agency. The Official Map shall be on file in the office of the Zoning Administrator.
- (d) *Interpretation*. Where interpretation is needed as to the exact location of the boundaries of the Floodway and Flood Fringe Districts, as shown on the official zoning map, as for example, where there appears to be a conflict between a mapped boundary and actual field conditions, the zoning administrator shall make the necessary interpretation. All decisions shall be based on the regional (100 year) flood profile and other available technical data.

(e) Removal of flood hazard area designation. The Federal Emergency Management Agency (FEMA) has established criteria for removing the special flood hazard area designation for certain structures properly elevated on fill above the regional flood elevation. FEMA's requirements incorporate specific fill compaction and side slope protection standards for multiple-structure or multiple-lot developments. These standards should be investigated prior to the initiation of site preparation if a change of special flood hazard area designation will be requested. (2004-Or-121, § 1, 10-8-04)

**551.560.** Warning and disclaimer of liability. This article does not imply that areas outside the FP Overlay District or land uses permitted within such overlay district will be free from flooding or flood damage. This article shall not create liability on the part of the City of Minneapolis or any officer or employee of the city for any flood damages that result from reliance on this article or any administrative decision lawfully made regarding this article. (2004-Or-121, § 1, 10-8-04)

551.570. Definitions. As used in this article, the following words and phrases shall mean:

Basement. Any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four (4) sides, regardless of the depth of excavation below ground level.

Equal degree of encroachment. A method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.

*Flood.* The increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the overflowing of water onto land that is usually devoid of surface water.

Flood, regional. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the one hundred (100) year recurrence interval. Regional flood is synonymous with the term "base flood" used in the Flood Insurance Study.

*Flood frequency*. The frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

Flood Fringe District. Those areas shown on the Flood Insurance Rate Map as adopted in this article as being within Zone AE, Zone AO, or Zone AH but being located outside the floodway. Where the floodway is not shown for flood zone AE on a lake the flood fringe shall be the area above the Ordinary High Water (OHW) elevation, provided compensating flood water storage is created for any filling or obstruction placed below the one hundred (100) year flood level.

*Floodplain*. Those areas shown on the Flood Insurance Rate Map as adopted in this article as being within Zone AE, Zone AO, or Zone AH.

*Floodproofing*. A combination of structural provisions, changes or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.

Floodway District. Those areas designated as floodway on the Flood Insurance Rate Map as adopted in this article.

Lowest Floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor.

Manufactured Home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle".

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Obstruction. Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

*Reach.* A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or manmade obstruction. In an urban area, the segment of a stream or river between two (2) consecutive bridge crossings would most typically constitute a reach.

Regulatory flood protection elevation. An elevation not less than one (1) foot above the water surface elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway. Within the AO Zones designated on the Flood Insurance Rate Map, this elevation shall be at least one (1) foot greater than the elevation of the highest ground surface adjacent to the proposed structure prior to construction next to the proposed walls of any structure or addition to be constructed.

Substantial Damage. Damage of any origin sustained by a structure where the cost of materials and labor to restore the structure to its before-damaged condition would equal or exceed fifty (50) percent of the market value of the structure before damage occurred.

Substantial Improvement. Within any consecutive one year (365 day) period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction" of the improvement. This term includes the cost of materials and labor to repair structures which have incurred damage which equals or exceeds fifty (50) percent of the market value. This term does not include any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions. This term also does not include any alteration of an "historic structure" provided that the alteration will not preclude the structure's continued designation as an "historic structure". For the purpose of this article, "historic structure" shall be as defined in Code of Federal Regulations, Part 59.1. (2004-Or-121, § 1, 10-8-04; 2007-Or-089, § 2, 10-19-07)

- **551.580.** Administrative provisions. (a) *Permit required*. A permit shall be issued prior to the construction, addition, alteration, repair, or rehabilitation (including normal maintenance and repair) of any building or structure; prior to the construction of a dam, fence, or on-site sewage treatment system; prior to the change or expansion of a nonconformity; and prior to the placement of fill, storage of materials, or excavation of materials within the floodplain.
- (b) Zoning certificate required. In addition to those matters which require a zoning certificate, as specified in Chapter 525, Administration and Enforcement, a zoning certificate shall be obtained prior to any placement of fill, excavation of materials, or storage of materials or equipment within the FP Overlay District.
- (c) Certification. An applicant for a zoning certificate shall submit certification to the zoning administrator by a registered professional engineer, registered architect or registered land surveyor that the finished fill and building elevations meet the requirements of this article Floodproofing measures shall be certified by a registered professional engineer or registered architect.

- (d) Record of first floor elevation. The zoning administrator shall maintain a record of the elevation of the lowest floor (including the basement) of all new structures and structural alterations to existing structures in the FP Overlay District. The zoning administrator also shall maintain a record of the elevation to which structures and alterations to structures are floodproofed.
- (e) Evaluation criteria for conditional uses. In addition to the conditional use standards contained in Chapter 525, Administration and Enforcement, the city planning commission shall consider the following evaluation criteria for conditional uses located within the FP Floodplain Overlay District:
  - (1) The danger to life and property due to increased flood heights or velocities caused by encroachments.
  - (2) The danger that materials may be swept onto other lands or downstream to the injury of others or they may block bridges, culverts or other hydraulic structures.
  - (3) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination and unsanitary conditions.
  - (4) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
  - (5) The importance of the services provided by the proposed facility to the community.
  - (6) The requirements of the facility for a waterfront location.
  - (7) The availability of alternative locations not subject to flooding for the proposed use.
  - (8) The relationship of the proposed use to the floodplain management program for the area.
  - (9) The safety of access to the property in times of flood for ordinary and emergency vehicles.
  - (10) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
  - (11) Such other factors which are relevant to the purposes of this article.
- (f) Conditional use permit conditions and guarantees. The city planning commission may impose such conditions on any proposed conditional use permit and require such guarantees as it deems reasonable and necessary to protect the public interest and to ensure compliance with the standards and purposes of this zoning ordinance and policies of the comprehensive plan, including but not limited to the following:
  - Modification of waste treatment and water supply facilities.
  - (2) Limitations on period of use, occupancy and operation.
  - (3) Imposition of operational controls, sureties and deed restrictions.
  - (4) Requirements for construction of channel modifications, compensatory storage, dikes, levees and other protective measures.
  - (5) Floodproofing measures, in accordance with the State Building Code and this zoning ordinance.

- (g) Flood insurance notice and record keeping. The zoning administrator shall notify the applicant for a variance, as authorized in Chapter 525, Administration and Enforcement, of the following. Such notification shall be maintained with a record of all variance actions, including the basis for their issuance. The zoning administrator shall report such variances issued in an annual or biennial report submitted to the administrator of the National Flood Insurance Program.
  - (1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage.
  - (2) Such construction below the regional flood level increases the risks to life and property.
- (h) Notifications for Watercourse Alterations. The Zoning Administrator shall notify, in riverine situations, adjacent communities and the Commissioner of the Department of Natural Resources prior to the community authorizing any alteration or relocation of a watercourse. If the applicant has applied for a permit to work in the beds of public waters pursuant to Minnesota Statute, Chapter 103G, this shall suffice as adequate notice to the Commissioner of Natural Resources. A copy of said notification shall also be submitted to the Chicago Regional Office of the Federal Emergency Management Agency (FEMA).
- (i) Notification to FEMA When Physical Changes Increase or Decrease the 100 year Flood Elevation. As soon as is practicable, but no later than six (6) months after the date such supporting information becomes available, the Zoning Administrator shall notify the Chicago Regional Office of FEMA of the changes by submitting a copy of said technical or scientific data. (2004-Or-121, § 1, 10-8-04)
- **551.590. General provisions.** (a) *Use of fill.* Fill, dredge spoils and all other similar materials deposited or stored in the FP Overlay District shall be properly compacted and the slopes shall be properly protected by the use of riprap, vegetative cover or other acceptable methods. Such use of fill and similar materials shall comply with the provisions of Chapter 52, Erosion and Sediment Control for Land Disturbance Activities, of the Minneapolis Code of Ordinances.
- (b) *Public utilities*. All public utilities and facilities such as gas, electrical, sewer, and water supply systems shall be floodproofed in accordance with the State Building Code or elevated to above the regulatory flood protection elevation.
- (c) On-site sewage treatment and water supply systems. Where public utilities are not provided, uses shall comply with the following:
  - (1) On-site water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.
  - (2) New or replacement on-site sewage treatment systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters. Such systems shall not be subject to impairment or contamination during times of flooding. Any sewage treatment system designed in accordance with the state's current statewide standards for on-site sewage treatment systems shall be determined to be in compliance with this article.
- (d) Public transportation facilities. Streets, railroad tracks and bridges located within the floodplain shall be designed to minimize increases in flood elevations and shall be compatible with local comprehensive floodplain development plans. Protection to the regulatory flood protection elevation shall be provided where failure or interruption of these public facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Where failure or interruption of service would not endanger life or health, a lesser degree of protection may be provided for minor or auxiliary streets or railroads. (2004-Or-121, § 6, 10-8-04)

- **551.600.** Prohibited uses in the FP Overlay District. (a) *In general*. All uses not allowed as permitted or conditional uses by this article shall be prohibited, regardless of the underlying primary zoning district.
- (b) Waste transfer or disposal facilities. Waste transfer, treatment or disposal facilities shall be prohibited.
- (c) Manufactured homes and manufactured home parks. Manufactured homes, manufactured home parks, and recreational vehicles greater than four hundred (400) square feet in area shall be prohibited. (2004-Or-121, § 7, 10-8-04)
- **551.610. Permitted uses in the Floodway District.** Permitted uses in the Floodway District shall be limited to the following uses, provided such uses shall have a low flood damage potential, shall not obstruct flood flows or increase flood elevations, shall not involve structures, fill, obstructions, excavations or storage of materials, and shall be permitted in the underlying primary zoning district:
  - (1) Outdoor plant nurseries.
  - (2) Parking and loading areas.
  - (3) Recreational open space uses such as golf courses, tennis courts, driving ranges, archery ranges, public parks, boat launching ramps, swimming areas, play areas, wildlife and nature preserves, and hiking and horseback riding trails.
  - (4) Lawns and gardens. (2004-Or-121, § 8, 10-8-04)
- **551.620.** Conditional uses in the Floodway District. Conditional uses in the Floodway District shall be limited to the following uses, provided such uses shall have a low flood damage potential, shall not cause an increase in the stage of the regional flood or cause an increase in the flood damages in the reach or reaches affected, and shall be allowed in the underlying primary zoning district:
  - (1) Structures accessory to permitted and conditional uses, subject to the following:
    - a. Accessory structures shall be elevated on fill or structurally dry floodproofed in accordance with the FP-1 or FP-2 floodproofing classifications in the State Building Code. As an alternative, the structure may be floodproofed to the FP-3 or FP-4 floodproofing classification in the State Building Code provided the structure constitutes a minimal investment, shall not exceed five hundred (500) square feet, and for a detached garage, the garage shall be used solely for the parking of vehicles and limited storage. In addition, all floodproofed accessory structures shall be subject to the following:
      - The structure shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
      - 2. Any mechanical and utility equipment in the structure shall be installed at or above the regulatory flood protection elevation or shall be adequately floodproofed.
    - b. Accessory structures shall not be designed for human habitation.

- c. Accessory structures shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of floodwaters as follows:
  - So far as practicable, structures shall be constructed with the longitudinal axis
    parallel to the direction of flood flow.
  - So far as practicable, structures shall be placed approximately on the same flood flow lines as those of adjoining structures.
- (2) Land uses in which access to or use of a surface water feature is an integral component, such as boathouses, docks, marinas, observation platforms and water control structures such as locks and dams.
- (3) Streets, railroads, bridges, utility transmission lines and pipelines.
- (4) Outdoor storage and display of equipment, machinery or other materials, provided the storage of materials that are flammable, explosive, or potentially injurious to human, animal or plant life in time of flooding shall be prohibited. Storage of other materials or equipment may be allowed if readily removable from the area within the time available after flood warning, in accordance with a plan approved by the city planning commission.
- (5) Placement of fill.
- (6) Structural works for flood control such as levees, dikes and floodwalls, subject to the following:
  - a. Any proposed work that will change the course, current or cross-section of protected wetlands or public waters shall be subject to the provisions of Minnesota Statutes, Chapter 103G, and other applicable statutes.
  - b. Community-wide structural works for flood control intended to remove areas from the regulatory floodplain shall be prohibited.
  - c. A levee, dike or floodwall constructed in the Floodway District shall not cause an increase to the regional flood, and the technical analysis shall assume equal conveyance or storage loss on both sides of a stream. (2004-Or-121, § 9, 10-8-04)

**551.630. Permitted uses in the Flood Fringe District.** Permitted uses in the Flood Fringe District shall be those uses listed as permitted uses in the underlying primary zoning district. In addition to the standards of Chapter 551.650 such uses shall be subject to the following:

- (1) Structures. All structures and all additions to such structures shall be elevated on fill so that the lowest floor, including the basement, is at or above the regulatory flood protection elevation. The finished fill elevation for structures shall be no lower than one (1) foot below the regulatory flood protection elevation and the fill shall extend at such elevation at least fifteen (15) feet beyond the outside limits of the structure erected thereon. As an alternative to elevation on fill, accessory structures may be floodproofed to the FP-1 or FP-2 floodproofing classification in the State Building Code. In addition, accessory structures that constitute a minimal investment and that do not exceed five hundred (500) square feet may be internally floodproofed to the FP-3 or FP-4 floodproofing classification in the State Building Code, subject to the following:
  - a. The structure shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. There must be openings on at least two sides of the structure and the bottom of all

- openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
- b. Any mechanical and utility equipment in the structure shall be installed at or above the regulatory flood protection elevation or shall be adequately floodproofed.
- (2) Storage of materials. The storage of materials and equipment shall be elevated on fill to an elevation at or above the regulatory flood protection elevation.
- (3) Fill. The cumulative placement of fill shall not exceed twenty-five (25) cubic yards of fill in any one (1) calendar year, unless such fill is specifically intended to elevate a structure in accordance with section (1) above. (2004-Or-121, § 10, 10-8-04)
- 551.640. Conditional uses in the Flood Fringe District. Conditional uses in the Flood Fringe District shall be those uses listed as conditional uses in the underlying primary zoning district and all uses listed as permitted uses in the underlying primary zoning district that cannot comply with the elevation, floodproofing or fill standards for permitted uses, as specified in section 551.630 above. In addition to the standards of section 551.650, conditional uses shall be subject to the following:
  - (1) Alternative elevation methods. Alternative elevation methods other than the use of fill may be utilized to elevate a structure's lowest floor above the regulatory flood protection elevation. These alternative methods may include but are not limited to the use of stilts, pilings or parallel walls, or above grade, enclosed areas such as crawl spaces or tuck under garages. The base or floor of an enclosed area shall be considered above grade and not a structure's basement or lowest floor if all of the following apply:
    - a. The enclosed area is above grade on at least one (1) side of the structure.
    - b. The enclosed area is designed to internally flood and is constructed with flood resistant materials.
    - c. The enclosed area is used solely for parking of vehicles, building access or storage.
    - d. In addition, the structure shall be subject to the following:
      - 1. Design and certification. The structure's design and as-built condition shall be certified by a registered professional engineer or architect as being in compliance with the general design standards of the State Building Code. All electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities shall be at or above the regulatory flood protection elevation or be designed to prevent flood water from entering or accumulating within these components during times of flooding.
      - 2. Specific standards for above-grade, enclosed areas. Above grade, fully enclosed areas such as crawl spaces or tuck under garages shall be subject to the following:
        - a. The enclosed area shall be designed to internally flood. Design plans shall show the minimum area of openings in the walls where internal flooding is to be used as a floodproofing technique. There shall be a minimum of two openings on at least two sides of the structure and the bottom of all openings shall be no higher than one foot above grade. The automatic openings shall have a minimum net area of not less than one square inch for every square foot subject to flooding unless a registered professional engineer or architect certifies that a smaller net area would suffice. The automatic openings may be euipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of flood waters without any form of human intervention

- b. The enclosed area shall be constructed of flood resistant materials in accordance with the FP-3 or FP-4 classifications in the State Building Code.
- c. The enclosed area shall be used only for parking vehicles, storage or building access.
- (2) Basements. Residential basement construction shall be prohibited below the regulatory flood protection elevation. Nonresidential basements may be allowed below the regulatory flood protection elevation, provided the basement shall be structurally dry floodproofed, subject to section (3) below.
- (3) Nonresidential structures. All areas of nonresidential structures, including basements, located below the regulatory flood protection elevation shall be floodproofed in accordance with the structurally dry floodproofing classifications in the State Building Code. Structurally dry floodproofing shall meet the FP-1 or FP-2 floodproofing classification in the State Building Code, requiring the structure to be watertight with the walls substantially impermeable to the passage of water and requiring structural components to have the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Structures floodproofed to the FP-3 or FP-4 classification shall be prohibited.
- (4) Storage of materials and equipment. The storage, display or processing of materials that are flammable, explosive, or potentially injurious to human, animal or plant life in time of flooding shall be prohibited. Storage of other material or equipment may be allowed if readily removable from the area within the time available after flood warning in accordance with a plan approved by the city engineer.
- (5) Fill. When more than twenty-five (25) cubic yards of fill is located on a zoning lot in any one (1) calendar year for such activities as on-site storage, landscaping, streets, dredge spoil disposal or construction of flood-control works, an erosion/sedimentation control plan shall be submitted subject to the provisions of this article and the Shoreland District. (2004-Or-121, § 11, 10-8-04)
- **551.645. Nonconformities.** A structure or the use of a structure or premises which was conforming before the adoption of this article but which is not in conformity with this article may be continued subject to the following conditions.
  - (1) No nonconformity shall be altered or expanded in a way which increases its nonconformity.
  - (2) Any structural alteration or expansion which would increase the flood damage potential of that structure or use shall be protected to the Regulatory Flood Protection Elevation in accordance with any of the elevation on fill or flood proofing techniques allowable in the State Building Code, except as further restricted in this article.
  - (3) If any nonconformity is discontinued for a period of one (1) year or more, any future use of the premises shall comply with this article.
  - (4) If any nonconformity is substantially damaged, it shall not be reconstructed except in compliance with this article.
  - (5) If a substantial improvement occurs from any combination of a building addition to the outside dimensions of the building or a rehabilitation, reconstruction, alteration, or other improvement to the inside dimensions of an existing nonconforming building, then the building addition and the existing nonconforming building must meet the requirements of this section. (2004-Or-121, § 12, 10-8-04)

- **551.650.** Standards for all uses located in the Flood Fringe District. The following standards shall apply to all permitted and conditional uses located in the Flood Fringe District:
  - (1) Vehicular access. All new principal structures shall provide vehicular access at or above an elevation not more than two (2) feet below the regulatory flood protection elevation. If a variance from this requirement is granted, the board of adjustment shall specify limitations on the period of the use or occupancy of the structure for times of flooding and only after determining that adequate flood warning time and local flood emergency response procedures exist.
  - (2) Commercial uses. Accessory uses, such as yards and parking lots, may be located at elevations below the regulatory flood protection elevation. However, a zoning certificate for such facilities to be used by the customers, occupants and employees shall not be granted in the absence of a flood warning system that provides adequate time for evacuation, if the area were inundated to a depth and velocity such that when multiplying the depth (in feet) times velocity (in feet per second) the product number exceeds four (4) upon the occurrence of the regional flood.
  - (3) Industrial uses. Measures shall be taken to minimize interference with normal plant operations especially for streams having protracted flood durations. Accessory uses such as yards and parking lots may be at an elevation below the regulatory flood protection elevation. However, a zoning certificate for such facilities to be used by the customers, occupants and employees shall not be granted in the absence of a flood warning system that provides adequate time for evacuation, if the area were inundated to a depth and velocity such that when multiplying the depth (in feet) times velocity (in feet per second) the product number exceeds four (4) upon the occurrence of the regional flood.
  - (4) Hydraulic capacity. Floodplain developments shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the official zoning map. (2004-Or-121, § 13, 10-8-04)

# ARTICLE VIII. MR MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT

- **551.660. Purpose.** The MR Mississippi River Critical Area Overlay District is established to prevent and mitigate damage to the Mississippi River, to preserve and enhance the Mississippi River's natural, aesthetic, cultural and historic value for public use, to protect and preserve the biological and ecological functions of the Mississippi River corridor, to comply with the requirements regarding the management of critical areas, and to protect the public health, safety and welfare.
- **551.670. Established boundaries.** The boundaries of the MR Overlay District shall be the Mississippi River and the Mississippi River corridor as designated in Executive Order 79-19, and shown on the official zoning map. (2000-Or-048, § 8, 5-19-2000)
- 551.680. Shoreland overlay district regulations to apply. The regulations contained in the SH Shoreland Overlay District shall apply to that portion of the MR Overlay District located within three hundred (300) feet of the Mississippi River or the landward extent of the floodplain of the Mississippi River, whichever is greater, except as otherwise provided in this article. For the purposes of this section, the Mississippi River shall be considered a protected water.
- **551.690.** Shoreland overlay district variances to apply. The variances to the SH Shoreland Overlay District regulations provided in Chapter 525, Administration and Enforcement, shall apply to the MR Overlay District. (2000-Or-048, § 9, 5-19-2000)

- **551.700.** Development on bluffs or within forty (40) feet of the top of bluffs. Development not otherwise governed by section 551.680 shall not be located on a bluff or within forty (40) feet of the top of a bluff, except where approved by a variance as provided in this article and Chapter 525, Administration and Enforcement, and shall be subject to the following additional conditions:
  - (1) The foundation and underlying material shall be adequate for the slope condition and soil type.
  - (2) The development shall present no danger of falling rock, mud, uprooted trees or other materials.
- (3) The view of the developed slope from the protected water shall be consistent with the natural appearance of the slope, with any historic areas, and with surrounding architectural features. (2000-Or-048, § 10, 5-19-2000)
- 551.710. Height of structures. The maximum height of all structures within three hundred (300) feet of the Mississippi River or the landward extent of the floodplain of the Mississippi River, whichever is greater, and within one hundred (100) feet of the top of a bluff, shall be two and one-half (2.5) stories or thirty-five (35) feet, whichever is less. The height limitations shall not apply to the central riverfront between Plymouth Avenue North and I-35W, or the east bank from First Avenue Northeast to Central Avenue. The height limitations of principal structures may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards contained in Chapter 525 and this article, the city planning commission shall consider, but not be limited to, the following factors when determining maximum height:
  - (1) Access to light and air of surrounding properties.
  - (2) Shadowing of residential properties or significant public spaces.
  - (3) The scale and character of surrounding uses.
  - (4) Preservation of views of landmark buildings, significant open spaces or water bodies.
- **551.720.** Off-premise advertising signs prohibited. Off-premise advertising signs and billboards, including the sign face and structure, which may be viewed from the Mississippi River shall be prohibited, except a sign or billboard designated by the Heritage Preservation Commission or determined by the Heritage Preservation Commission to be a contributing feature in a historic district.

## ARTICLE IX. DP DOWNTOWN PARKING OVERLAY DISTRICT

- **551.730. Purpose.** The DP Downtown Parking Overlay District is established to preserve significant and useful buildings and to protect the unique character of the downtown area and the mixed-use downtown neighborhoods by restricting the establishment or expansion of surface parking lots.
- **551.740.** Established boundaries. The boundaries of the DP Overlay District shall be the areas shown on the official zoning map.
  - 551.750. Prohibited uses. The following uses shall be prohibited in the DP Overlay District:
  - (1) Commercial parking lots, including the expansion of any existing commercial parking lot.
  - (2) The conversion of any accessory parking lot to a commercial parking lot.
- **551.760.** Conditional uses. In addition to the conditional uses allowed in the primary zoning district, an accessory parking lot may be allowed as a conditional use in the DP Overlay District, subject to the provisions of Chapter 525, Administration and Enforcement, and the following:
  - (1) The parking lot shall be located on the same zoning lot as the principal use served.

(2) The number of parking spaces shall not exceed one hundred fifty (150) percent of the minimum required spaces as specified in Chapter 541, Off-Street Parking and Loading, or twenty (20) spaces, whichever is less.

#### ARTICLE X. B4H DOWNTOWN HOUSING OVERLAY DISTRICT

- **551.770. Purpose.** The B4H Downtown Housing Overlay District is established to provide areas that offer affordable housing that may not meet the regulations of the primary zoning district, including minimum spacing and maximum occupancy requirements for congregate living residential uses.
- **551.780.** Established boundaries. The boundaries of the B4H Overlay District shall be the areas shown on the official zoning map.
- 551.790. Eligible areas outside of established boundaries. The B4H Overlay District shall be limited to locations within the downtown area bounded by Interstate 35W, Interstate 94, Plymouth Avenue, and the Mississippi River. Any person having a legal or equitable interest in property located within the eligible area outside of the established boundaries may file a petition to request the addition of the B4H Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement.
- **551.800.** Conditional uses. In addition to the conditional uses allowed in the primary zoning district, supportive housing and inebriate housing may be allowed as a conditional use in the B4H Overlay District, subject to the provisions of Chapter 525, Administration and Enforcement, and the following:
  - (1) On-site services shall be for residents of the facility only, except where part of a regimen of scheduled post-residential treatment.
  - (2) To the extent practical, all new construction or additions to existing buildings shall be compatible with the scale and character of the surroundings, and exterior building materials shall be harmonious with other buildings in the area.
  - (3) An appropriate transition area between the use and adjacent property shall be provided by landscaping, screening and other site improvements consistent with the character of the area.
  - (4) The operator shall submit a management plan for the facility and a floor plan showing sleeping areas, emergency exits and bathrooms.

## ARTICLE XI. DH DOWNTOWN HEIGHT OVERLAY DISTRICT

- **551.810.** Purpose. The DH Downtown Height Overlay District is established to regulate the building bulk requirements of structures within portions of the downtown area where such regulation is consistent with the planned character of the area and its surroundings.
- 551.820. Established boundaries. The boundaries of the DH Overlay District shall be the areas shown on the official zoning map.
- 551.830. Eligible areas outside of established boundaries. The DH Overlay District shall be limited to locations within the downtown area bounded by Interstate 35W, Washington Avenue, Plymouth Avenue, and the Mississippi River. Any person having a legal or equitable interest in property located within the eligible area outside of the established boundaries may file a petition to request the addition of the DH Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement.
- **551.840.** Height. The maximum height of all principal structures, except single and two-family dwellings and cluster developments, shall be eight (8) stories or one hundred twelve (112) feet, whichever is less, for properties located between Washington Avenue South and Second Street South. The maximum height for all other properties shall be six (6) stories or eighty-four (84) feet, whichever is less.

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551.850. Increasing maximum height. The height limitation of principal structures may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining maximum height:

- (1) Access to light and air of surrounding properties.
- (2) Shadowing of residential properties or significant public spaces.
- (3) The scale and character of surrounding uses.
- (4) Preservation of views of landmark buildings, significant open spaces or water bodies.

551.855. Roof signs. Notwithstanding any other provision to the contrary, on-premise roof signs may be allowed on nonresidential, multiple story buildings containing at least one hundred thousand (100,000) square feet of gross floor area located within the area bounded by Tenth Avenue South, Washington Avenue South, Third Avenue South and the Mississippi River, when approved as a sign adjustment pursuant to Chapter 543, On-Premise Signs, and Chapter 525, Administration and Enforcement.

(2003-Or-066, § 1, 6-6-03)

551.860. Floor area ratio. The maximum floor area ratio of all structures, except single and two-family dwellings, shall be four (4). The maximum floor area ratio may not be attainable without obtaining conditional use permit approval for increasing maximum height.

# ARTICLE XII. NM NICOLLET MALL OVERLAY DISTRICT

551.870. Purpose. The NM Nicollet Mall Overlay District is established to preserve and encourage the pedestrian character of the Nicollet Mall area and to promote street level activity by creating a pleasant and unique pedestrian environment.

**551.880.** Established boundaries. The boundaries of the NM Overlay District shall be the areas shown on the official zoning map. All property within the boundaries of the NM Overlay District that has street frontage on Nicollet Mall shall be subject to the regulations of this article.

551.890. Eligible areas outside of established boundaries. The NM Overlay District shall be limited to locations along and within one hundred sixty-five (165) feet of Nicollet Mall from Washington Avenue to Grant Street, and between Nicollet Mall and Hennepin Avenue from Sixth Street to Eighth Street. Any person having a legal or equitable interest in property located within the eligible area outside of the established boundaries may file a petition to request the addition of the NM Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement.

551.900. Prohibited uses. The following uses shall be prohibited in the NM Overlay District:

- (1) Drive-through facilities.
- (2) Automobile services uses.
- (3) Transportation uses.
- (4) Sexually oriented uses as regulated by Chapter 549, Downtown Districts.

551.910. Building placement. The placement of buildings shall reinforce the street wall, maximize natural surveillance and visibility, and facilitate pedestrian access and circulation. The first floor of buildings shall be located not more than eight (8) feet from Nicollet Mall, except where a greater yard is required by this zoning ordinance or where the building is separated from Nicollet Mall by outdoor open space that conforms to the standards for the urban open space premium, established in Chapter 549, Downtown Districts. In the case of a corner lot, the building wall abutting each street shall be located not more than eight (8) feet from the lot line, except where a greater yard is required by this zoning ordinance or where the building is separated from the lot line by outdoor open space that conforms to the standards for the urban open space premium. The area between the building and the lot line, and all other areas not occupied by buildings or used for parking and loading purposes, shall include amenities such as landscaping, tables and seating. Buildings shall be oriented so that at least one (1) principal entrance faces Nicollet Mall. The main lobby of the building and main elevator access shall be located at street level. On-site accessory parking facilities shall be located to the rear or interior side of the site, within the principal building served, or entirely below grade.

551.920. Building height and scale. In order to minimize the impact of shadowing and wind currents upon Nicollet Mall, and to maintain pedestrian scale and character, portions of buildings over ten (10) stories or one hundred forty (140) feet, whichever is less, that comprise more than two hundred (200) feet of frontage on Nicollet Mall shall be set back from Nicollet Mall not less than thirty (30) feet. Such setback shall begin no lower than the third (3rd) story or forty-two (42) feet, whichever is less, and no higher than the tenth (10th) story or one hundred forty (140) feet, whichever is less. Where the first floor of a building or a portion of a building is separated from Nicollet Mall by open space, the required setback shall be reduced by the depth of such open space.

**551.930.** Building facade. (a) In general. Building facades shall provide architectural detail and shall contain windows at the ground level or first floor in order to create visual interest and to increase security of adjacent outdoor spaces by maximizing natural surveillance and visibility. The exterior materials and appearance of the rear and side walls shall be similar to and compatible with the front of the building. The use of plain face concrete block as an exterior material shall be prohibited where visible from a public street or a residence or office residence district.

(b) Windows. At least forty (40) percent of the first floor facade that faces the Nicollet Mall or other public street shall be windows or doors of clear or lightly tinted glass, including display windows. Windows shall be distributed in a more or less even manner. Display windows shall be illuminated until at least 1:00 a.m. For purposes of this section, minimum window area shall be measured between the height of two (2) feet and ten (10) feet above the finished level of the first floor.

**551.940.** Street level retail. All buildings shall contain retail uses at the street level subject to the following standards:

- (1) Retail uses shall include Retail Sales and Services uses and Food and Beverages uses contained in Table 549-1 Principal Uses in the Downtown Districts.
- (2) Retail uses shall occupy at least sixty (60) percent of the gross floor area of the first floor and shall extend along at least sixty (60) percent of the first floor facade fronting on Nicollet Mall.
- (3) Each retail use is encouraged to have at least one (1) separate entrance from Nicollet Mall.
- (4) Retail uses are encouraged to include awnings and canopies to provide protection to pedestrians and to emphasize individual uses and building entrances.

**551.950.** On-premise signs. On-premise signs shall be subject to the regulations of Chapter 543, On-Premise Signs, and the following:

- (1) Sign area. The amount of sign area allowed for signs attached to buildings shall be three and one half (3.5) square feet of sign area per one (1) foot of primary building wall.
- (2) Sign height. The maximum height of signs attached to buildings, except projecting signs, shall be twenty-four (24) feet. The provisions of Chapter 543, On-Premise Signs, for increasing the height of wall signs by conditional use permit shall not apply.
- (3) Projecting signs. The maximum height of projecting signs shall be sixteen (16) feet. The maximum area of projecting signs shall be twelve (12) square feet. Projecting sign materials shall be limited to ornamental metal, carved wood or cloth.
- (4) Lighting of signs. Back-lighted signs shall be prohibited. Projecting signs shall be lighted by external illumination only.

(2000-Or-048, § 11, 5-19-2000)

- 551.960. Awnings and canopies. Awnings and canopies are encouraged in order to provide protection for pedestrians and to emphasize individual uses and entrances, and shall be subject to the following:
  - (1) Back-lighted awnings and canopies shall be prohibited.
  - (2) Awning and canopy materials shall be limited to cotton, acrylic or vinyl coated cotton, copper or bronze coated metal, or clear or lightly tinted glass.

## ARTICLE XIII. HA HARMON AREA OVERLAY DISTRICT

- 551.970. Purpose. The HA Harmon Area Overlay District is established to preserve and protect the unique character of the Harmon area by encouraging the adaptive reuse of existing buildings and by limiting the height and scale of new development.
- 551.980. Established boundaries. The boundaries of the HA Overlay District shall be the areas shown on the official zoning map.
- 551.990. Height. The maximum height of all principal structures, except cluster developments, shall be eight (8) stories or one hundred twelve (112) feet, whichever is less, for properties located between Twelfth Street South, Tenth Street South, Harmon Place and LaSalle Avenue. The maximum height for all other properties shall be four (4) stories or fifty-six (56) feet, whichever is less. Parapets not exceeding three (3) feet in height shall be exempt from such limitations, except where located on cluster developments.
- **551.1000. Increasing maximum height.** The height limitation of principal structures may be increased by conditional use permit, as provided in Chapter 525, Administration and Enforcement. In addition to the conditional use standards, the city planning commission shall consider, but not be limited to, the following factors when determining maximum height:
  - (1) Access to light and air of surrounding properties.
  - (2) Shadowing of residential properties or significant public spaces.
  - (3) The scale and character of surrounding uses.
  - (4) Preservation of views of landmark buildings, significant open spaces or water bodies.

**551.1010.** Floor area ratio. The maximum floor area ratio of structures shall be as specified in the primary zoning district. The maximum floor area ratio may not be attainable without obtaining conditional use permit approval for increasing maximum height.

#### ARTICLE XIV. NP NORTH PHILLIPS OVERLAY DISTRICT

**551.1020. Purpose.** The NP North Phillips Overlay District is established to create additional housing, to promote home ownership and to allow a variety of housing types, costs and arrangements that may not meet the regulations of the primary zoning district, including the limit of one (1) principal residential structure per zoning lot, where the primary zoning district allows two-family or multiple-family dwellings.

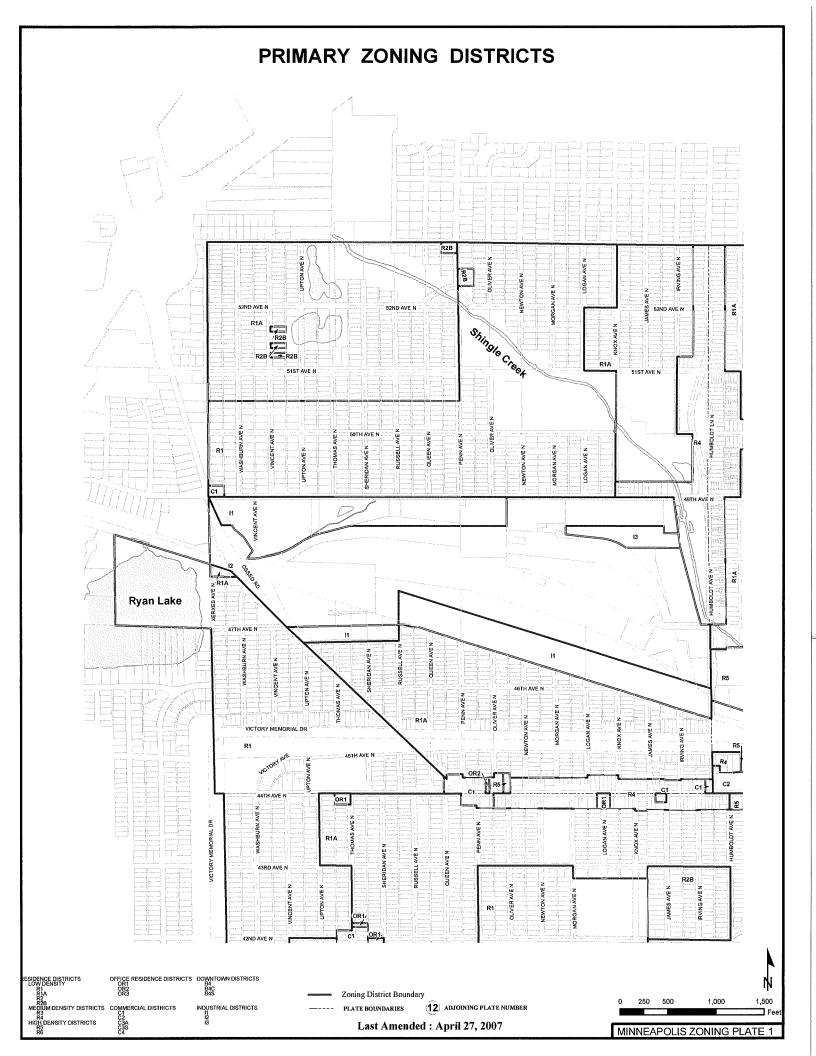
(2001-Or-064, § 1, 5-18-01; 2003-Or-018, § 2, 1-31-03; 2007-Or-089, § 3, 10-19-07)

**551.1030. Established boundaries.** The boundaries of the NP Overlay District shall be the areas shown on the official zoning map. (2001-Or-064, § 1, 5-18-01)

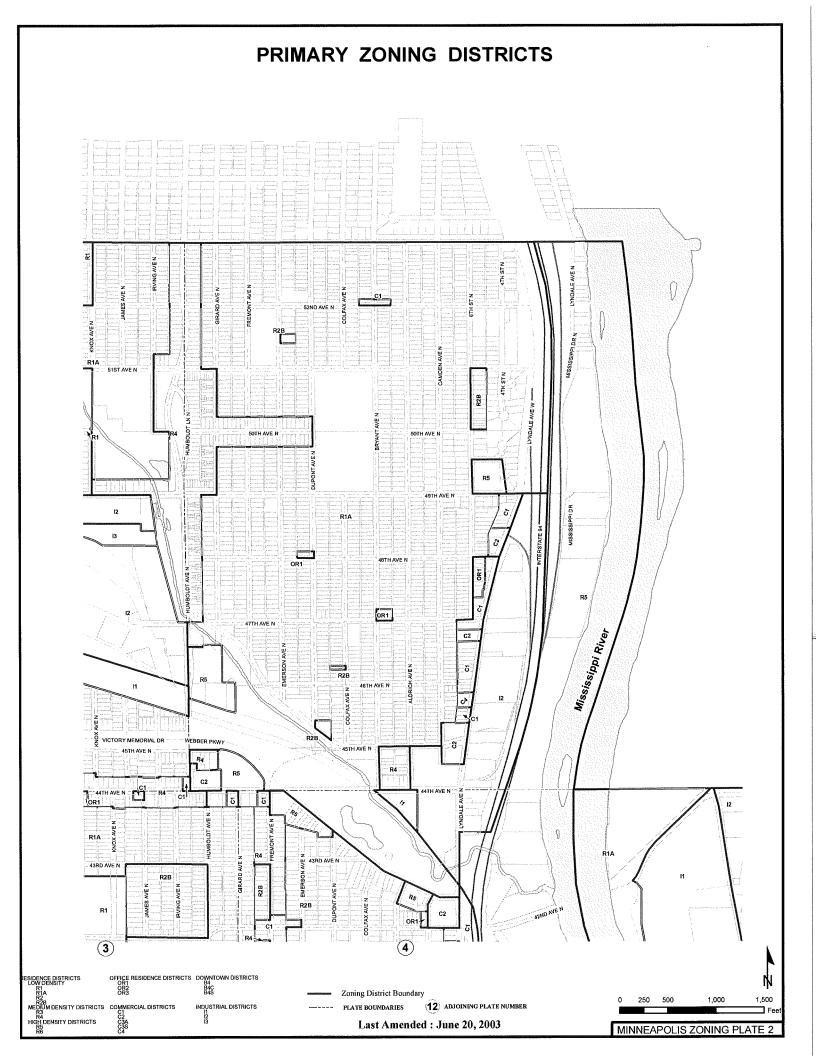
- **551.1040. Definition.** *Accessory dwelling* . A single-family dwelling that is detached from and subordinate to a principal residential structure on the same zoning lot, and that is located entirely above a parking garage with not less than two (2) accessory parking spaces. (2001-Or-064, § 1, 5-18-01; 2003-Or-018, § 3, 1-31-03)
- **551.1050.** Eligible areas outside of established boundaries. The NP Overlay District shall be limited to locations within the area bounded by Interstate 35W, Interstate 94, East 24th Street, and Hiawatha Avenue where the primary zoning district allows two-family dwellings. Any person having a legal or equitable interest in property located within the eligible area outside of the established boundaries may file a petition to request the addition of the NP Overlay District classification in the manner provided for zoning amendments in Chapter 525, Administration and Enforcement. (2001-Or-064, § 1, 5-18-01)
- **551.1060.** Conditional uses. In addition to the conditional uses allowed in the primary zoning district, the establishment of one (1) accessory dwelling on a single zoning lot, other than a cluster development or planned unit development, may be allowed in the NP Overlay District, subject to the provisions of Chapter 525, Administration and Enforcement, and the following:
  - (1) The principal residential structure shall be a permitted or conditional use in the primary zoning district. No accessory dwelling shall be constructed or established prior to the time of construction of the principal residential structure to which it is accessory. This section shall not prohibit a construction project in which both the principal residential structure and accessory dwelling are to be built simultaneously.
  - (2) At least one (1) dwelling unit on the zoning lot shall be homesteaded.
  - (3) There shall be no more than one (1) principal residential structure on a zoning lot in addition to the accessory dwelling.
  - (4) The minimum lot area shall be one thousand five hundred (1,500) square feet per unit, including the accessory dwelling unit, except in the R2 Two-family District where the minimum lot area shall be six thousand (6,000) square feet.
  - (5) There shall be no other accessory structures designed or intended to be used for the parking of vehicles allowed on the zoning lot.

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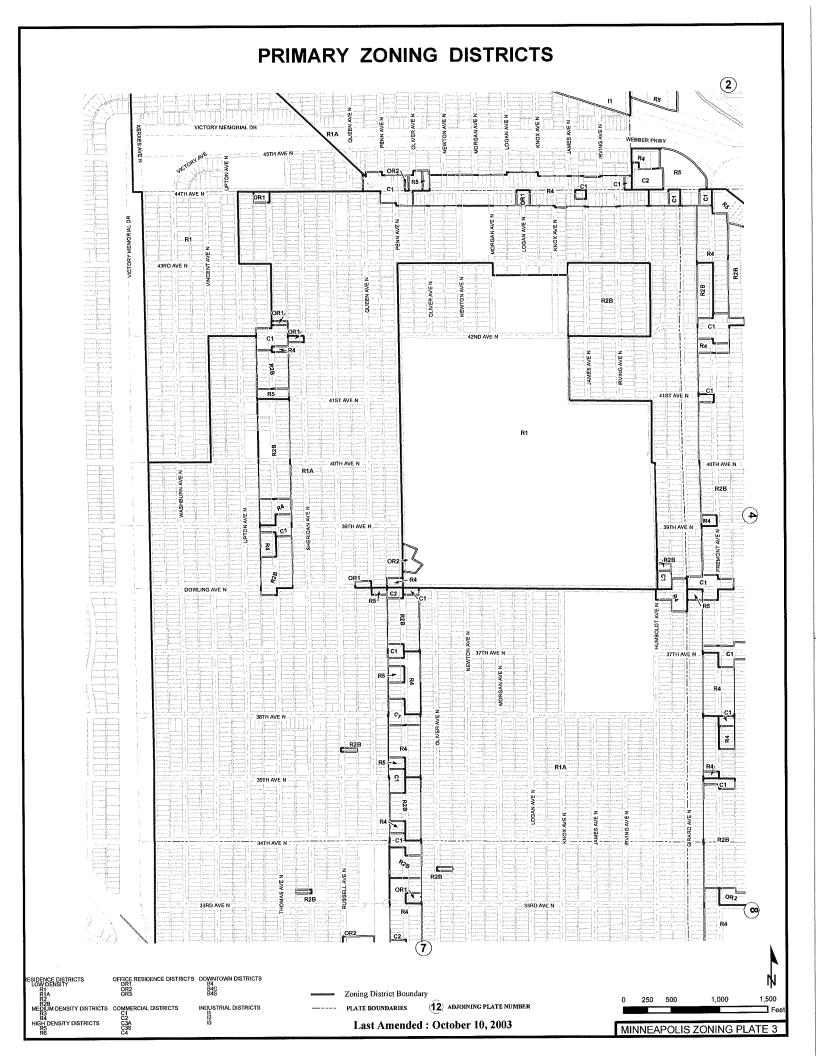
- (6) The parking spaces located below the accessory dwelling shall be accessible through the alley where there is an alley, except as otherwise authorized by the city planning commission.
- (7) There shall be an unobstructed walkway leading from the public street to the accessory dwelling.
- (8) The minimum rear and interior side yard requirements for the accessory dwelling shall be not less than those specified by the primary zoning district for principal uses, except as otherwise authorized by the city planning commission.
- (9) The principal residential structure and the accessory dwelling shall be separated by not less than ten (10) feet and shall not be connected to each other by any structure.
- (10) The accessory dwelling shall be compatible in character with the principal residential structure on the zoning lot and with the surroundings, and shall comply with the following specific requirements:
  - a. The height of the accessory dwelling shall not exceed the height of the principal residential structure, or two and one-half (2.5) stories or thirty-five (35) feet, whichever is less.
  - b. The roof of the accessory dwelling shall be similar in form and pitch to that of the principal residential structure.
  - c. The exterior building materials and appearance of the accessory dwelling shall be similar to that of the principal residential structure.
  - d. Not less than twenty (20) percent of the facade of the accessory dwelling unit facing the principal residential structure or alley shall be windows.
- (11) The minimum floor area of the accessory dwelling unit shall be three hundred (300) square feet. (2001-Or-064, § 1, 5-18-01; 2003-Or-018, § 4, 1-31-03)



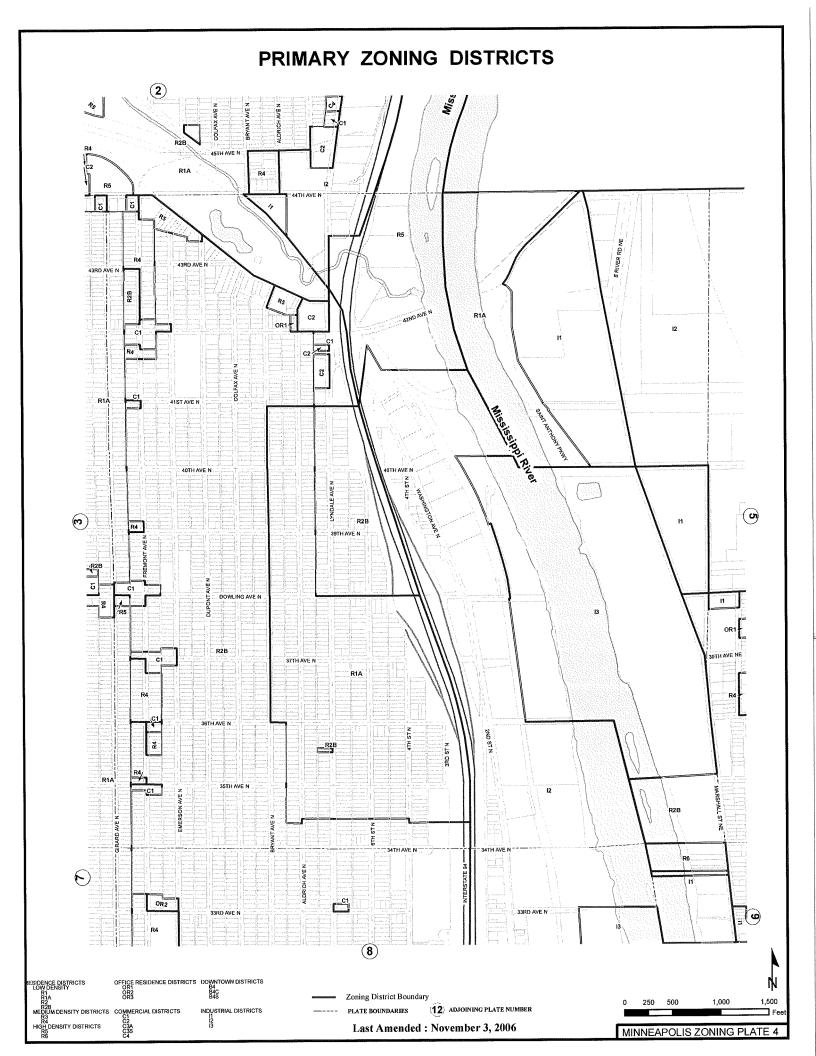
# **OVERLAY ZONING DISTRICTS** Shingle Creek 51ST AVE N 50TH AVE N Ryan Lake 46TH AVE N VICTORY MEMORIAL DR 45TH AVE N OVERLAY DISTRICTS OVERLAY DISTRICT LINDEN HILLS OVERLAY DISTRICT INDUSTRIAL LIVING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT MISCHIPHILLPS OVERLAY DISTRICT MISCHIPHILLPS OVERLAY DISTRICT MISCHIPHILLPS OVERLAY DISTRICT MISCHIPHILLPS OVERLAY DISTRICT MISCHIPHILPS OVERLAY DISTRICT MISCHIPHILL OVERLAY DISTRICT MISCHIPHILPS OVERLAY DISTRICT M Floodplain Shoreland 1,500 1,000 $\langle \hat{12} \rangle$ adjoining plate number Last Amended: November 20, 1999 MINNEAPOLIS ZONING PLATE 1

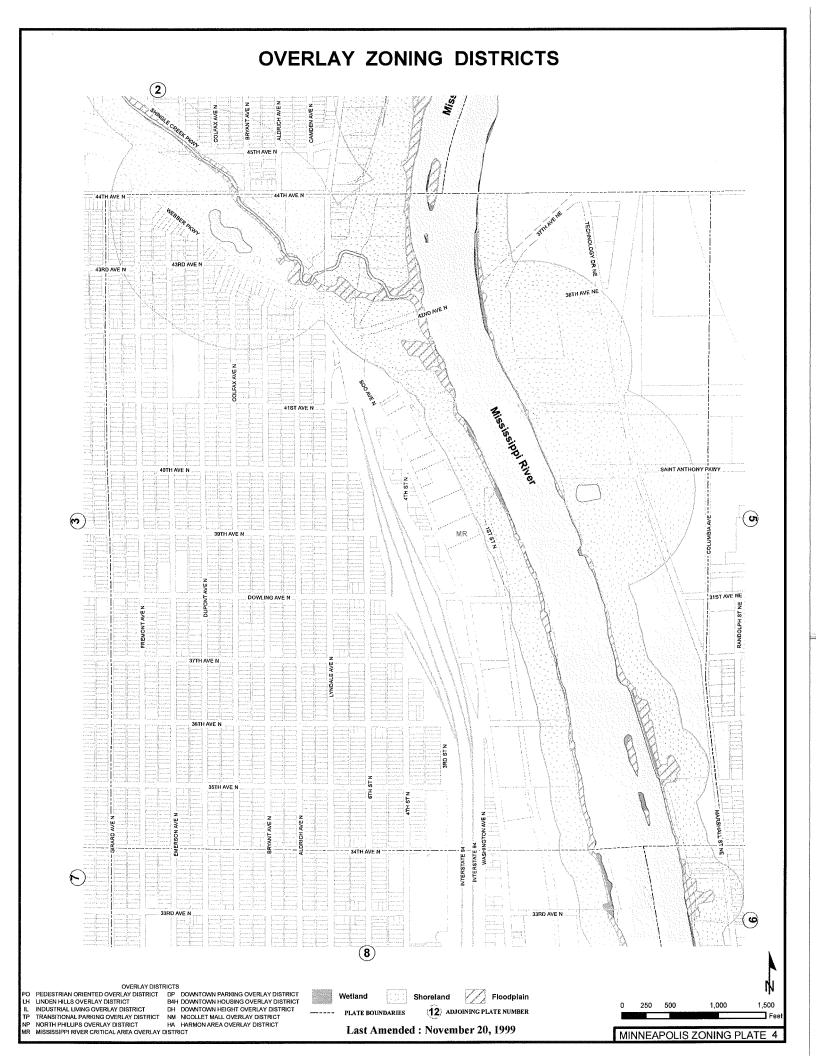


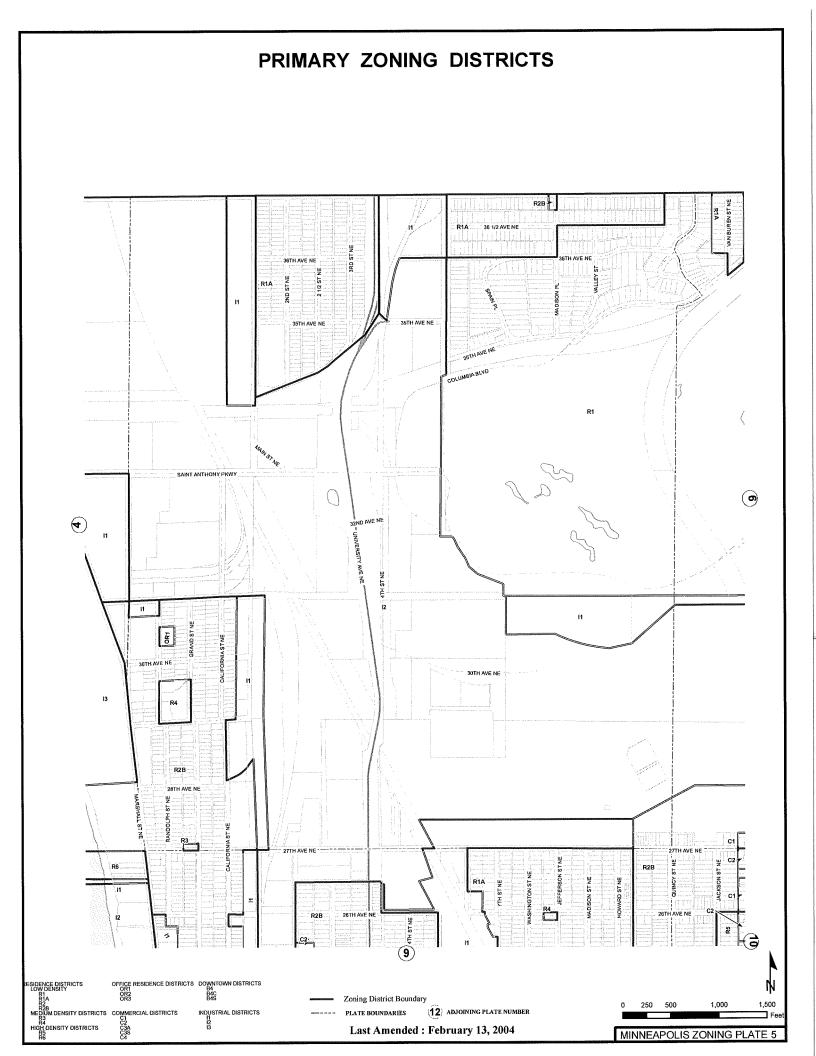
# **OVERLAY ZONING DISTRICTS** 4TH ST N 4TH STN 49TH AVE N Mississippi River 3 OVERLAY DISTRICTS PEDESTRIAN ORIENTED OVERLAY DISTRICT LINDEN HILLS OVERLAY DISTRICT LINDEN HILLS OVERLAY DISTRICT INDUSTRIAL LIVING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT MORTH PHILLPS OVERLAY DISTRICT MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT W Wetland Shoreland 1,000 (12) ADJOINING PLATE NUMBER PLATE BOUNDARIES Last Amended: November 20, 1999 MINNEAPOLIS ZONING PLATE 2



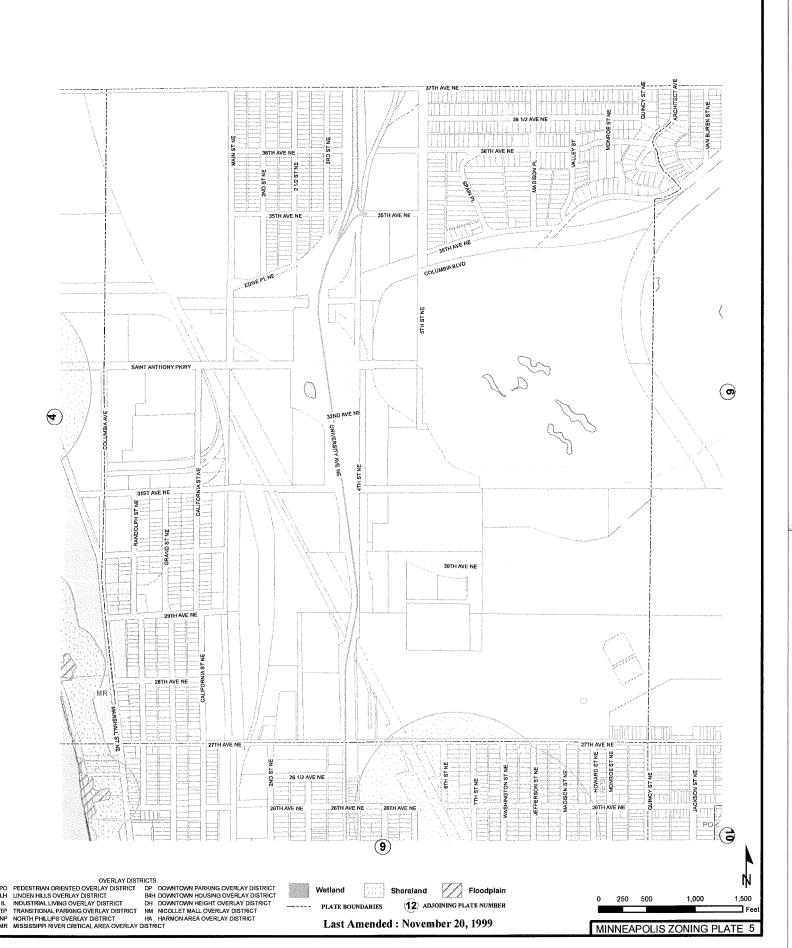
# **OVERLAY ZONING DISTRICTS** 45TH AVE N PEDESTRIAN ORIENTED OVERLAY DISTRICT LINDEN HILLS OVERLAY DISTRICT LINDEN HILLS OVERLAY DISTRICT INDUSTRIAL LIVING OVERLAY DISTRICT INDUSTRIAL LIVING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT NORTH PHELIPS OVERLAY DISTRICT MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT Shoreland Floodplain 1,500 1,000 (12) ADJOINING PLATE NUMBER Last Amended: November 20, 1999 MINNEAPOLIS ZONING PLATE 3



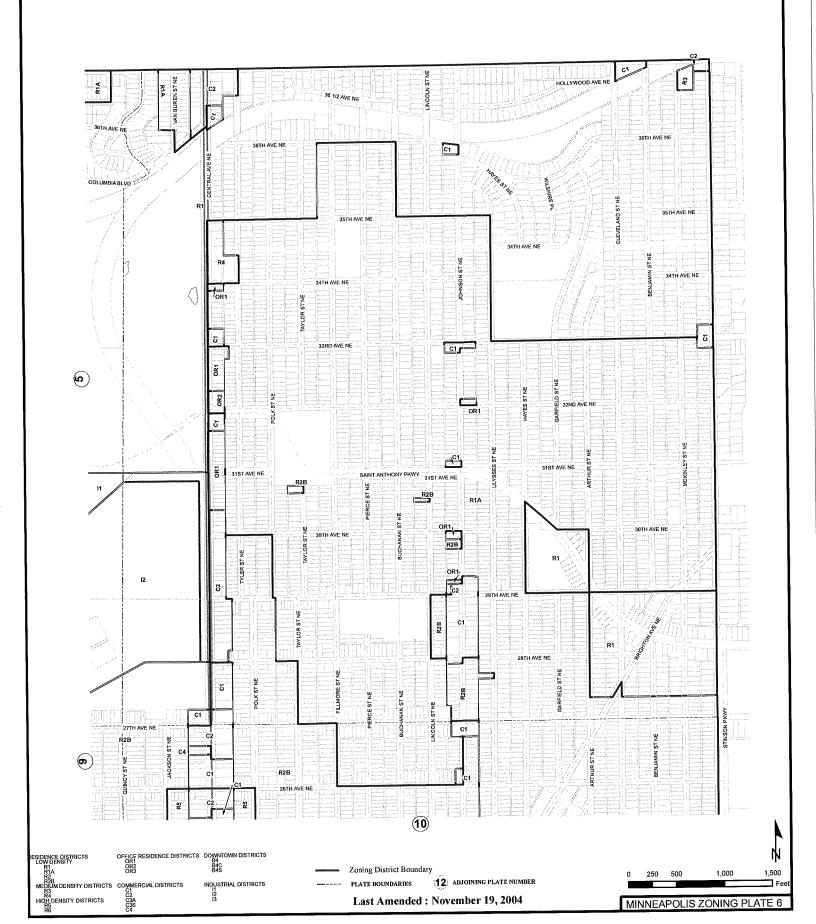




#### **OVERLAY ZONING DISTRICTS**

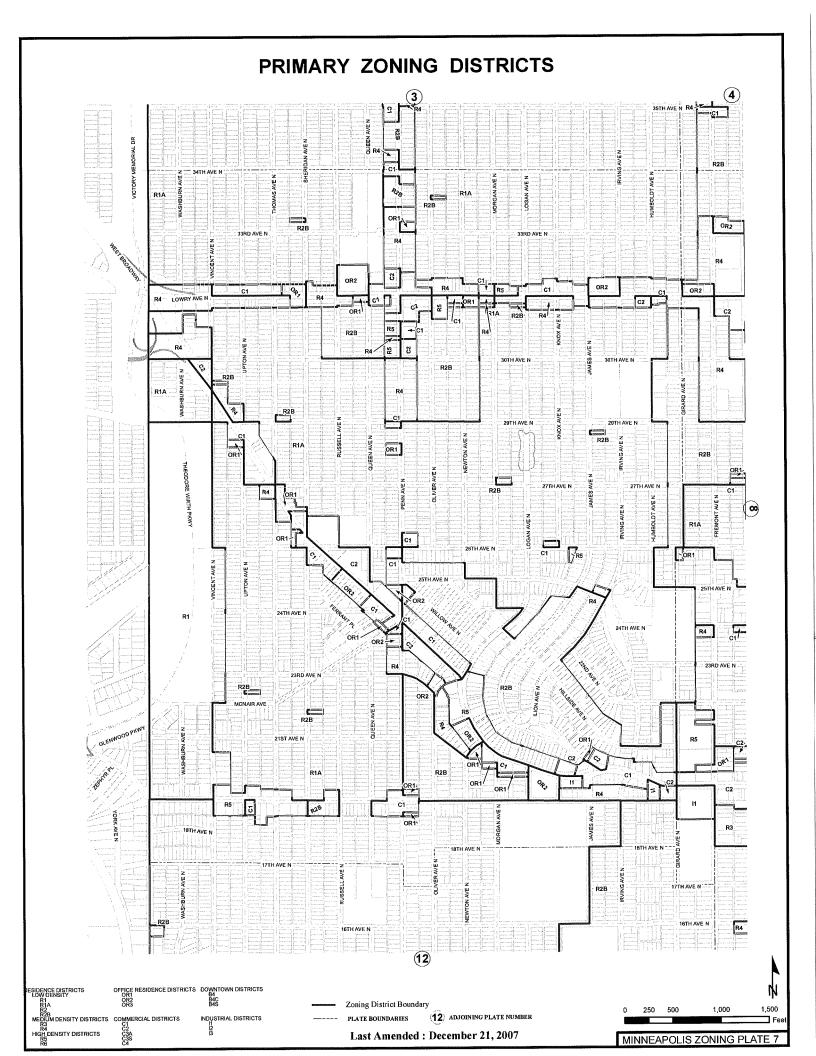


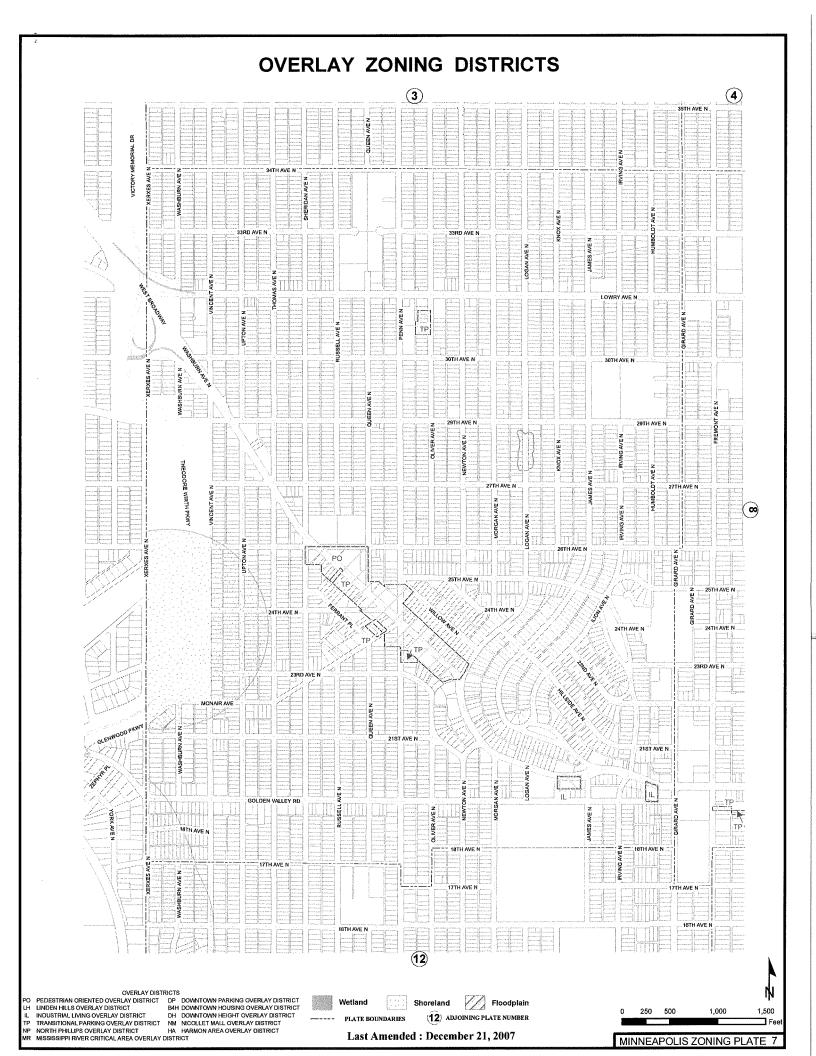
#### PRIMARY ZONING DISTRICTS



#### **OVERLAY ZONING DISTRICTS**







## PRIMARY ZONING DISTRICTS R1A 33RD AVE N C2 C1 30TH AVE N 29TH AVE N R2B 28TH AVE N 27TH AVE N 27TH AVE N R1A 24TH AVE N 12 R1A OR2 C3S BROADW 18TH AVE N GIVENS LN R2B ESIDENCE DISTRICTS LOW DENSITY Zoning District Boundary 1,500 250 R27 R28 MEDIUM DENSITY DISTRICTS R3 R4 HIGH DENSITY DISTRICTS R5 R6 C2 R5 R6 C3 R6 C4 R6 (12) ADJOINING PLATE NUMBER Last Amended: February 9, 2007 MINNEAPOLIS ZONING PLATE 8

### **OVERLAY ZONING DISTRICTS** LOWRY AVE N 30TH AVE N 28TH AVE N 28TH AVE N Mississippi River 27TH AVE N 27TH AVE N 26TH AVE N 25TH AVE N 24TH AVE N INTERSTATE 94 23RD AVE N 23RD AVE N 22ND AVE N 21ST AVE N 21ST AVE N BROADWAY ST NE TP. TP. 18 1/2 AVE N WEST RIVER RD N 16TH AVE OVERLAY DISTRICTS PEDESTRIAN ORIENTED OVERLAY DISTRICT LINDEN HILLS OVERLAY DISTRICT INDUSTRIAL LIVING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT TRANSITIONAL PARKING OVERLAY DISTRICT MORTH PHILLPS OVERLAY DISTRICT MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT MISSISSIPPI RIVER CRITICAL AREA OVERLAY DISTRICT Floodplain Wetland Shoreland 1,000 (12) ADJOINING PLATE NUMBER Last Amended: September 22, 2006 MINNEAPOLIS ZONING PLATE 8

