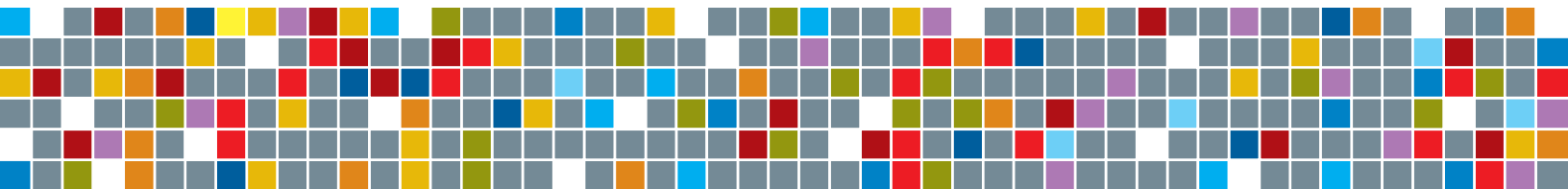




DENVER
THE MILE HIGH CITY

DENVER STRATEGIC PARKING PLAN



OCTOBER 2010



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INTRODUCTION

WHAT IS THE STRATEGIC PARKING PLAN?

The Strategic Parking Plan (SPP) is a comprehensive, city-wide framework that helps articulate and clarify the vision and approach for parking management in the City and County of Denver. It does not focus on parking management in one area or neighborhood but serves to align policy-makers, city staff, residents, business and property owners, and all other stakeholders so that parking goals outlined in the plan are shared and reflect a common vision for the city as a whole. The SPP explores innovative strategies and parking values from a variety of user perspectives so that the implementation tools set forth can achieve the best balance possible.

HOW TO USE THIS PLAN

The completion of the SPP document does not mean that the work is done. Instead, the vision for parking management documented in this plan will become a part of daily decision making for parking-related programs and policies in the coming years. As new parking conditions and opportunities arise, city staff, policy-makers, and the public can refer to the SPP for direction so that parking decisions benefit the city as a whole. In order for outcomes to be successful, it is imperative that all stakeholders understand and commit to the vision. Parking needs will change over time and the SPP serves as a dynamic roadmap as the City navigates through new circumstances. The tools provided in the Strategic Parking Plan will need to be validated again and again as the City grows and changes so that each parking management strategy considers the needs of individual stakeholders and the health of the overall city. Use this plan to understand the vision and new implementation tools but also let it serve as a call to action to be involved and informed as parking, and the city as a whole, continues to evolve.



What is the Strategic Parking Plan?

How do I use the Strategic Parking Plan?

Why do a Strategic Parking Plan?

Why Does Parking Matter?

Who is Impacted?

Why Manage Parking?

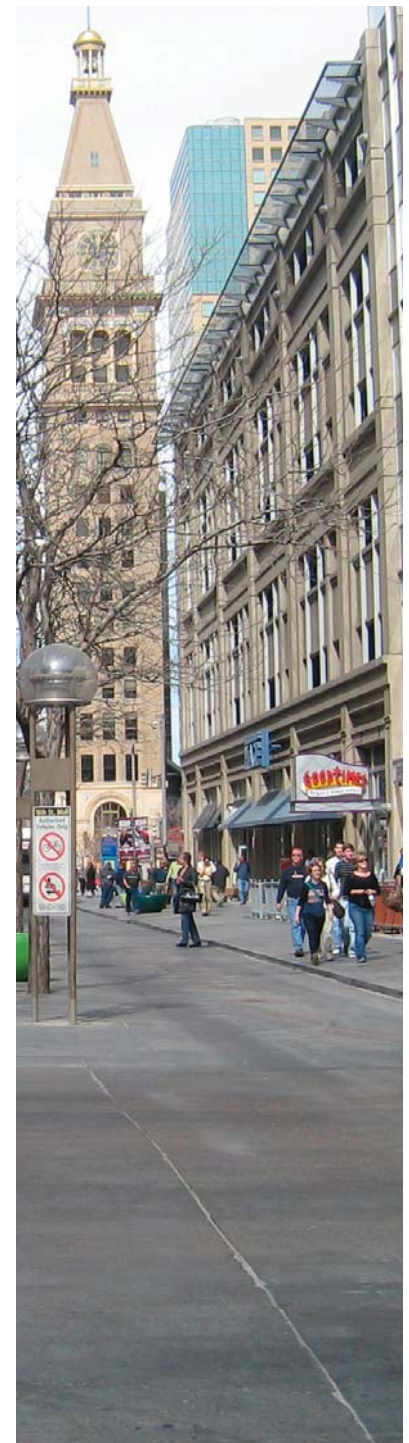
Parking Management 101

WHY DO A STRATEGIC PARKING PLAN?

The City of Denver is working to create walkable, transit-oriented neighborhoods that provide residents and visitors a variety of options in both lifestyle and travel choice. The City continues to grow in population as more and more people choose Denver as a place to live, work, and play. According to Blueprint Denver, the City's integrated land use and transportation plan, Denver's population grew by 87,000 between 1990 and 2000 to reach a total of 554,000 residents. Between 2000 and 2020, the City anticipates an additional 132,000 residents and 110,000 new jobs. The Denver Strategic Transportation Plan (STP) notes that all types of travel trips will grow at a steady rate through 2030. If current travel patterns and mode-splits are maintained, the City's transportation system will struggle to accommodate this growth. Growth is a problem that many cities envy, however, it also brings about change for our residents and increased demand on amenities and resources that are already limited - including the availability of parking.

With this in mind, the Strategic Parking Plan process provides the opportunity to:

- Force us to look into the future and seek out new opportunities
- Understand our current conditions and future needs
- Define an overall vision to guide parking management citywide for use by policy-makers, city staff, and all interested stakeholders; while also providing direction for day-to-day parking decisions
- Develop new strategies to achieve that vision
- Invite a variety of stakeholders to create a balanced parking system that can meet a variety of needs





WHY DOES PARKING MATTER?

The design and availability of parking has the potential to shape both the look and feel of a city, the quality of life of its citizens and visitors, and the potential for new growth and development. The need to accommodate parking must be balanced with other competing goals for the built environment such as livability and economic development. It is important to acknowledge that it is impossible to accommodate the land consumption that would be required to park every vehicle since it would prevent the City from achieving its goals of being a sustainable, livable community.

PARKING:

- Impacts the look and feel of a city and its neighborhoods
- Is shaped across multiple levels of policy, regulation and administration
- Is an important component of the overall land use and transportation system
- Can affect traffic congestion
- Has cost and value associated with every space
- Is dynamic and varies based on the surrounding land use and time of day
- Is part of a larger city system with many stakeholders
- May require trade offs in our behavior, expectations, and choices.
- Demand is most intense where there are centers of activity, mixes of land uses, and where land is valuable.
- Takes up land as one off-street space = 300 square feet of physical space.
- Structures cost upwards of \$30,000 per space.
- Affects housing affordability
- Can contribute to urban sprawl and pollution

EVERYONE PAYS FOR PARKING

Whether it is through a direct or indirect charge or an impact, parking is never free. Even in situations where parking appears to be free, like at grocery stores or shopping centers, the real costs of parking are often hidden. Businesses that provide free parking might fund the cost of providing parking through their annual operating budgets. Other businesses might even pass on those costs through the price of their goods or services. Likewise, the parking spot on the street in front of a home has a cost that is paid for by tax receipts.

The cost of parking, however, is more than just physical. The opportunity costs associated show that parking is worth much more than the amount of quarters it takes to plug a meter. Its value is evident in terms of economic development, land use, the health and connectivity of the overall transportation system, and environmental sustainability.

ECONOMIC DEVELOPMENT COSTS

Effective parking policies and management strategies directly impact local economic development. Parking supply is often a key consideration for businesses considering Denver as a location since they must consider access for both employees and customers. Customers think about parking as they make decisions regarding where to shop, do business, and play. Customers may choose to go elsewhere if the parking associated with a particular business or commercial area is limited, perceived as too far away, is too expensive, or is inconvenient.

The Urban Land Institute document, “Ten Principles for Rebuilding Neighborhood Retail (2004)”, encourages balancing a walkable environment with convenient access in urban shopping locations. It advocates for “high visibility, a sense of personal security, and adequate convenient parking” as necessities for successful retail but warns that “without them retail will likely fail, regardless of the sophistication of the shopping environment or the quality of the tenants”. The parking decisions made by the affected stakeholders and their economic impacts are important since it relies on tax revenues from retail sales to fund city services for both residents and businesses. In some cases, there is a relationship between the provision of parking and economic vitality. The goal is to achieve what is often a delicate balance between local area interests and overall city and community interests to create lively, attractive, and sustainable places.





COSTS ASSOCIATED WITH LAND USE AND NEIGHBORHOODS

In a typical North American city, the amount of space dedicated to roadways accounts for about 30% of the total land use. Land used specifically for parking simply adds to the overall percentage of space that is dedicated primarily to automobiles.

In addition, the visual impact of too much surface parking in an area can be striking. If the supply of surface parking is underutilized, it may also be perceived as unsafe or may not attract new development. The decision to use large areas for surface parking in urban areas where land values are high may not be the most cost-effective or efficient use of land for both individual community and city interests.

Finally, parking requirements for new development may significantly impact construction costs and impact the financial feasibility of a project. Denver is currently poised to invite new development of many shapes and sizes. This growth will contribute much to the vitality of different neighborhoods as well as the city as a whole. Future land choices should support the City's goals of providing affordable housing choices, increased services, jobs, and neighborhood retail.

TRANSPORTATION COSTS

Parking is an important component of the overall transportation and mobility network since the design and location of parking can influence personal travel choices. If there is a reasonable chance of free and available parking at one's destination, it is more likely that an individual will choose a private automobile for the trip. Free and abundant parking provides no incentive to utilize alternative forms of transportation prioritizing the use of personal vehicles over walking, cycling, or transit use. In addition, the location of parking can directly impact safety, circulation, and access for users of other transportation modes. The use of on-street parking should be weighed against other potential uses of available right-of-way such as bike lanes or dedicated transit lanes. While congestion and air pollution levels increase with additional vehicles on the road, decreasing the number of vehicles on the road could reduce parking demand, traffic congestion, and pollution levels.

ENVIRONMENTAL SUSTAINABILITY COSTS

The quality of Denver’s environment is impacted when land is dedicated to parking uses. Large surface parking lots can contribute to a “heat island effect” when asphalt absorbs and retains heat from the sunlight. Additionally, ground covered with asphalt or concrete is impermeable, which inhibits natural drainage and can carry run-off water containing oil, gas, grease or other fluids into storm drains, rivers, or streams. This ultimately impacts the City’s overall water quality. Land dedicated to cars for roadways or parking should instead be balanced with opportunities for green spaces where plants and trees help improve air and water quality.

DIRECT COSTS

Parking requires substantial capital and operating expenditures that are not always recovered from those who use the spaces. The City and County of Denver currently manages tens of thousands of on and off-street parking spaces, however, only a fraction of those spaces produce revenue. Numerous parking lot and garage operators manage thousands of additional private spaces. Each space has an associated cost in terms of land value, maintenance, and management expenses.

Land utilized for on-street parking is a scarce resource in Denver since the City is almost completely developed. It is costly to build additional parking especially when it requires the construction of underground or raised structures. In addition, each space must be maintained to make sure it is safe, accessible, and complies with zoning requirements or other city standards. Successful parking systems also require constant monitoring and administrative management to make sure that they are meeting the needs of users and citywide goals. Parking studies, data collection, and other evaluation strategies are costly and time consuming but are often necessary in order to calibrate the usefulness of the overall system.

Active parking management has a significant cost impact for municipalities. Many cities devote full-time staff teams to the management of parking operations and enforcement. Enforcement teams that monitor parking management compliance require personnel and equipment resources. Parking technologies that improve customer service and performance for users, such as online citation payment websites or the installation of new, more convenient meter technologies also represent significant capital investments for the City. Finally, the maintenance of





on and off-street parking facilities includes costs such as resurfacing concrete and asphalt, striping, and signage to ensure that parking spaces are functional and clearly marked. Although meters and enforcement activities generate citation or fine revenue for the City, expenditures to keep parking inventory and programs running effectively often cut deeply into any profits.

In 2008 the City and County of Denver spent roughly \$13 million dollars on parking personnel and administration and another \$234,000 on court system costs for parking-related cases. The Denver Police Department spent roughly \$23,000 addressing parking-related issues or calls. Costs for capital and maintenance needs were almost \$2.3 million. Finally, debt service payments for garages and pay stations totaled \$1.95 million. The combination of parking-related personnel, administration, technology, capital, and maintenance expenses in 2008 totaled nearly \$18 million.

Figures from revenue-generating parking sources such as lots, garages, meters, pay stations, and fines or citations totaled just over \$26 million in 2008. The net balance of \$8 million dollars makes up less than 1% of the City and County of Denver's General Fund, a main operating account that funds both parking and non-parking related programs and improvements across the city.

WHO IS IMPACTED?

The desire to park anywhere, for any length of time and at little or no cost is not surprising since parking often provides access to goods and services. However, with a limited supply available, users must decide what they value when selecting a parking space.

Understanding user behavior and tradeoffs associated with parking choices help us clarify the nature of different stakeholder groups. Drivers may choose a parking location based on how important it is for them to be in close proximity to their destination while another may choose a space because of its cost. An individual attending a sporting event for several hours may be more willing to park farther away from his or her destination than a shopper who needs to quickly pick up dry cleaning, carry bags of groceries, or drop-off/pick-up children. While parking choices differ based on each person's needs and circumstances, they all impact quality of life. These indicators help clarify the parking needs, preferences and behaviors of different user groups and form "parking demand profiles."

Demand profiles categorize users into groups of people whose parking needs are

similar in terms of location, time and duration. These profiles can often provide a conceptual picture of parking patterns in a given area. Three main parking user profiles are employees, customers, and residents.

EMPLOYEES

Employees typically prefer to park in close proximity to their workplace but may be willing to park further away if it means they can safely leave their car unattended. Cost influences parking location for employees, especially if parking is not provided by the employer. Employee drivers might be willing to park further away if parking cost less. Employees may also be more likely to shift to other modes of travel such as transit, walking, carpooling or bicycling.

CUSTOMERS

Customer demand profiles will vary significantly based on their destination and trip purpose. Some may only need to park for a short span of time and will therefore place a higher priority on being able to park quickly and conveniently near their destination. Customers who are shopping for leisure, attending a movie, or enjoying a dinner out may be more willing to park further away depending on the duration of their stay. Customers who are visiting more mixed-use areas with a variety of destinations can be encouraged to “park once” in a centralized facility and walk between destinations.

RESIDENTS

The needs of residents in mixed-use or predominantly residential neighborhoods have varied parking preferences. Residents may have off-street parking provided in a garage or other facility or they may rely solely on available on-street spaces. They have both long and short-term parking needs as well as guest parking needs. In addition, most residents have a strong preference to park in close proximity to their homes. When possible, residents should be encouraged to utilize existing off-street parking facilities so that access to on-street parking is maintained for other uses or for residents with parking needs. In highly desirable areas with conditions that must accommodate urban retail and residential parking, permit programs or other strategies may be necessary in order to balance competing





parking demands. It is important to understand the overall parking supply and demand needs of a given area before determining what type of parking strategy to employ. The following table summarizes different factors that determine a user’s choice of parking location and facility.

Parking Facility Choices		
Decision Factor	On-Street Facilities	Off-Street Facilities
Location	On-street parking, if available, is dispersed geographically throughout an area and may be closer or further from any single use depending on availability.	Off-street parking is concentrated in a single facility and may or may not be public or dedicated to one use.
Convenience	If parking is widely available, users will likely be able to park close to their destination. In situations where parking is in high demand and street spaces are not readily available, street parking may be perceived as inconvenient.	Dedicated parking attached to a single use may not be open to the general public. Parking in a structure may be perceived as inconvenient.
Visibility and Information	Since on-street parking is dispersed, users can easily assess parking options without altering driving path but may cruise multiple blocks looking for parking. Time restrictions are not always readily visible while driving.	Users may be unfamiliar with the price, time restrictions or public nature of a structure or lot and, without visible signage, may be reluctant to turn into the lot or structure.
Safety	Areas with good pedestrian lighting and lots of activity have fewer safety concerns associated with on-street parking. Some users, however, may not feel comfortable parallel parking on busy streets. Others may not feel comfortable parking in areas that feel unsafe or have less desirable uses.	Underground garages and large or poorly lit structures can be perceived as unsafe by users. If so, these facilities may only be used if other parking is unavailable. If a structure is well designed and patrolled, it may be perceived as safer than on-street parking.

WHY MANAGE PARKING?

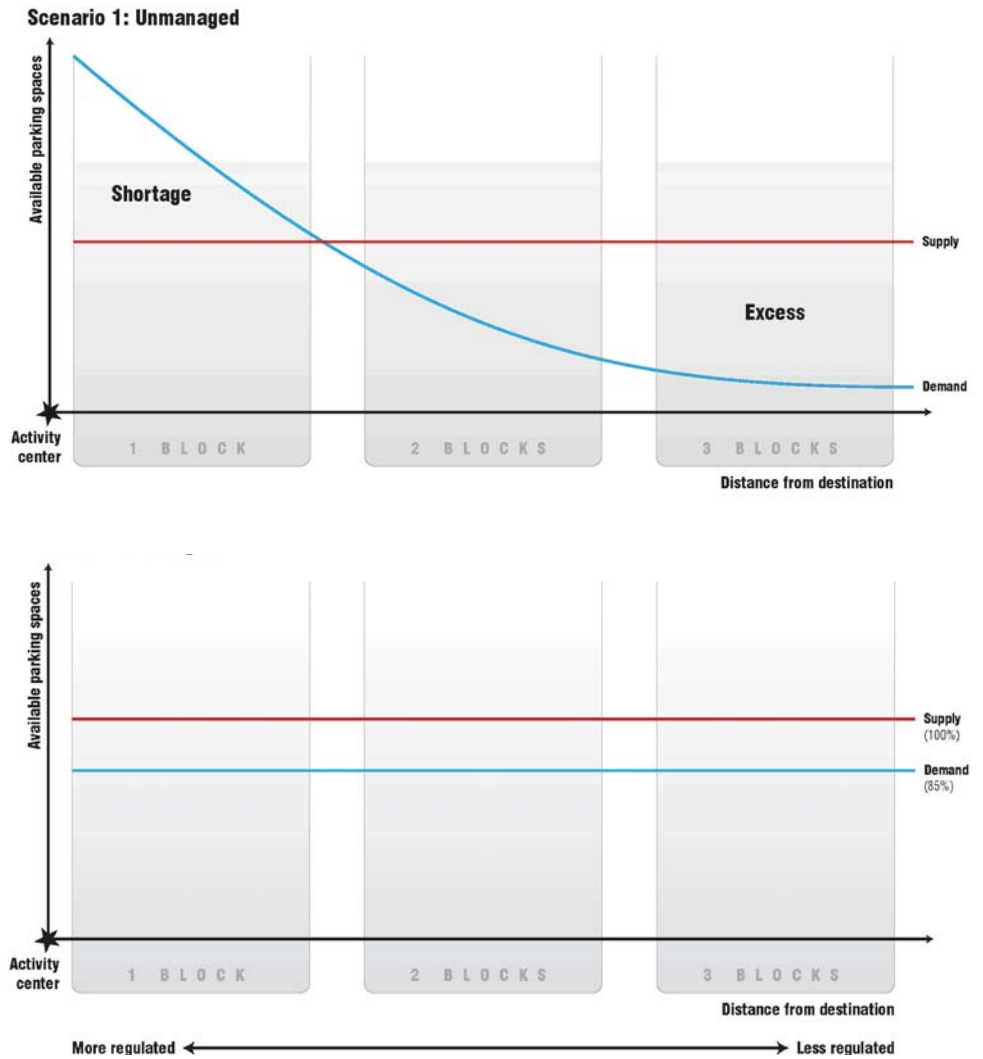
The need for management strategies to ensure the efficient use of existing parking inventory is supported by an understanding of the direct costs or opportunity costs associated with parking.

Successful parking management increases the availability of parking for users who need or value it most in a given situation. The intended outcome of a parking management program is a balanced parking system that efficiently prioritizes and matches user profiles to available supply. The anticipated result is that as many people as possible have the opportunity to reach their intended destinations and pursue their activities as planned. While this may not mean everyone is able to park directly in front of their destinations, the goal is to provide parking options that are within a reasonable distance. Some areas may not require significant levels of management while other areas with high demand or limited supplies may require more intensive management to support needs that vary by times of day.

The absence of parking management can result in negative outcomes. If demand consistently exceeds supply in high-demand, mixed-use areas; the result may compromise quality of life from both the resident and business/retail perspectives. Although parking has been actively managed in Denver for some time, one of the recent transformations in parking policy is a new focus on management strategies that better allocate and prioritize parking resources for a variety of user groups. Instead of applying a standardized management program across the board, strategies are customized to target specific needs in specific areas. The overall result is a parking system that makes the most efficient use of existing resources. This approach can be applied in both commercial and residential areas and increases the certainty of finding a parking space by providing more options to shoppers, residents, and visitors.

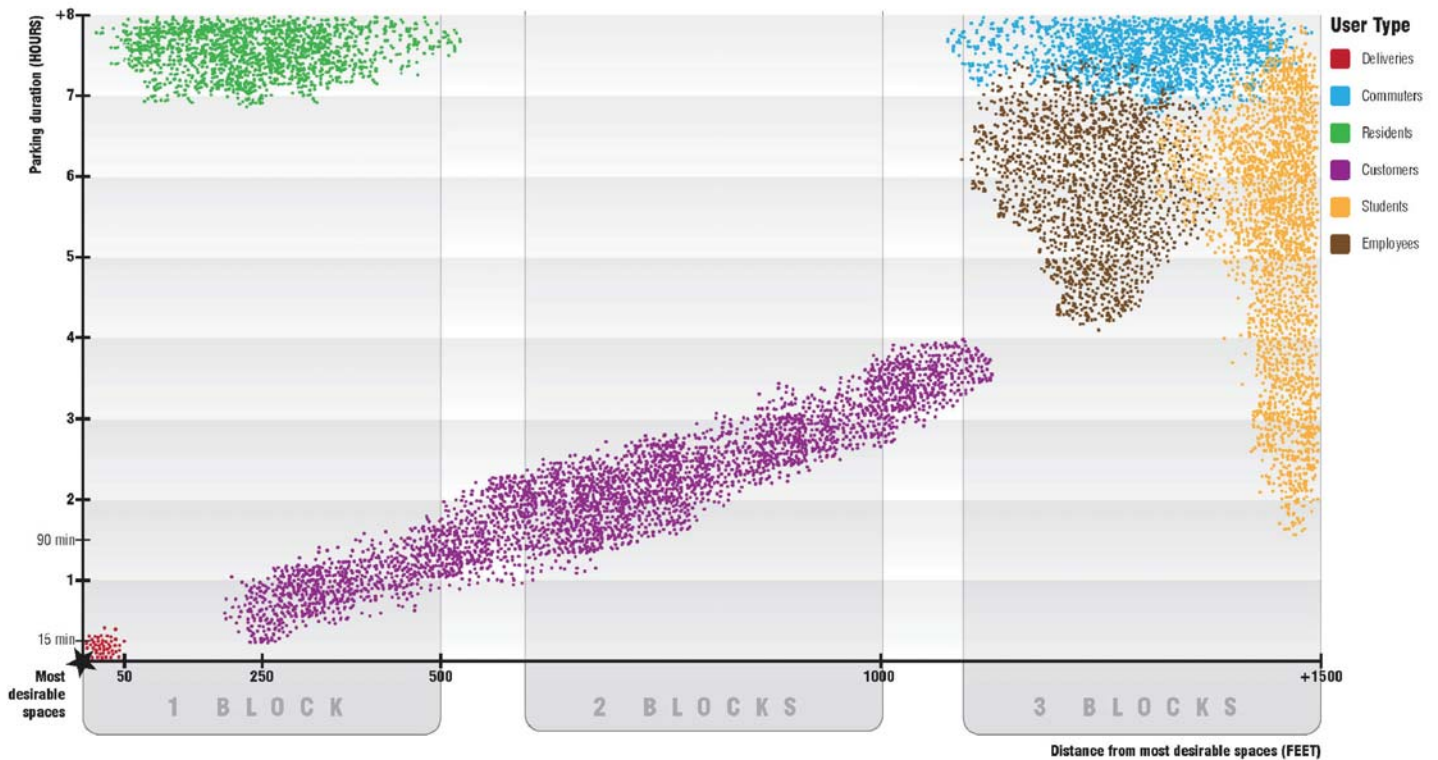
The following two diagrams describe the impacts of both unmanaged and managed parking.





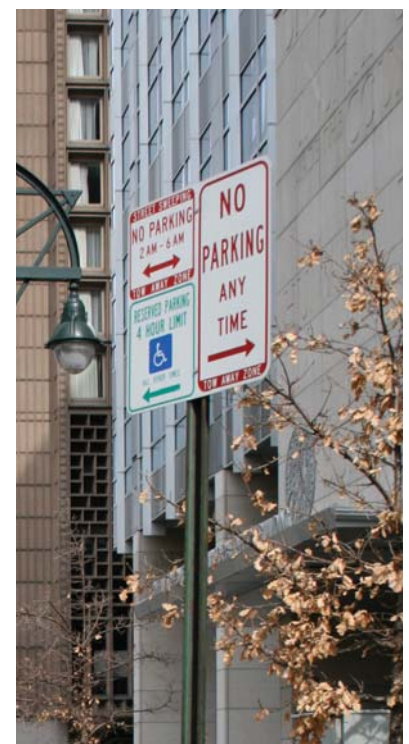
The first step in customizing a strategy is to recognize that management techniques do not impact all user groups in the same way. Different user groups will respond differently to management controls based on their trip purpose, the availability and convenience of alternate transportation modes, and how easy it is to access competing destinations. Different types of user groups have legitimate claims to the same limited parking supplies but they also have different tolerances that dictate how far from their destination they are willing to park. The diagram on the following page displays the parking tolerances of different user groups.

Ignoring these behavior traits can result in unbalanced restrictions that favor one group without accommodating others. While overly restrictive practices are commonly faulted for deterring customers from visiting certain areas, rules that are too relaxed can also be responsible for the same unfavorable outcomes.



The ability to provide balanced parking management for all users is especially challenging with on-street spaces since they are accessible to the public on a first-come, first-served basis. This approach places the default priority on serving those who arrive first, an approach that does not always meet the needs of the various users. For example, employees who traditionally arrive first dominate areas that operate with first-come, first-served parking. This prevents subsequent customers from accessing the spaces nearest to goods and services and creates an air of inconvenience. Deterring customers from visiting prevents them from supporting local businesses and can impact the success of the local economy.

Management tools must be carefully calibrated to reflect and balance how and why stakeholder groups value parking and the associated behavior traits. While no one group has a “right” to a space, understanding the different perspectives of users can help clarify the best use of the parking space as an asset. A balanced approach to parking management intends to improve customer service for the parking user, but does not mean that every person will be able to park exactly where they want for free.





PARKING MANAGEMENT 101

Before creating management strategies, it is essential to better understand the complexities of parking. The following discussion presents a set of key parking management “principles”. This set of parking principles describe the nature of parking universally and provide a base understanding of parking operations. While some of the parking principles presented here may seem simple or intuitive, it is crucial that they be fully understood prior to implementing the SPP parking management vision.

PRINCIPLE 1: PARKING SUPPLY/ INVENTORY AND DEMAND

Parking supply or inventory refers to the total number of spaces available for use. Parking in a given area is supplied through many types of facilities that are owned, managed and used differently.

Parking is typically categorized into on-street and off-street parking. These two categories differ in several important ways. Off-street parking falls into four categories:

- City owned off-street public parking
- City owned off-street private parking
- Privately-owned off-street public parking
- Privately owned off-street parking that is dedicated to a specific use

The majority of on-street parking in Denver is located in the public right-of-way and is managed by the City and County of Denver’s Public Works department.

There are critical differences between on and off-street parking when viewed from an administrative or management perspective. The supply of on-street parking is relatively fixed and the City’s ability to expand that supply is constrained to changes that can be made through street reconfiguration or re-striping. Conversely, off-street parking supply can be expanded more readily through construction of new facilities including surface lots and structured or underground garages. However, the costs associated with new or expanded facilities can be very high.

Parking “demand” refers to the amount of parking that is used at a specific time and place. The factors that influence demand are important pieces of the parking management puzzle. Demand is influenced by vehicle ownership, the popularity

of an area, the nature of the surrounding uses, availability of alternative forms of transportation, and other external factors like fuel costs.

Demand rates typically fluctuate and differ on a daily, weekly, seasonal or even annual basis. The parking characteristics of an area are directly related to the nature of these cycles. For example, demand at an office park will peak during the day on weekdays but demand at restaurants and theatres may peak on weekends or evenings.

PRINCIPLE 2: OCCUPANCY OR UTILIZATION

Parking occupancy is one of the central concepts in parking management. Whether in reference to on-street parking or to an off-street lot or garage, parking occupancy describes the percentage of spaces that are occupied at any given time. Parking occupancy rates, also called “utilization”, reflect the relationship between parking supply and demand. A low occupancy rate in an area means that there are many spaces that are empty or unused. While this may be convenient for drivers traveling to that destination, lower occupancy rates can also mean that oversupplies of parking or inappropriate parking prices exist in the area. By contrast, an area, block face, or lot that is completely occupied could mean that the available parking supply needs additional management to accommodate demand.

Ideally, the occupancy of parking facilities should be high enough to ensure that they are occupied at a level that justifies that parking as a necessary land use, but not so high that it is unreasonably difficult to find a space. Generally, parking is considered “at capacity” when available spaces are 85% occupied.

PRINCIPLE 3: DURATION AND TURNOVER

Parking duration refers to the length of time a vehicle occupies a space. Parking turnover describes how frequently a parking space becomes available or “turns over” during an hour. The rate at which spaces become available is important since it describes the number of opportunities different users will have to occupy a space. For example, a vehicle belonging to a dry cleaner shop employee could either occupy a parking space in front that shop for a full 8 hours (providing access for 1 person) or it could turn over every 30 minutes and provide convenient access for 16 different customers.





Ideally, both on and off-street parking should be managed so that they can accommodate a range of different stay durations based on the needs of the surrounding land uses. A popular retail or commercial area, for example, requires conveniently located parking spaces that are regulated for “short term use” - anywhere between 30 minutes and two hours. Parking around entertainment or restaurant districts may require parking durations that are longer than two hours.

PRINCIPLE 4: ENFORCEMENT

The enforcement of parking regulations is an important component of the parking system. Parking rules and restrictions are put in place to support parking goals such as turnover or access. The success of parking management strategies are often tied to the level of enforcement provided. Parking citations or fines are issued to encourage compliance with rules and to maintain the intent of the parking management philosophies in place within a given area. While enforcement is often necessary to ensure that rules and restrictions are observed, there are significant resource implications associated from both a labor and equipment standpoint. A clear definition of existing resources and implications are an important consideration when selecting a management tool or designing a parking management program for an area.

The Denver Right of Way Enforcement (ROWE) team is committed to providing quality customer service and management of the public right of way. The ROWE team, which includes a staff of Vehicle Control Agents (VCAs), is responsible for monitoring parking management strategies for the entire city. This team can issue citations for on-street, off-street and private property parking violations as well as administer vehicle booting and towing for the City. They provide parking enforcement for sporting events, special events, holidays, concerts, and after-hours university events to balance the needs of special event attendees and the residences or businesses that are impacted. They routinely perform field checks and investigations of contested tickets to ensure that enforcement is appropriate and just. In addition to managing on-street parking, the ROWE team also handles the enforcement of certain right-of-way permits including major encumbrance permits and special parking permits.

Efforts from the ROWE and VCA teams directly support parking strategies in an area. Enforcement that acknowledges and works to support the needs of an area is focused on customer service. If parking management strategies and complementing enforcement are designed well, it increases the likelihood that the

desired goals objectives of an area are achieved (e.g. increased turnover, access, utilization). Under these conditions, parking can truly function as an asset and meet the diverse needs of various stakeholders so that it is easier for those user groups to function within the system.

PRINCIPLE 5: PARTNERSHIP

Internal policy guidance provided by previous City and County of Denver planning documents sets a clear vision for the future. However, the management of day-to-day parking operations within a diverse land use and transportation system is a more complicated endeavor. To achieve success, partnerships with external stakeholders are an imperative component of any parking management program. Partnerships with those who are impacted most by parking policies can help ensure that strategies are reasonable and are tailored to achieve specific desired outcomes. Extensive stakeholder input and buy-in is needed to effectively understand the implications or potential effects of new policies. Input is necessary from a broad cross section of stakeholders including business alliances, improvement districts, property and business owners, residential neighborhood organizations, and other interested individual citizens or organizations.

Conversations with stakeholders should begin early in the development of a parking management strategy and continue over a period of time to ensure that actions are monitored for success and are regularly calibrated to meet the desired outcomes.

Parking management within Denver may also involve regional entities such as the Regional Transportation District (RTD) or the Denver Regional Council of Governments (DRCOG). As such, parking management goals and objectives should be communicated to regional partners so that every opportunity exists to further collaborate and combine efforts.

It is only through efforts to collaborate that a parking management program can succeed and achieve a broader vision for a livable, sustainable city.



PROCESS



THE PROJECT TEAM

The SPP was led by a dedicated team of professionals and co-managed by City staff from Public Works and Community Planning and Development. The team worked with national parking consultants, led by Wilbur Smith & Associates, to develop a framework based on best practices and input from other city agencies, the public, and a variety of stakeholders. The partnership between Community Planning and Development and Public Works acknowledges the impact of parking on both land use and transportation decisions and reflects the City's goal of becoming a more multimodal and sustainable city. Since various agencies, ordinances, and policies regulate parking in Denver, the project team also included engineering, planning, zoning, and policy professionals including key staff from Parking Operations, Right of Way Enforcement, the Parking Violations Bureau and the Office of the Parking Magistrate.

Much of the team involved with the SPP development process already manage daily parking operations and are acutely aware of current conditions and parking needs. These team members will also be responsible for implementing the SPP framework and monitoring the strategies moving forward. This section introduces the SPP project team as well as the related departments and agencies that have provided support throughout the plan development process.

TECHNICAL ADVISORY COMMITTEE

In addition to Public Works and Community Planning and Development, the Technical Advisory Committee (TAC) consisted of key staff members from other city departments, agencies and groups that have an interest in parking. Representatives on the TAC included staff from Budget Management, the Finance and Treasury offices, City and County of Denver Courts, Development Services, Parks and Recreation, Theaters & Arenas, and the Office of Economic Development. Each of these groups offered unique insights and perspectives related to parking around the city and provided valuable advice and direction throughout the plan development process.

The Project Team

Technical Advisory Committee

Public Involvement and Engagement Process

Supporting Policy Documents and Regulatory Tools

The SPP team also engaged the Mayor's Parking Commission (MPC) to solicit feedback on best practices research and the policy directions explored. The MPC is an appointed body enabled by the Mayor's Office . It consists of a variety of stakeholders who represent residential and commercial interests as well as other organizations. This body meets regularly to provide an opportunity for input and to review existing and proposed parking policies and management practices.

PUBLIC INVOLVEMENT AND ENGAGEMENT PROCESS

Throughout the process it was critical to engage members of the public who the subject matter experts on parking conditions in areas where they live, work, and play. The SPP team used a variety of methods to engage the public, share findings, and elicit feedback. The input gained from this process was invaluable and allowed the project team to hear a diverse set of experiences and opinions. As a result of this process, the SPP reflects a wider range of perspectives and tools that can help balance user needs. In addition, the involvement of so many internal and external groups sets the stage for future partnerships throughout the implementation of the plan.

FOCUS GROUPS

Key stakeholders were invited to join the project team at several meetings throughout the SPP development process to review plan goals and objectives and to discuss specific issues. Focus groups included individuals from parking management companies, parking facilities operations, and enforcement professions. Groups also included City of Denver zoning administrators, City finance and budget management staff, business and retail district representatives, development and architecture professionals, and neighborhood and resident representatives. These focus groups provided attendees an opportunity to discuss the variety of perspectives that all must be considered in order to balance parking demand across different user groups. These meetings allowed the project team to





dig deeper into specific parking topics with the people who know them best.

PUBLIC MEETINGS

Three public meetings were held at key points throughout the course of the plan development process to gain an understanding of community stakeholders parking values, needs, and desires. Public meetings also provided an important opportunity to share SPP development updates, educate on best practices research, and solicit feedback from meeting attendees. The public meeting formats varied but typically included an open house, a formal presentation from the project team, and time for questions and answers.

UPDATES TO NEIGHBORHOOD ASSOCIATIONS AND BUSINESS ORGANIZATIONS

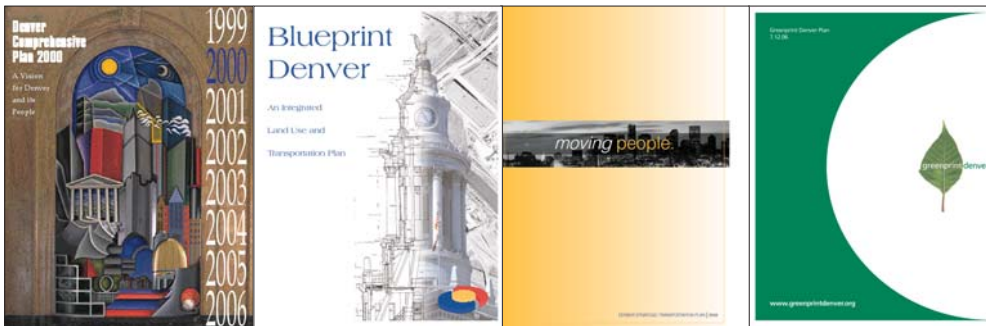
SPP team members also attended several meetings at the request of neighborhood associations/organizations and business alliances in order to provide updates on the plan development process. These smaller meetings provided an additional opportunity for the project team to hear back from various stakeholders, identify needs, and brainstorm parking management strategies.

WEBSITE

A website hosted on Denvergov.org was developed to provide updates and information regarding the SPP. Information regarding parking research, best practices, the SPP approach, study timeline, public engagement opportunities, and presentation materials from public meetings were available throughout the process at www.denvergov.org/parking. The website also provided an additional opportunity for members of the public to provide feedback on parking-related issues through an online survey and comment form.

SUPPORTING POLICY DOCUMENTS AND REGULATORY TOOLS

Since the SPP will be used in conjunction with existing City documents, it is important that it is designed to support the broad set of goals established for Denver by the Comprehensive Plan (2000). The SPP builds on Blueprint Denver (2002), which is the Comprehensive Plan's key implementation document and presents an integrated land use and transportation vision for the entire City of Denver. Additional planning documents such as the Strategic Transportation Plan (2008) and Greenprint Denver (2006) also present complementary policy frameworks and implementation strategies that were considered in the development of the SPP.

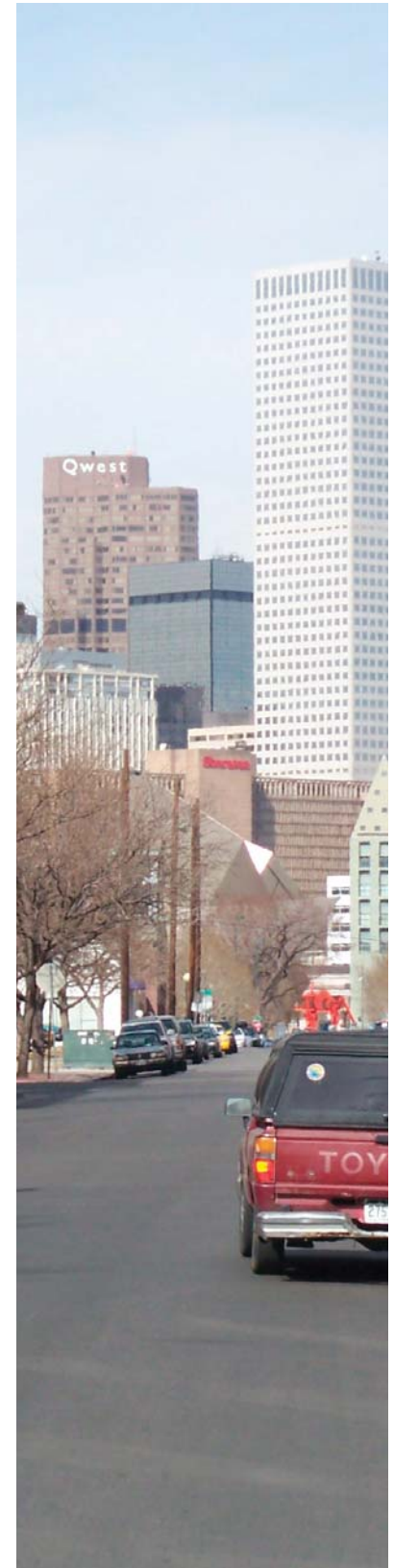


COMPREHENSIVE PLAN 2000

Comprehensive Plan 2000 established a vision for Denver's future that is summarized as "a city that is livable for its people, now and in the future."

In terms of parking policy, the plan outlines the following objectives and strategies:

- Objective 2: Stewardship of Resources
- Strategy 2-F: Conserve resources by introducing shared parking at activity centers
- Strategy 9-C: Explore opportunities for shared parking and evaluate the need for new shared parking structures within major urban centers such as Downtown, Cherry Creek and the Central Platte Valley. Where appropriate, reduce parking spaces required by the Denver Zoning Ordinance.





BLUEPRINT DENVER (2002)

Blueprint Denver established a specific policy framework as the city's integrated land use and transportation plan. Blueprint Denver encourages and promotes a more efficient use of transportation systems, expanded mode choices, appropriate and mixed land uses, and the revitalization of declining neighborhoods. Collectively, the recommendations in Blueprint Denver establish a comprehensive strategy to channel growth in a way that positively impacts the city.

Areas of Change: As Denver's land use policies channel new growth and development towards designated "areas of change," a complementary parking policy will be needed to ensure that parking pressures are adequately managed as both activities and the intensities of uses increases. Similarly, parking requirements, including the potential reduction of parking ratios for mixed-use development or developments near transit stations, play an important role in facilitating and accelerating the desired types of development.

Areas of Stability: Ensuring that Denver's residential neighborhoods within designated Areas of Stability retain their existing character will require a carefully crafted parking policy. Off-street parking requirements and on-street management must be designed in a way that enhances existing neighborhood character while allowing for adaptive reuse and limited development. At the same time, parking resources must be managed to meet the needs of all stakeholders.

Multi-Modal Streets and Innovative Transit Options: Parking policy can be a useful tool to promote the use of alternative modes and control the volumes or behavior of auto traffic along particular streets. Restrictions or the pricing of parking can encourage travelers to use other modes. While widespread access to free parking is undoubtedly convenient for drivers, it will be difficult for Denver to achieve substantial changes in travel behavior while such conditions exist. Similarly, appropriate management of on-street parking can discourage behaviors such as double parking and cruising that can interfere with the efficient operations of traffic. The design and location of both on and off-street parking can shape the character of streets and potentially reduce conflicts between modes. Finally, parking is an important consideration in transit accessibility. Plans for parking at and around Denver's transit facilities will play a role in determining who uses transit, how they access transit facilities, and the kinds of impacts those facilities have on surrounding neighborhoods.

THE STRATEGIC TRANSPORTATION PLAN

The Strategic Transportation Plan (STP) was completed in fall 2008. The STP is a multimodal transportation plan created to understand and address the current and future transportation needs of the City and County of Denver. The STP commits to multimodal transportation as the answer to growth management in Denver. The STP evaluates demand in terms of “people trips” not “vehicular trips” meaning that all modes are included. The STP analysis concluded that the expected continued growth in person-trip demand means that Denver’s infrastructure cannot accommodate unlimited trips by single occupancy vehicle. In the same way, Denver’s infrastructure and limited available land cannot accommodate the parking demands that are generated by endless single occupancy vehicle trips. The STP supports the Comprehensive Plan 2000 and Blueprint Denver by focusing on multimodal alternatives and a well balanced approach to transportation.

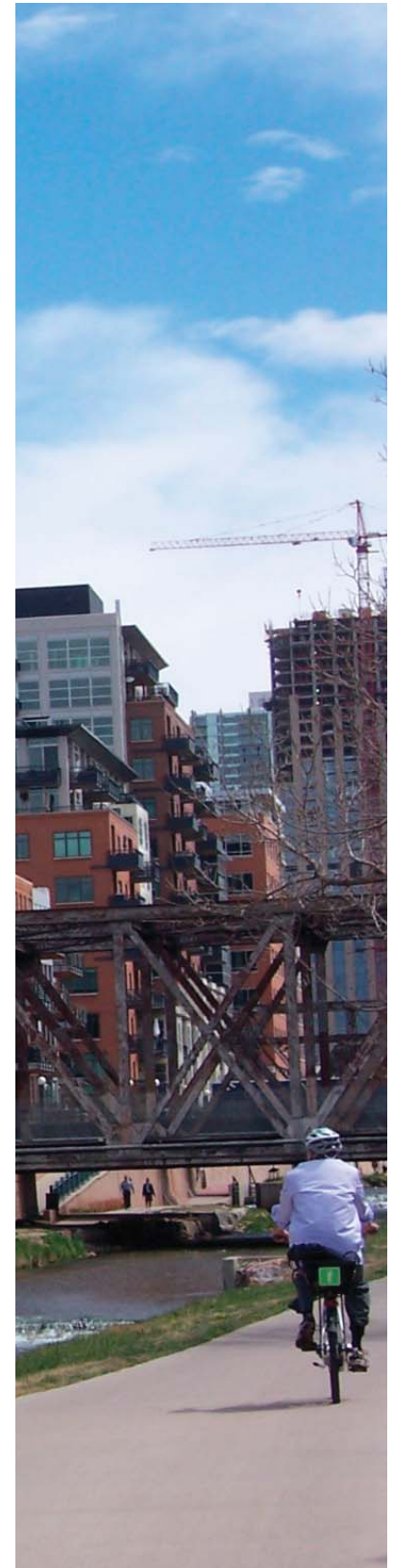
GREENPRINT DENVER

Greenprint Denver (2006) is an initiative of Mayor John Hickenlooper to promote sustainable development and ecologically-friendly practices. The initiative sets goals including a 10% reduction in per capita greenhouse gas emissions by 2012 from the 1990 emissions rate. Greenprint supports smart growth decision-making as a way to promote economic opportunity and a better quality of life for all residents. Greenprint also promotes the availability of affordable communities so that Denver’s residents will have continued access to jobs and essential services.

REGULATORY TOOLS

The City regulates the supply of private parking through requirements and protocols detailed in the City’s municipal code and, in particular, the Denver Zoning Code.

Denver’s parking and land use policies of the 1950s focused on automobile-oriented development and a separation of land uses. These policies and static regulations led to the application of free and abundant parking that quickly covered large areas with surface lots throughout Denver. The City’s former zoning ordinance was established in 1956, and while it was amended on several occasions, over time it became inadequate to efficiently accommodate Denver’s anticipated growth and travel demands.





The Denver Zoning Code, adopted by City Council on June 21, 2010, is the first major revision since 1956. The new code takes a smarter approach to parking by building on guidance from Blueprint Denver, Comprehensive Plan 2000 and research and analysis done as part of the Strategic Parking Plan process. The updated code presents a new method for defining parking requirements in different parts of the city by establishing neighborhood contexts. This philosophy enables and encourages smart growth development and promotes multimodal access and use. Like the SPP, the Denver Zoning Code recognizes that there is no one-size-fits-all approach to parking management. New parking base rate requirements are now simplified and many are reduced. Parking requirements have also been calibrated by neighborhood context.

The Intent of Parking Regulations in the Denver Zoning Code:

- Balance adequate off-street parking requirements with city-wide objectives that encourage pedestrian-friendly environments and the use of multiple modes of transportation. This includes mass transit and bike parking requirements to reduce vehicle parking demand.
- Provide a variety of mechanisms to meet parking needs while promoting development and reinvestment in existing buildings, including historic structures.
- Recognize, through parking reductions, the parking efficiencies gained through mixed use development, mixed income development, development proximate to rail and bus transit, and their collective impact on parking demand.
- Promote bicycle use by providing safe and convenient bike parking. Provide minimum requirements for different types of bike parking facilities and the amount of bicycle spaces.
- Encourage comprehensive, efficient, multi-site parking strategies.
- Minimize the visual impacts of parking areas, structures and garages on streets, open spaces, and adjoining development.
- Design surface parking and parking structures to be visually compatible with the surrounding development, convenient for users, and mitigate the negative impact of vehicle noise, headlights, lighting and mechanical systems.
- Integrate the function and appearance of parking structures into building

groups so as to minimize negative impacts on public space and the pedestrian environment.

- Design parking structure facades to reflect the predominant fenestration (transparency) patterns of area buildings and to the extent possible wrap street facing elevations with active uses, especially at street level.

There are multiple parking reductions and exemptions available in the Denver Zoning Code. Examples of these provisions are listed below and more information is available in Article 10 of the Denver Zoning Code.

Exemptions:

- Small Zone Lots
- Small Ground-Floor Retail Uses in Mixed Use Projects
- Historic Structures built prior to 1967
- Preservation of Existing Trees

Reductions:

- Vehicle Parking Reduction for Affordable Housing and Senior Housing
- Vehicle Parking Reduction for Proximity to Multi-Modal Transportation Options
- Vehicle Parking Reduction for On-Site Car and Bike Sharing Programs
- Parking Reduction for Assisted Living Facilities

The Denver Zoning Code framework was adopted, but its terms will continue to evolve and meet the changing needs of the city. Revisions to Denver Zoning Code base rates increases development opportunities, but can also subject the remaining parking supply to greater demand pressures. Changes will require parking management decisions to be more strategic and flexible in order to support the City's sustainability, livability and access goals.



VISION



DENVER'S EXISTING PARKING CONDITIONS

Prior to launching the SPP effort, Denver Public Works commissioned a Strategic Parking Plan Phase One Study to identify and explore existing relationships between parking demand and supply in 11 vibrant areas of the City. The study areas were specifically chosen as typologies to represent different types of land uses and activities.

The study was designed to inform questions like:

- How much parking supply actually exists in the area and what are the parking demands?
- Can existing parking supplies accommodate the parking demands of the surrounding land uses?
- How well utilized are the different types of spaces available in an area (i.e. on-street spaces, off-street spaces, public spaces, and private spaces)?

Parking supply data was gathered by counting the total number of existing spaces in each identified study area. This number included all public on-street spaces as well public and private off-street spaces within set boundaries. Parking utilization data was collected by counting the number of actual vehicles parked during peak periods. This exercise provided a glimpse into the nature of parking demand and parking utilization in each area. In addition, land use information from the City Assessor's database and field observations were both considered to study the relationship between parking demand and a given land use mix type as it varied across the study area typologies.

Areas types studied were:

- Two main street districts
- Two town center districts
- Two school campus districts
- Two hospital campus districts
- A shopping district
- A business center
- A high rise residential district

Denver's Existing Parking Conditions

Vision #1: Acknowledge a Variety of Land Use Patterns and Contexts

Vision #2: Manage Parking as an Asset

Vision #3: Integrated Approach to Parking Management

National parking experts consider parking to be at capacity when 85% of the available parking is occupied. The results from the Denver study indicated that in all of the 11 study areas, at least 25% of the total parking supply within the study area boundaries was vacant during the peak parking period. While the bulk of the underutilized parking supply was primarily in private off-street parking lots, the results of the study suggested that there were spaces available during peak parking periods in all 11 study areas.

Although available parking was identified within each study area, each of the 11 study areas also suffered from one or more hot spots where parking demand was greater than the available parking supply.

The study also confirmed that the existing land uses in each study area generated parking demands at different times. Office uses that generated parking demand during regular business hours had much less parking activity in the evenings. Restaurant uses with very little demand during the AM peak hours generated much more parking activity in the evenings.

The SPP Phase One study highlights the need for parking management strategies that better utilize available supplies. To be most effective, however, the strategies must recognize a given area's unique characteristics and be calibrated for its specific needs. This understanding provided an impetus to create the SPP, a plan to detail both parking management strategies and the considerations necessary to select the best tools.

VISION #1: ACKNOWLEDGE A VARIETY OF LAND USE PATTERNS AND CONTEXTS

The Phase One study revealed that parking demands differ depending on context. Just as there are a variety of parking users with different needs, the city is also made up of a variety of land uses, building forms and transportation facilities. It is unrealistic to expect one set of parking management strategies and programs to be effective across the board since actions that are appropriate for downtown may prove ineffective in the more suburban areas of Denver.





Downtown



Urban Center



General Urban

Neighborhood Context Characteristics	Downtown	Urban Center	General Urban Neighborhood
Level of transit availability	Highest frequency	High frequency	High to Moderate frequency
Land use and density characteristics	Highest-density characterized by a mix of multi-unit residential, commercial, office, civic, institutional, and entertainment in large buildings containing one or more uses.	Moderate to high-density characterized by a mix of multi-unit residential, mixed use commercial strips and commercial centers.	Moderate density characterized by multi-unit residential. Single-unit and two-unit residential uses are found throughout. Commercial areas are embedded within residential areas.
Mobility characteristics and parking demand	High priority given to the pedestrian. High levels of bicycle use. The hub of the multi-modal transit system. Fewer opportunities for free on and off-street parking, high demand for on-street spaces.	There are high levels of pedestrian activities and bicycle use with greatest access to multi-modal transportation. High demand for both time-limited and priced parking spaces. High demand for on-street spaces.	There is a balance of pedestrian, bicycle and vehicle reliance with greater access to multi-modal transportation. Higher demand for on-street spaces as off street space availability is constrained.
Examples	Central Business District, Golden Triangle, LODO	Cherry Creek, Broadway and Lincoln through Capitol Hill and Uptown.	Capitol Hill, Cheesman Park, Cherry Creek North

Urban Neighborhood	Urban Edge Neighborhood	Suburban Neighborhood
Moderate to low frequency	Low frequency	Lowest frequency
Low to moderate density characterized by single-unit and two-unit residential uses. Medium-scale multi-unit residential uses and commercial areas are typically embedded in residential areas.	Low to moderate density characterized by a mix elements from both Urban and Suburban neighborhoods. Primarily single-unit and two-unit residential. Small-scale multi-unit residential uses and commercial areas are typically embedded in residential areas.	Low to moderate density characterized by single-unit and multi-unit residential, commercial strips and centers, and office parks. Uses are typically separated by major streets.
There is a balance of pedestrian, bicycle and vehicle reliance with greater access to multi-modal transportation. Moderate demand for on-street and off street spaces.	Moderate reliance on the automobile with some pedestrian and bicycle activity and low to medium level of access to multi-modal transportation. Lower demand for on-street spaces as uses provide free off-street parking.	High reliance on the automobile with some access to pedestrian and bicycle facilities and multi-modal transportation. Lowest demand for on-street spaces as most uses provide free off-street parking.
32nd & Lowell, Old South Pearl, Historic Gaylord Street, Washington Park, Berkeley	Colfax east of Monaco Pkwy, Morrison Rd.	Tiffany Plaza (Hampden), Northfield Stapleton, 29th Town Center



Urban



Urban Edge



Suburban



Before an area can consider new parking management strategies, it must first identify the unique characteristics that influence parking demand and behaviors.

These characteristics may include the level of transit service, density and land use mix, the nature of retail and employment, and development constraints. Defining characteristics first will help the community select the most appropriate parking strategies for their goals. Refer to the table on the previous page for examples of different neighborhood contexts and their associated characteristics.

VISION #2: MANAGE PARKING AS AN ASSET

The SPP vision is to actively manage the existing supply of parking from an asset management approach. For an asset to be fruitful, it must be managed on a day-to-day basis in correspondence with a long-range plan. Parking is undoubtedly a public asset that can be valued in terms of convenience, financial importance, and land use. The SPP advocates for the use of this asset to support economic development; neighborhoods with distinct character; efficient use of land; a multi-model network with a variety of transportation choices; and a sustainable environment with good air and water quality. Parking is a tool that can be used to achieve the long-term goals set forth by Denver's existing planning documents. To be effective, however, benefits should always be weighed against the associated behavioral, operational or physical costs. In that regard, parking fees and fines should be set to, at a minimum, cover the annual costs of administrative, capital, operations, and maintenance required to keep the asset healthy and sustainable.

VISION #3: ENCOURAGE AN INTEGRATED APPROACH TO PARKING MANAGEMENT

In addition to the extensive partnerships required for effective parking management, tremendous levels of coordination will be required to deal with a variety of complex situations. The SPP advocates for management strategies that are created as a result of coordination with various stakeholders groups. If management strategies are too preoccupied with achieving a singular outcome or with appeasing one user group, the result is unbalanced. An integrated management approach, however, recognizes the surrounding context and the influence a different area's characteristics can have on a given situation. Since parking needs can vary dramatically by area, the SPP recommends that parking

management in Denver not be designed as a one-size-fits-all calculation. The presence of so many variables means that a one-size-fits-all approach to parking management cannot adequately balance needs or provide the most efficient use of available inventory. Instead, parking management should be designed to balance the localized needs of different user groups as well as complement the City's overall parking goals. Localized parking management decisions may be made on a micro-scale, such as a single block face, or they may be made at a neighborhood, district, or area-wide scale. Regardless of the size, defining desired parking management outcomes provides the opportunity for participation and input from key community stakeholders regarding parking conditions and goals. Approaching parking management from this perspective will lead to more thoughtful management plans that can better address needs. This approach can also lead to management measures that are reasonable and encourage compliance.



MANAGEMENT TOOLBOX



THE PARKING MANAGEMENT TOOLBOX

The Parking Management Toolbox is based on the SPP vision. Parking management decisions should carefully consider each area's context, treat parking as a valued public asset, and seek to balance user needs based on stakeholder input. To achieve this vision, the SPP recommends a standardized process created to yield a customized set of management tools that allow parking to support healthy thriving communities.

The SPP recommends that City staff, along with involvement from a diverse group of stakeholders, evaluate parking strategies using the following five-step process. Each step includes a new set of tools with incremental strategies to deal with parking from an asset-management perspective.

1 DEMAND

Parking demand tools mitigate or reduce the demand for parking

2 LOCATION

Parking location tools implement strategies that can move demand away from the core and into areas with excess parking supply and clearly locate or define where parking is available for users

3 TIME

Parking time tools introduce or modify time restrictions to encourage turnover and better use of parking spaces. Influencing factors include surrounding land uses, time of day, and availability of supply

4 PRICING

Pricing tools provide a wide range of flexibility. When appropriately calibrated, these tools can reduce occupancy in high demand areas and create a market for off-street parking

5 SUPPLY

Supply tools evaluate the availability of the existing parking supply and work to

The Parking Management Toolbox

Demand, Location, Timing, Pricing, Supply

Applying the Toolbox

Area Management Plan

optimize its use to the maximum extent possible before building/developing new supply.

This five-step process provides stakeholders and City parking management staff a consistent way to evaluate existing parking conditions and develop a progressive set of parking management tools to use as conditions change over time. The process is designed to grow in management intensity from Step One to Step Five. Step One tools (Demand) are usually easier to administer, utilize fewer resources, and have less of an impact on stakeholders. As such, Demand tools should be the first set of strategies considered. In contrast, Step Five tools including the construction of additional parking supply should only be considered when all other management options prove insufficient. As the last step in the process, Supply tools represent a more intensive strategy with significant resource implications. Applying tools in this way will help ensure that parking regulations are not overly burdensome from either the stakeholder or resource perspectives. Understanding user parking demand profiles and behaviors is critical in situations where the physical supply of parking is limited. Predicting how different user groups will respond to different management controls will be an important step in selecting tools. The five-step process can better target the use of City resources towards management strategies that are appropriate for each area.

1 DEMAND

Demand management tools are the first set of strategies to evaluate when considering increased parking management in an area. Demand strategies work by reducing the number of total vehicle trips in an area, which in turn reduces the parking supply needed for those vehicles. Demand management tools include a broad range of strategies and can be designed to target employers, employees, visitors, customers, or residents. Demand tools should also be designed with an area's context in mind. Downtown and urban center areas have higher levels of transit access and may have different opportunities than a suburban or lower-density area. A significant piece to any successful demand management program is outreach to increase participation in the program. Demand strategies may incentivize behaviors such as increased use of alternative transportation – but they





are most effective in reducing peak parking demand.

Transportation management associations (TMAs) are private, non-profit organizations that provide transportation-related information within a defined geographic area. Often led by an executive board and funded by public-private partnerships, these organizations serve member companies or individuals by organizing programs and providing education to support the efficient use of transportation systems within an area. They can also serve to facilitate conversations regarding shared parking arrangements or serve as a feedback mechanism for stakeholders on the success of parking management strategies. Membership in a TMA can also bring financial savings to a business or property owner because it provides support and information regarding affordable transportation choices. TMAs can be great partners in the implementation of demand strategies.

The following list is not intended to be an exhaustive list of demand strategies. Rather, it suggests examples of how demand management programs can be especially useful in improving the function of parking as it relates to the overall transportation system. Since demand tools are less intensive in terms of the five-step process, they are often overlooked. However, their positive impact on the parking system should be considered and credited. Demand strategies that are coupled with the proper education and evaluation can result in lasting institutional shifts in travel behavior.

The following are examples of demand strategies:

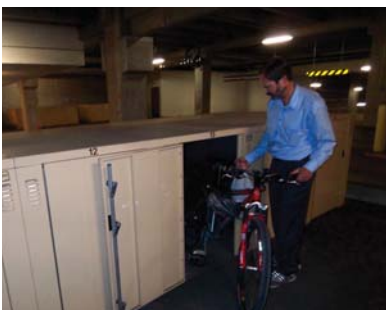
TRANSIT INCENTIVES OR SUBSIDIES

Transit incentives provide reason to try alternative modes of transportation. They alleviate parking demand by encouraging commuters and residents to shift away from single occupancy vehicles as a primary mode of travel. These types of programs may include subsidized transit passes, fare free transit zones, or other fare discount programs. They are often administered or managed through individual employers, schools, businesses or neighborhood organizations in conjunction with the local transit provider.



BICYCLE PARKING AND SHOWER FACILITIES

Commuters often shy away from bicycle travel because changing from cycling clothing into work clothing is perceived to be inconvenient. Inadequate facilities



or fear of theft can also deter individuals from choosing bicycle transportation. Bicycle parking, storage and shower/changing rooms provide convenience and security for cyclists, making it easier for individuals to choose this mode.

There are many types of bicycle storage facilities and choices can vary depending on placement and the regulations associated with that building or area. Bicycle parking is typically sorted into two categories; short and long-term parking. Short-term parking is needed where bicycles will only be parked for a short amount of time. Short-term parking should be very convenient and accessible. Long-term parking is needed adjacent to uses where bicycles will be left for several hours. It should offer both security and protection from the weather. Areas where individuals will be staying for hours at a time may also be appropriate for additional facilities such as lockers, storage rooms, washrooms and clothes changing facilities. Showers can also be provided to incentivize bicycling as a commuter mode.



RIDESHARING PROGRAMS (CARPOOL AND VANPOOL)

Ridesharing is a common and cost effective alternative mode for areas that are not well served by public transit. Ridesharing is typically targeted at commuters who can choose to rideshare either part or full-time depending on their schedules. It can be an important mobility option for non-drivers as well. Programs are often formalized through regional entities such as the Denver Regional Council of Governments (DRCOG), or they can operate more informally through notices posted on bulletin boards or other communication networks. TMAs, transit agencies and community transportation organizations can also provide matching services for ridesharing programs.



CAR-SHARING

Car-sharing programs provide individuals access to a centrally owned and maintained fleet of vehicles on a per-hour or per-day basis. Programs are typically membership based, which allows members to reserve cars for specific timeframes and pay only for the time the car is needed. Fees are based on a combination of hourly, overhead, and mileage costs. Car-sharing programs are effective because they distribute the fixed costs of car ownership into the marginal cost of every trip made. Participation in the program can reduce the total number of trips since participants are required to make all their trips during a set reserve time.



BIKE-SHARING

Similar to car-sharing, bike-share programs provide access to bicycles at a variety of locations across a city or within a given area. These programs complement existing transit or other alternative transportation programs by allowing participating individuals to switch back and forth between modes. Similar to the car-sharing program, users are able to check out bicycles for a certain duration of time and pay a marginal fee either through a membership or per use. The programs work to offer affordable access to bicycles to reduce the number of vehicles trips made for short distance outings.

FLEXIBLE WORK SCHEDULES/TELECOMMUTING

Flexible work schedules are an option to stagger employee trips and make better use of existing parking inventory. Targeted towards commuters, this program allows employers and employees to develop suitable schedules that meet the organization's needs without generating the typical morning or afternoon peak demands.

2 LOCATION

Location management is the second step in the five-step process and attempts to shift parking patterns away from high demand areas to take better advantage of existing, underutilized parking supply. The following management tools are simply intended to alter users' choice of location by providing additional information and directing them to other parking opportunities to make supplies more readily available.

The following are examples of location strategies:

WAYFINDING AND INFORMATION

Drivers can spend significant amounts of time searching for on-street parking rather than quickly entering an off-street lot where spaces are available but perhaps less visible. This behavior often occurs because drivers have difficulty locating available, public off-street facilities. Improved directional and facility signage can increase the efficiency of the parking system and reduce motorist uncertainty by assuring them that spaces are available near their destination.

Implementing both wayfinding and informational signage programs can increase the use of off-street facilities by providing drivers with information about facility location, parking availability, and parking pricing. Wayfinding and signage can also shift users to satellite lots that might otherwise be unknown or be considered off-limits. Signage that communicates pertinent information can greatly reduce cruising and driver stress during peak occupancy periods.

Different types of wayfinding strategies include signs at gateway locations, directional signage to parking facilities, and informational signage. Gateway and directional signs indicate the direction of travel (ahead, left, or right) to nearby parking facilities. Facility signs should display parking rates, time limits, and other pertinent information. Parking wayfinding signs can be either static or dynamic. Dynamic electronic signage offers the greatest flexibility for wayfinding programs as these signs have the ability to display parking availability and other transportation related information in real time. Wireless networking and real-time message signs can provide users with information on availability and direct motorists to parking locations. Custom text messages can also provide up-to-date information regarding availability. Signs should always be visible and legible to drivers.

SHARED PARKING

Currently, much of Denver’s existing parking supply exists in private off-street facilities that are dedicated to specific uses and therefore inaccessible to the general public. Shared parking allows property owners to share a common parking facility so that two or more distinct uses can share the same parking supply rather than maintaining two separate facilities. Shared parking makes better use of the aggregate spaces that are available. Since uses may have peak parking demands that differ by time of day, different uses may be able to share fewer total parking spaces than the total they would need if each were providing its own spaces. Shared parking encourages a holistic view of parking supply. It reduces the need for smaller parking lots located in different areas, pools resources during peak demand times, improves development feasibility, helps increase densities, and promotes mixed-use and pedestrian activity.





Two shared parking types are currently regulated in the Denver Zoning Code:

1. Traditional Shared Parking

Traditional shared parking is used to meet the minimum parking requirement for two or more distinct uses within a mixed-use developments, or for multiple uses that are located near one another and have different peak parking demands and/or operating hours. This type of shared parking requires zoning approval and a city review process.

2. Accessory Parking Spaces

This type of shared parking provides flexibility for uses to share accessory parking spaces when existing spaces are not fully utilized. Property owners can charge a fee or create another type of arrangement to make unused parking available. In this scenario, the existing parking supply meets the minimum requirement for the property owner and provides additional parking resources to the area. This type of shared parking can often be arranged outside of a city process. Business owners, residents, commuters, etc. can approach the owners of these accessory spaces to discuss shared parking arrangements that are mutually beneficial.

3 TIME

Time management tools limit the amount of time some or all users can remain parked in certain areas. Such tools promote turnover in high demand areas and work to shift users with longer term parking needs into off-street facilities or more remote locations. The rate at which spaces become available is important since it translates to the number of opportunities different users will have to occupy a space and thus access a business, residence, or activity.

Parking needs vary based on the purpose of a trip. Time management restrictions can be set to promote accessibility of spaces for certain trip purposes while discouraging them to be used for others.

- Very short time periods: Defined as 3 to 10 minutes, this time increment corresponds with a very high turnover rate. Regulating spaces to adhere to this time period is only appropriate in limited cases where there is a high demand for deliveries or loading. Drop-off spaces near schools or transit stations are uses that might benefit from spaces regulated to this time increment.

- Short time periods: Defined as 15 to 30 minutes, this time increment allows for quick errands. Regulating to this time period is appropriate for spaces that are immediately adjacent to uses like post offices, convenience stores, dry cleaners, and banks.
- Medium time periods: Defined as 30 minutes to four hours. This time range accommodates virtually all visitor and customer trip needs common to commercial areas including longer shopping trips as well as dining and entertainment excursions. Spaces should be regulated to accommodate 90 minutes or more if the spaces are intended to accommodate restaurant or entertainment uses. Limiting spaces to three or four hours of continuous use will effectively exclude commuter or residential use.
- Long time periods: Defined as 8 hours or more, these longer time periods accommodate commuters and residential parking.

A high rate of turnover established through time limits is an effective way to make desirable parking spaces available to a large number of users. It is also a mechanism to prioritize different types of parking activities. The City's parking permit program (including the Residential Parking Permit program) is an example of how time restrictions are used to prioritize different users at different times.



Activity	Regulatory Time Period (Hours)									Optimal Location (Blocks)				
	0	1	2	3	4	5	6	7	8+	1	2	3	4+	
Pick-Up & Drop-Off • Deliveries • School • Transit	<div style="background-color: red; width: 100px; height: 15px; margin-bottom: 5px;"></div> Very short (3-10 minutes)									<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> ★ Adjacent to desired location </div>				
Short Errands • Bank • Post office • Dry cleaners	<div style="background-color: blue; width: 100px; height: 15px; margin-bottom: 5px;"></div> Short (10-30 minutes)									<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> ★ On-street, same blockface </div>				
Shopping & Entertainment • Dining • Movies • Longer errands	<div style="background-color: green; width: 200px; height: 15px; margin-bottom: 5px;"></div> Medium (30 minutes - 4 hours)									<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> ★ </div>		<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> ★ On- or off-street, 1-2 blocks away </div>		
Commuter & Employee • Work • Transit station • Park & ride	<div style="background-color: purple; width: 250px; height: 15px; margin-bottom: 5px;"></div> Long (4-8 hours)									<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> ★ </div>				<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> ★ Off-street lot </div>
										★ User's destination Walking distance				



TIME LIMITS

Ideally, both on and off-street parking should be managed to accommodate a range of different stay durations based on the demand profiles of anticipated users. Time limits that do not consider different user needs can frustrate customers with trip purposes that do not fit the restrictions. Inefficient time limit restrictions can also enable employees to work the system. For example, employees may hope to avoid a parking citation by moving their cars every two-hours.

Time limits offer one way to create a ready supply of short-term parking by limiting the length of time each vehicle can stay parked in a particular space. This regular turnover makes more efficient use of the existing parking supply. A system of time limits on-street will encourage longer-term parkers to shift to off-street parking or nearby on-street spaces that are not time limited. Introducing or adjusting time limits may also help regulate mixed-use areas that are not ready for Step Four - Pricing. Time restrictions can accommodate or discourage multiple user groups by assigning different block-faces with different stay restrictions. For example, four-hour time limits may be appropriate around light rail stations as a mechanism to exclude commuters from parking on-street all day.

Parking time limits are very common throughout the U.S. and are typically one of the first kinds of on-street restrictions to be imposed in smaller downtowns and commercial areas. In mixed-use areas, time limits may encourage longer-term parkers to move into residential areas to avoid parking restrictions. The competition between residential parkers, visitors, and employees can be mitigated by providing information for on and off-street parking opportunities, re-calibrating time limits or by implementing a permit program. Regardless, effective implementation of time limits requires regular enforcement.

MANAGEMENT HOURS

Most on-street management regulations are not in effect 24 hours a day. Adjusting the specific hours and days of the week when restrictions are enforced is a way to address parking demand generated by specific uses. Management hours are typically aligned with standard business hours. As a city grows with activities that run later into the evening, management hours may expand to include night time activities.

As a general rule, management tools should be active when parking demands

are high. Similarly, management rules should be relaxed at times when parking demand is not sufficient to require management. Management hours should be tailored to the needs of specific areas. An entertainment district might require active parking management in the evenings while a neighborhood school area might be served by management from the early morning to late afternoon. Extensions into the evenings or on Sundays may be required in order to help the parking system function more smoothly. Particular care should be taken when extending restrictions in residential areas to ensure that residents have access to street parking if necessary. The advantages of tailored management hours should be weighed against enforcement resource implications as well as the potential for public confusion due to multiple rules. Community education and outreach for any significant management change is advised.

PERMIT PARKING

Permit parking programs are an important tool used to reserve street parking in specific areas for certain users. While these programs promote a balance of parking availability for different user groups, they also have associated administration costs. If not designed correctly, these programs can fail to achieve their objective.

The Residential Parking Permit (RPP) is an example of a program that was introduced to protect neighborhoods in high demand areas from parking impacts. For example, after the introduction of the Southeast Corridor RTD Light Rail line, several neighborhoods located next to high demand stations were given RPP designation to limit the impacts of rail users. While on-street spaces should be typically be available for public use, there are areas where additional restrictions are necessary to balance the competing needs of customers, employees, and residents. Although several user groups have a legitimate need for parking supply at any given time, the program can make it hard for all stakeholders to achieve parking compliance when it is biased to one particular group. The program is not currently designed to serve or balance the needs of those that create demand within an area (i.e commuters, business owners, and employees). In addition, several RPP areas are not actively enforced due to resources. As we move towards a more customer-service based approach to parking, it is critical for all impacted stakeholders to understand the value of an on-street space from different perspectives. Certainly no one group has a “right” to on-street parking, but stakeholders should be realistically confident that the available parking in an area can support their needs. An expansion of the permit program to include





additional user groups according to available supply would better coordinate the use of existing inventory at different times. In addition, the SPP recommends setting the permit fees to recover the administrative and material costs of the program.

4 PRICING

Step Four of the process introduces pricing strategies. Charging a fee for both on and off-street parking both limits stay duration and increases the predictability of finding a parking space. Many successful commercial districts have found that appropriate on-street pricing ensures better parking availability and supports vitality high demand areas. A common misperception of merchants is that pricing will deter customers. In reality, pricing often improves the customer experience since it increases the likelihood of finding a parking spot near a preferred destination.

PARKING PRICING MANAGEMENT TOOLS

Pricing is an extremely versatile and powerful tool that can be used many different ways depending on the environment of an area and the desired outcome(s). It promotes convenience and turnover more explicitly than the tools available in the previous three steps. People may value free parking and choose to walk several blocks or they may value convenience and decide to pay for a space directly in front of their destination. Decisions often are based on the reason for a trip and pricing is one of the most effective ways to instigate a shift in parking behavior across all user types. While it is effective, pricing must be carefully calibrated to avoid unintended consequences. If the on-street price of parking is too low, demand for spaces will exceed supply and could result in a shortage. Introducing or raising the cost of parking often encourage users to consider all the on and off-street parking options available before defaulting to an on-street space.

There are two general forms of pricing strategies that should be considered. The first and most common approach is to implement on-street prices in tandem with time limits. The second approach involves variable pricing, which introduces a fluctuating price for high-demand spaces.

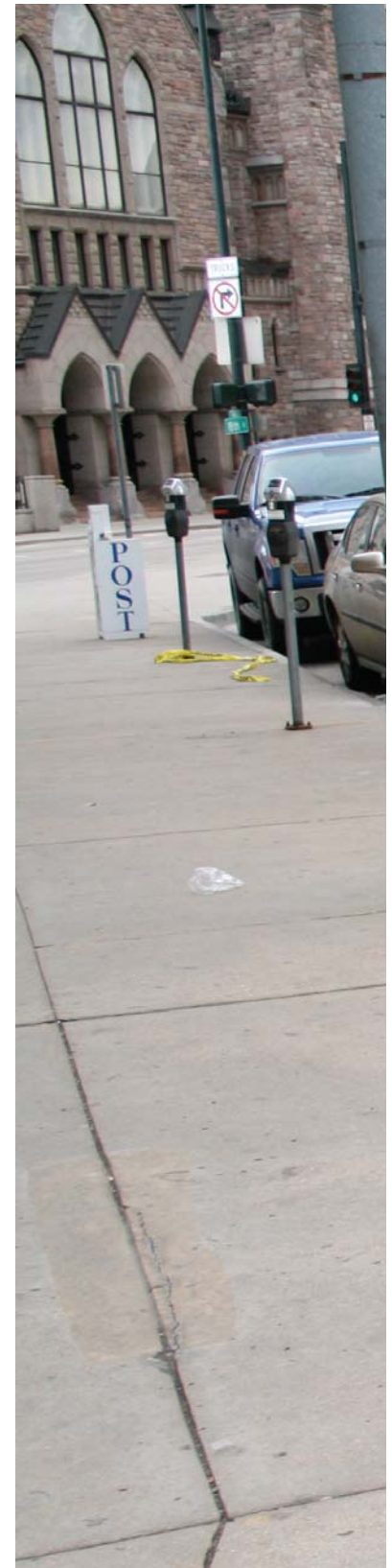
TIME LIMITS WITH PRICING

Pricing provides long-term parkers with the flexibility to choose on-street parking, but also introduces a price to further encourage a shift to off-street facilities. As a result, convenient spaces are released for short-term visitors. When street parking is free, parkers have no incentive to pay for off-street parking. On-street pricing can encourage users to consider the most appropriate parking facility based on their individual needs.

Time limits and pricing are typically combined to manage areas that have significant short-term parking shortages. Parking that is regulated by both time limits and pricing increases turnover and can generate revenue. These systems include “traditional” metering where a users pay for a set increment of time. Such systems are user-friendly and relatively easy to enforce. However, as with time restrictions, pricing with time limits can encourage long-term parkers to park and then re-park to avoid tickets. Some users may “feed” meters throughout the day so that they can bypass the time limit and remain parked at the same location. Enforcement efforts must be designed to support the goals of pricing restrictions.

VARIABLE PRICING

Many existing lots and garages in Denver are underutilized, in part due to the current inexpensive rate of on-street parking. Variable pricing offers additional flexibility with the ability to fluctuate rates according to demand. With this system, no explicit time limit is set but hourly parking prices increase with longer parking durations, making long-term parking more expensive with each successive hour. For example, pricing in a high demand area may be set at \$1.00 for the first hour, \$1.25 for the second hour, and \$1.50 for the third hour. Variable rate pricing structures prioritize on-street parking for short term uses while shifting longer-term parkers to off-street facilities. On-street parking in the core areas of the district are the most convenient and can command higher or variable prices. Parking located away from the core can be priced slightly lower or at a flat rate to favor long-term parkers. Event pricing recognizes the market value of a special event and assigns a rate to on or off-street spaces accordingly. New technology allows for advanced meter capabilities that make variable parking easier to implement. New pay stations and “smart” meters make it easy to change rates if adjustments are necessary.





COORDINATING ON AND OFF-STREET PRICING

On-street management efforts function more smoothly if they are coordinated with off-street facilities. Users typically prefer on-street parking over off-street options since the per hour cost of on-street parking is often lower and may be considered more convenient. Where possible, on-street and off-street prices should be set to encourage long term parking to occur off-street, reserving the more convenient on-street spaces for short term parkers. This encourages commuters or employees to use alternative modes while still providing short-term parking for customers. Coordinating on and off-street parking prices is challenging for several reasons. While the City can adjust prices on-street, it is unable to directly set rates in private garages that make up the majority of Denver’s paid off-street supply. An on-street parking pricing system that encourages better use of off-street public parking facilities is recommended.

PARKING CASH-OUT

Parking cash-out allows employees to choose between free or subsidized parking and the out-of pocket equivalent cost of the parking space. Employees may choose to “cash-out” from a parking space and apply the money towards a lower cost alternative mode. A study on parking cash-out summarized results from seven work sites and estimated a 26 percent reduction in parking demand (Donald Shoup: The High Cost of Free Parking, 1992). The key elements to promote cash-out include excellent transit service, limited parking supply and high parking prices, and land prices.

PARKING DISTRICTS

The intent of a parking district is to consider the existing parking supply on a district-wide, aggregate basis rather than as individual lots (public or private). The ability to form an off-street parking district is already available to private developers and business owners within the City of Denver. A revenue-sharing parking district, however, allows a district to share in the revenue generation associated with pricing for an area’s on and off-street spaces. Shared parking districts can optimize total parking supply in an area, although the specifics vary with each arrangement. The potential for revenue-sharing might be used to incentivize the use of pricing management tools. If successful, incremental

revenue resulting from on and off-street pricing could be used to provide additional services, streetscape improvements or additional supply. However, any district arrangement must consider the indirect costs associated with a district. For example, costs for the enforcement necessary to make the system work may impact the total amount of net revenue generated.

Any tool that may alter the City's revenues and expenditures for parking should be carefully considered. Revenues derived from parking go into the City's general fund and are often put to use in other areas of the city to provide services or cover deficiencies in both parking and non-parking related areas. With that in mind, any revenue shared with new parking districts could impact the City's ability to pay for other city needs.

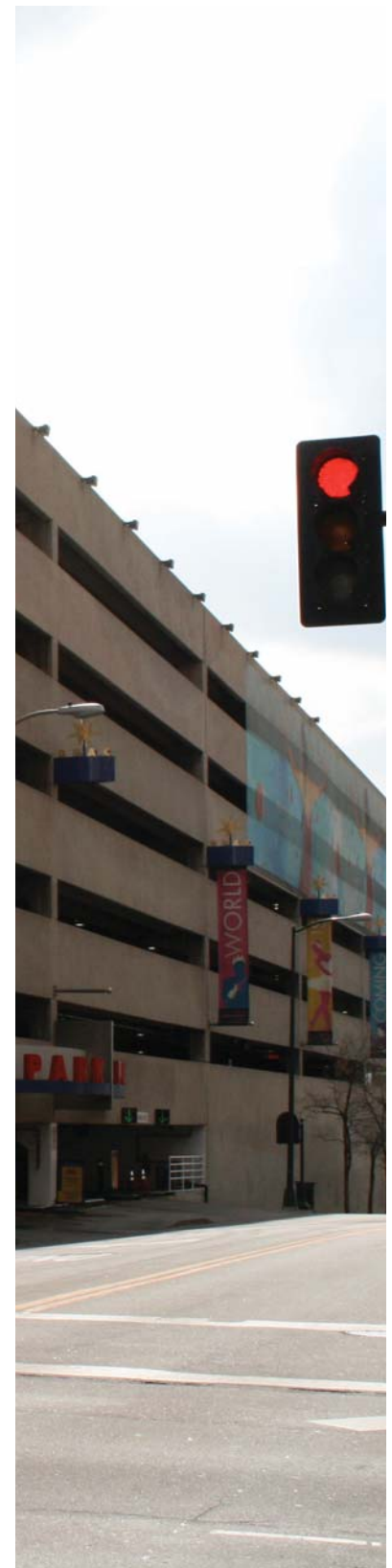
In some cases the benefits that result from the use of revenue-sharing may deem it the best management approach. Since the SPP recommends introducing strategies that result in best parking management, the feasibility and cost/benefit of revenue-sharing of any proposed area must be evaluated on a case-by-case basis to determine if it provides stakeholders with the best parking management tool and does not negatively impact the health or sustainability of the City.

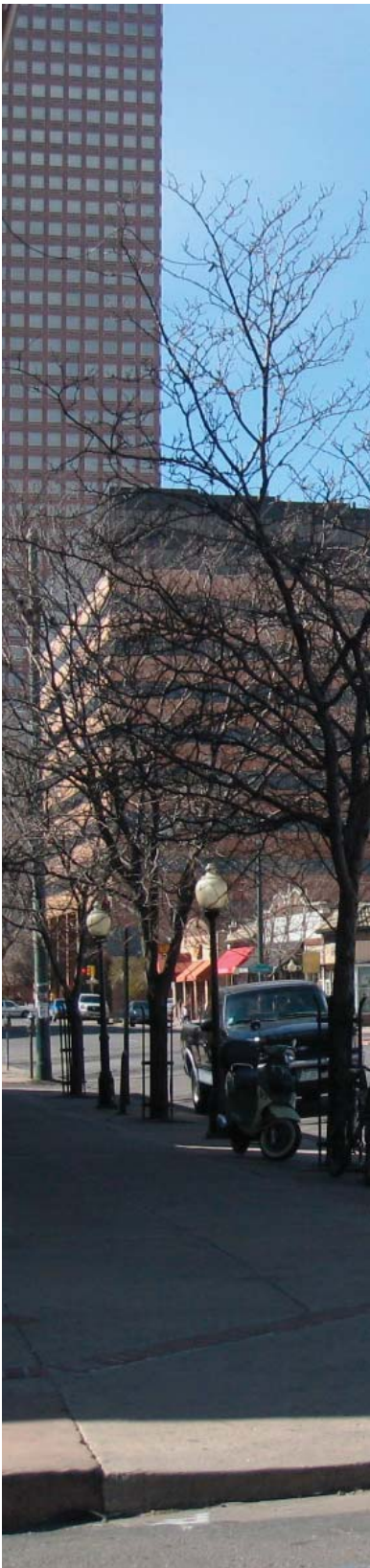
The SPP recommends an Area Management Planning process to determine whether revenue-sharing is an appropriate tool for an area. The Area Management Planning process will be covered in the next section. This analysis will require significant stakeholder involvement.

5 SUPPLY

In many cases, pricing strategies may prevent the need to add unnecessary supply. The SPP recommends the thorough exploration of tools associated with each of the previous four steps before considering the addition of new supply.

However, if parking demand consistently outweighs supply after considering Step One through Step Four, it may be necessary to explore additional parking supply. An expansion of parking supply can occur through the construction of additional off-street parking facilities or by increasing the use-dedicated parking requirement in the Zoning Code. Increasing off-street parking requirements can have a number of adverse impacts and is not a recommended solution. Expanding the parking supply through the construction of new facilities is costly and will require private and/or public funds. Accommodating additional parking will also make single occupancy vehicle trips easier. Finally, the addition of supply can





introduce garage and surface lots that may not represent the best use of land in a given area. As a result, an expansion of supply should only be considered when it is clear that parking management alone cannot address conditions. In some cases, land may not be available where parking is needed. In other cases, the cost of land may prohibit the feasibility of adding supply.

APPLYING THE TOOLBOX

There are a variety of positive outcomes that can result from the implementation of a thoughtful parking management program. A program designed from the tools described above can encourage the most efficient utilization of existing resources and balance the needs of a variety of users.

However, parking management programs also have the potential to create negative outcomes if they are implemented incorrectly or incompletely. Parking non-compliance, or parking violations, can frustrate users in several ways. First, if a management strategy is not enforced and spaces are continually unavailable, customers and visitors are discouraged from returning to an area. However, if regulations are too stringent or inappropriate for an area, seemingly arbitrary parking citations can also discourage return visits. Incorrect parking controls may also result in parking spillover. Spillover is when users visiting commercial districts, schools, or special events park on side streets and adjoining blocks to avoid paying for parking, thereby spilling over into adjacent neighborhoods. Each of these negative outcomes has dangerous economic implications for businesses and the city at large and provides evidence for why more customized strategies should be pursued. In some cases, special parking strategies may be needed for certain events in addition to the regular day-to-day parking management practices. Parking management strategies should always be monitored to avoid unintended negative consequences.

Parking management strategies that are designed well and encourage compliance may decrease the amount of revenue generation for the city from parking fines. However, the goal of the SPP is to equip parking operations staff, residents, business owners and other stakeholders with tools that are calibrated to achieve benefits that go far beyond that of revenue generation. Under proper management, residents and visitors can throughout the city and support business and community development. These are benefits that positively impact the sustainability and livability of the city.

AREA MANAGEMENT PLANS

Denver's popularity is due in part to its composition of distinct areas. From quiet neighborhoods to bustling urban centers, each has a unique contribution to the overall Denver fabric. Growth in these areas can lead to increased vitality however, changing conditions may warrant new strategies in order to realize that success. Parking policies have the power to impact changing conditions both positively and negatively. They can either promote accessibility and support the activities of an area or they can create frustrating customer or resident experiences.

The five step parking management process was designed with tools that can be used either individually or in different combination to address specific parking needs. These tools can be used on a micro scale to address more localized parking conditions or they can be applied on a larger scale to create a more comprehensive parking system in an area. The infinite combinations possible with the toolbox allow flexibility for parking management staff and impacted stakeholders to customize solutions that best meet the defined needs.

The SPP advocates that parking management decisions be made on two scales moving forward. First, Public Works Traffic Engineering Services staff will continue to manage smaller parking issues on a day-to-day basis along with partner agencies and directly impacted stakeholders. These more localized parking-related issues might be triggered by complaints or by new small-scale developments. After an analysis of the situation, the team will decide on a parking management strategy to be applied to one or more blocks. For example, the team will look for opportunities to reclaim on-street parking from loading zones that are no longer necessary due to a change of land use.

While day-to-day parking management will continue to troubleshoot localized parking conditions around the city, growth or changing conditions in other areas may require a more comprehensive approach. For areas that have high demand, diverse user groups, or a complex mix of land uses, the SPP recommends the development of an Area Management Plan (AMP) in order to identify context-specific strategies that address a larger area and engage a variety of stakeholders for input. The intent of the AMP process is to work with communities to determine the desired outcomes, the level of management that will be provided in an area, the right amount of parking that will be provided, and the user groups that will be prioritized at any given time. The AMP process is an innovative approach to engage a community in the identification of management tools that support the health, growth, and/or preservation of that area's unique characteristics.





Each AMP will be comprised of a different set of tools based on an area's specific needs, however, the general process of identifying those tools will follow the same five-step process outlined in the Parking Management Toolbox. Strategies will be implemented following the Demand, Location, Time, Pricing, and Supply order so less intensive opportunities are identified before more intensive strategies are considered.

The first step in any AMP is to analyze existing conditions based on the specific characteristics of an area. As described in the Vision section, area differences may include level of transit availability, land use and density characteristics, mobility characteristics and parking demand. With these differences in mind, areas will typically align with one of the following contexts as established in Denver's zoning code; Downtown, Urban Center, General Urban, Urban Neighborhood, Urban Edge Neighborhood, Suburban Neighborhood. Parking is in high demand in Downtown areas with high-rise office buildings, commercial services, and ground-floor retail. As a result, Downtown areas may have more opportunity for variable pricing strategies with parking rates that vary due to time of day, special events, or demand. Urban Centers and Urban Neighborhoods, however, are characterized by a mix of land use and transportation types that all have different parking needs. Suburban Centers are generally located in areas with less density and adequate surface parking for customers and patrons provided by each land use.

The following section illustrates a hypothetical AMP process to explain how an area might utilize the five-steps and the Parking Management Toolbox. Using this process stakeholders can work towards understanding existing conditions and identifying the desired outcome based on specific parking needs.

Note: The following hypothetical scenario is only an example and does not represent actual data or the standard result of an AMP process. Each AMP process will be unique and will yield different results.

STEP 1: DEFINE COMMUNITY

Hypothetical management scenario: The AMP area is an embedded commercial district surrounded by an urban neighborhood. The area is connected by several bus routes. Public on-street parking in the area is currently free and unrestricted.

STEP 2: IDENTIFY PARKING CONDITIONS

Stakeholders in an area often trigger an AMP process. Since they are regular users of the parking in an area, stakeholders are usually the first to be aware of and report difficulties or abuses to parking management strategies that are currently in place. The level of enforcement in a given location and the number of phone calls from impacted stakeholders are two indicators of parking conditions that may need attention. There may be opportunities to develop an AMP in concert with a neighborhood or area-wide planning process.

Various groups should be involved in the AMP process to identify parking conditions from all stakeholder perspectives and make sure those view points are documented and well understood.

Sample questions to ask in this process include:

- Who is affected by parking in this area?
- What are the varying perspectives of parking in the area?
- Is there currently anyone documenting these opinions (i.e. City Council offices, property owners, neighborhood associations)?

Hypothetical Management Scenario:

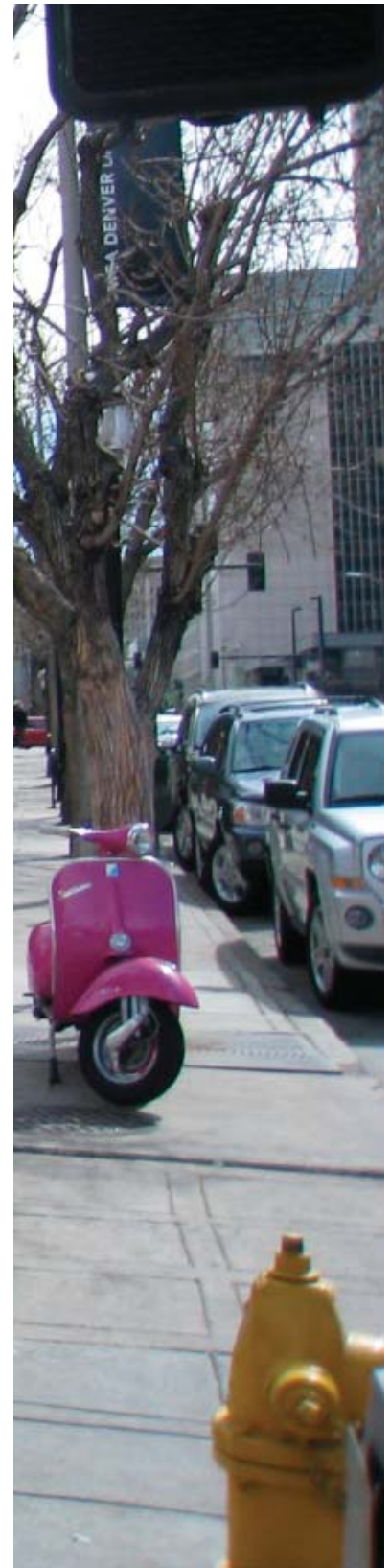
Residents adjacent to a small embedded commercial district have complained to a City Council office that customers and employees of businesses are spilling over into the neighborhood and preventing homeowners and tenants from accessing on-street spaces. In response, business owners claim that the lack of parking supply has created an inconvenient parking situation for visitors and may result in loss of business if the situation continues or worsens.

STEP 3: DEFINE ISSUES AND COLLECT DATA

In Step 3, a partnership of City and community stakeholders work together to better understand the issues that have been raised. They design a data collection effort to better understand actual occupancy, utilization, and turnover rates. Once collected, this data will be used paint a picture of existing conditions including the behavior and needs of different user groups in the area.

Important questions to explore in Step 3 include:

- What is the appropriate area of analysis for the AMP and the data





collection?

- Where is parking supply available and what is the amount of inventory?
- Is the majority of parking inventory private or is it available to the public?
- When is parking available?
- Who are the different users of parking in the area?
- What are the parking preferences of these different user groups?
- What are the peak demand times and the associated user groups?
- What are the duration/turnover rates along the main commercial street and the adjacent residential streets?

Hypothetical Management Scenario:

The City team and stakeholder group collect data during the day, evening, weekday, and weekend. They find:

Overall, parking occupancy is highest between 11:00 am – 1:00 pm.

Most of the off-street parking supply within the study area is dedicated to private, commercial uses and is restricted to allow only the patrons or employees of those stores or offices. However, at peak times, these dedicated lots are only about 50% occupied.

One small off-street public parking lot is convenient but charges \$5 a day. The lot opens at 7:00 am and closes at midnight. This lot does not exceed 25% occupancy even at peak parking times.

On-street parking is nearly 100% occupied along the commercial corridor during peak parking times. The data reveals that many of the cars parked along the commercial corridor turn over infrequently. This indicates that spaces are being used by long-term parkers like employees or residents.

On-street occupancy in the residential neighborhoods is high on blocks directly adjacent to the commercial corridor. However, more spaces are available on the exterior blocks.

STEP 4: DEVELOP AREA SPECIFIC PARKING GOALS

In Step 4, City staff and community stakeholders use the information they have gathered to develop shared parking objectives based on both context and various user needs. The following questions may help articulate common goals.

- Is user priority different at different times of the day?
- Are there other parking users that should be accommodated at that time?
- Are there parking users that should be discouraged at any time or encouraged to park elsewhere?
- What is the desired level of parking occupancy for the different segments of the study area?
- Which users need to park close to their destinations?
- What types of users can and will park farther from their destinations?
- What is the desired rate of turnover for the different segments of the study area?
- Do different parking users need to park for different lengths of time or will one duration accommodate all users?

Hypothetical Management Scenario:

City staff and community members work together to create a common list of objectives for AMP parking outcomes.

- On the commercial street, customers are identified as priority users for on-street spaces. Delivery vehicles should also be accommodated.
- Residents are also identified as the priority users of on-street spaces on the residential streets.
- Employees need to park somewhere but are not a priority user group in either area.
- Off-street lots should be nearly full (at or over 90% occupied).
- On-street parking on the commercial corridor should be 85% occupied so that it is primarily full but has several spaces open at any given time.
- On-street parking in residential areas should be less full (60-75%) so that





residents will always be able to park relatively near their homes.

- On-street spaces along the commercial corridor should turn over frequently (every 30 to 90 minutes).
- Off-street spaces should be reserved for visitors and customers who will be in the area for more extended periods of time (2 – 4 hours) as well as for employees (6-8 hours).
- On-street spaces within the residential areas should be available to residents but if capacity is left over can also be used on a more short-term basis by other users.

STEP 5: DEVELOP A MANAGEMENT PROGRAM

Once data is collected and clear parking objectives are set, City staff and community stakeholder's work together to develop an AMP using the successive five-step process in the Parking Management Toolbox. Tools that fall within Demand strategies are considered first before moving down the list to Location, Time, Pricing, and Supply strategies. Tools are considered based on their ability to address existing conditions, balance stakeholder needs, and promote sustainable vitality and a high quality of life in the area.

Hypothetical Management Scenario:

City and area stakeholders move through the five-step process and decide on the management tools described below:

Demand -

Business stakeholders agree to encourage employees to ride alternative transportation. They will make schedule information available and offer transit subsidies. Several shops also agree to install additional bike storage for cyclists.

Resident stakeholders agree to encourage neighbors to use available private, off-street parking resources such as garages and driveways to free up on-street supply for guests or deliveries.

Location -

The operator of the public, off-street surface lot agrees to improve signs so that information regarding hours of operation, rates, and payment options is more readily available. This may encourage visitors who are staying in the area for

longer amounts of time to utilize the lot and leave on-street parking spaces to visitors with shorter trips. Business owners with private use-dedicated lots enter into arrangements to share off-street parking resources with other shops in exchange for help with lot maintenance costs.

Time -

City staff work with both business and residential stakeholders to design and implement time restrictions on the high demand commercial corridor and on alternating adjacent residential streets. Time restrictions will allow visitors to park for two hours before being required to move their cars. Residents work together to determine whether a Residential Parking Permit program is appropriate to protect neighbors from spillover from the new restrictions and consider the impacts the program will have on their parking needs.

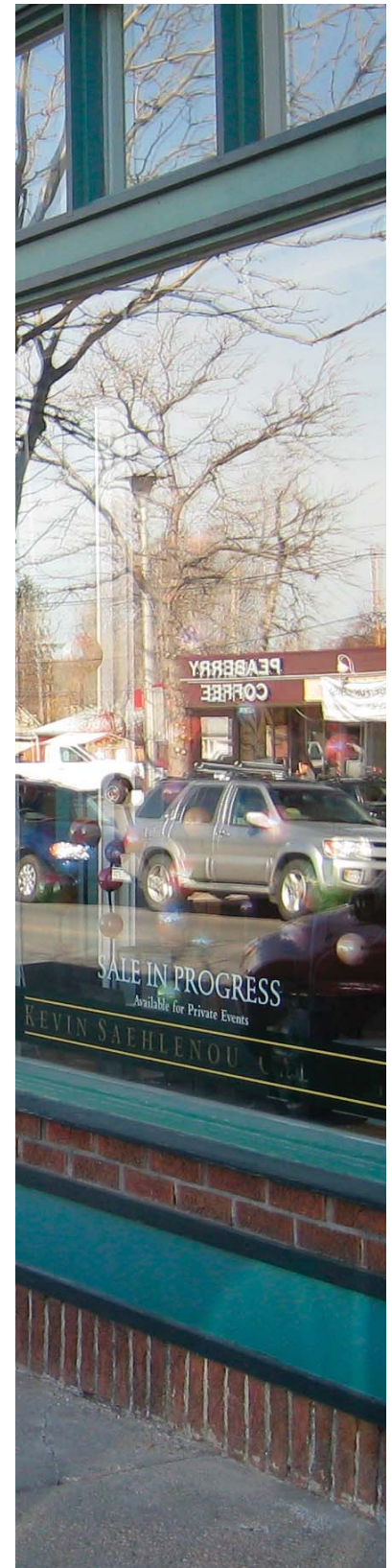
Pricing -

As the commercial corridor becomes increasingly vibrant, City staff monitor the utilization rates and the effectiveness of the time restrictions. After working with business owners and residents to assess changing conditions, they identify several blocks along the commercial corridor that have the potential to be metered if growth and demand continues.

Supply -

As properties develop and uses change, new off-street parking opportunities are possible. In addition, business owners continue to share parking and work with private off-street lots to create options that are convenient for visitors and employees.

This hypothetical scenario illustrates the intent behind an AMP process. While each process will be unique based on an area's context and specific issues, there will be a consistent emphasis on collaboration and data collection to make decisions. Once each management tool is applied, it will be followed by an evaluation period where stakeholders and the City can monitor success so that tools and associated enforcement efforts are calibrated to address conditions.



IMPLEMENTATION



IMPLEMENTING THE STRATEGIC PARKING PLAN

This three-part section identifies action items that support the vision of the SPP. These action items are divided into two categories; key recommendations and next-steps recommendations specific to the five-step process introduced in the Parking Management Toolbox. Finally, an implementation matrix provides a summary of all recommendations and a goal time-frame for implementation.

KEY RECOMMENDATIONS

ACKNOWLEDGE A VARIETY OF LAND USE PATTERNS AND CONTEXTS

Recognize that Denver is made up of a variety of land uses, building forms and transportation facilities. Manage both on- and off-street parking contextually, not through a one size fits all approach. Take time to define area characteristics first in order to select the most appropriate parking strategies for an area's goals.

MANAGE PARKING AS AN ASSET

Actively manage the existing supply of parking from an asset management approach. Recognize the value of each on- and off-street parking space to the surrounding area's activities as well as to the City as a whole. Use the asset to support economic development; neighborhoods with distinct character; efficient use of land; a multi-modal network with a variety of transportation choices; and a sustainable environment with good air and water quality. Effectively weigh benefits against the associated behavioral, operational or physical costs. Set parking fees and fines so they, at a minimum, cover the annual costs of administrative, capital, operations, and maintenance required to keep the asset healthy and sustainable.

ENCOURAGE AN INTEGRATED APPROACH TO PARKING MANAGEMENT

Provide opportunities for input from key community stakeholders regarding parking conditions and goals. Create management strategies that balance the needs of diverse user groups with strategies that complement the City's overall parking goals.

OPTIMIZE THE USE OF EXISTING PARKING RESOURCES BEFORE BUILDING NEW FACILITIES

Explore parking management tools designed to better manage existing supply (Step One through Step Four) before considering the addition of new facilities. Consider the direct and indirect costs of parking and parking management before the application of any strategy.

INTEGRATE THE SPP VISION INTO OTHER PLANNING PROCESSES

The vision set forth in the SPP should be applied in all planning processes moving forward. Efforts for Area or Neighborhood Plans, Station Area Plans, Corridor Plans, Urban Design Guidelines and Standards, General Development Plans or citywide initiatives should reflect the SPP philosophy and/or recommend strategies outlined within the five-step process.

EVALUATE THE EFFECTIVENESS OF APPLIED PARKING TOOLS AND PROVISIONS IN THE DENVER ZONING CODE

Follow the application of each parking management strategy or tool with an evaluation period where stakeholders and City staff can monitor impacts and adjust as needed.





Create an evaluation process for Community Planning and Development staff to monitor the effectiveness of Denver Zoning Code provisions including vehicle and bicycle parking base rates to determine whether they are calibrated appropriately. Include an evaluation of the use of reductions or exceptions including shared parking allowances and transit-proximate reductions to see if these tools are being utilized.

Both Community Planning and Development and Denver Public Works need to be involved to monitor the success of applied tools, base rates, reductions or exceptions and be aware of potential impacts they may have on stakeholder groups.

PILOT THE AREA MANAGEMENT PLAN PROGRAM

- Evaluate necessary resource needs to pilot the AMP program for one location. Estimated timeline for first AMP pilot is in 2011.

While Denver Public Works and Traffic Engineering Services will continue to monitor parking conditions throughout the city and manage those conditions on a daily basis, some areas will require more intensive planning efforts and could be candidates for Area Management Plans or AMP processes. The SPP recommends that the City pilot an AMP to design strategies that reflect the asset management approach set forth in this document.

Status: City staff are currently preparing for a pilot AMP program by assessing potential program resource needs. Over the next several years, the goal is to use the Area Management Plan process to address larger areas that need a more comprehensive approach to parking management. It is important that City staff fully understand the resource implications in order to develop a successful program. A pilot program will provide a test case to inform what funding and personnel resources are required moving forward. For example, consultant resources might be required to collect data on an area's parking utilization, turnover, and duration habits in depth. This valuable data can provide stakeholders and City staff with real information to use when selecting the most appropriate parking management strategies for an area.

In addition, because the creation of an area management plan will be an intensive process, it is necessary to allocate the appropriate amount of staff time to ensure that AMPs are efficient, thorough and are poised to achieve a high-level of buy in

amongst stakeholders. Staff teams will include advisory members from multiple city departments to ensure that parking management decisions align with and support other City goals, policies, and objectives set for that specific area.

At this time, City staff estimate that the first pilot AMP will begin in 2011. The program will expand as resources allow.

NEXT STEPS - 1 DEMAND

ENCOURAGE THE USE OF MULTIPLE MODES OF TRANSPORTATION

Car-sharing

- Monitor the popularity of car-sharing programs in Denver.
- Evaluate the results of on-street car-sharing spaces in the downtown area after designated pilot period.
- Encourage car-sharing programs as a better use of the overall alternative transportation system.
- Monitor and adjust provisions regarding car-sharing parking reductions in the Denver Zoning Code as needed.

Car-sharing has recently come to Denver. Several new companies offering car-sharing services have started hubs in Denver and are offering services to registered users. Each company has a number of vehicles ranging in type and size stationed throughout the Denver area in both on-street and off-street locations. Car-sharing is an important complement to the overall alternative transportation system as it can reduce the number of cars needed for each household.

Status: Car-share operators prefer highly visible parking spaces to make their services convenient and attractive for users. Denver Public Works has partnered with a non-profit car-share company to provide several highly desirable, on-street parking spaces for car-share use only in the Downtown area. Spaces are also available in off-street lots in the Highlands and Capitol Hill neighborhoods. These previously metered spaces are located in high-demand areas Downtown and will be dedicated to car-share use for a pilot period. During the pilot period, car-share staff and City representatives will study the rate of on-street car share vehicle usage and meter revenue impacts to determine whether the program will be expanded into the future.





Bicycling and Pedestrian Programs and Facilities

- Prioritize bicycle and pedestrian movements in Denver by working to expand a safe and connected network of routes for both modes.
- Complete the “Denver Moves: Making Bicycle and Pedestrian Connections in the Mile High City” planning effort to identify investment areas for better bicycle and pedestrian connections in on and off-street locations.
- Encourage support for bike-sharing programs to complement the overall alternative transportation system.
- Monitor and adjust bicycle parking requirements in the Denver Zoning Code as needed.

Bicycling continues to gain popularity as a commuting choice and recreation activity in Denver. As a parking management strategy Demand tool, bicycling can both reduce traffic congestion as well as reduce the demand for parking by shifting drivers to a new mode. The expansion of a safe and connected bicycling network should be encouraged throughout Denver.

Status: To encourage cycling habits in the City, Denver Public Works is working to extend the striped bike lanes and sharrow networks within the city. Since 2007, the number of striped bicycle lanes within the City and County of Denver has doubled. In addition, Denver Public Works allocated resources to update the Denver Bike Map and provide free copies to the cycling community via local libraries, recreation centers and several bike shops.

In addition, the City and County of Denver launched “Denver Moves: Making Bicycle and Pedestrian Connections in the Mile High City”. This effort will focus on the linkages between on and off-street routes and the creation of a stronger, integrated system that connects people to destinations. The effort concentrates on linking pedestrians and cyclists to destinations so that cycling and walking become more viable, efficient, and pleasant ways of moving around the City. Denver Moves is a collaborative effort between Denver Parks and Recreation and Denver Public Works with support from Denver Environmental Health. More information regarding this effort is available at www.denvermoves.org.

Lastly, the Denver Biking Sharing initiative “B-Cycle” launched in April 2010. Like car-share, this new system allows for short trip connections to transit or other alternative modes by bicycle. Cyclists can pay a small sum to use one of hundreds of bikes located at over 40 different locations throughout the City. More

information regarding B-Cycle is available at www.bcycle.com.

ENCOURAGE PRIVATE DEVELOPERS AND EMPLOYERS TO UTILIZE TRAVEL DEMAND MANAGEMENT STRATEGIES AND PROGRAMS

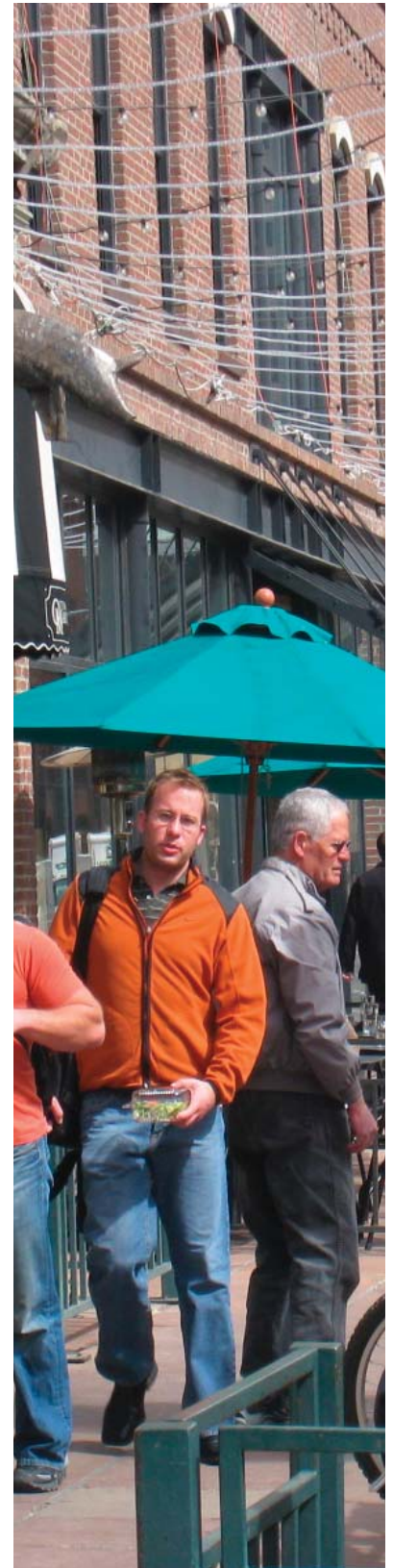
Travel Demand Management (TDM)

- Encourage private developers and employees to utilize ideas from this plan to manage parking demand through creative strategies.
- Continue to support Transportation Management Associations or organizations as they work with property/business owners and employees to institutionalize TDM strategies.

TDM strategies challenge the notion that a single occupancy vehicle is the best form of mobility. Private developers, employers, and business owners are encouraged to integrate TDM strategies including secure bicycle parking, showers, transit subsidies, carpool programs, or flex-time schedules to reduce vehicle parking demands.

Status: Currently the City supports several Transportation Management Associations or Organizations (TMAs and TMOs) that work directly with employers or property owners throughout the city to promote alternative transportation and TDM. They also work with other likeminded organizations and regional entities like the Denver Regional Council of Governments (DRCOG) to examine funding sources for region-wide strategies that expand transportation options.

In addition, a funding source established through the DRCOG Transportation Improvement Program (TIP) provides resources to selected projects that promote and facilitate alternative modes of travel such as carpooling, vanpooling, transit, cycling and walking. These projects can explore additional mode-types or connections that can decrease overall parking demand.





NEXT STEPS - 2 LOCATION

ENHANCE DENVER'S PARKING-RELATED INFORMATION AND RESOURCES.

Online Parking Resources

- Create an integrated parking website that serves as a primary source of information for all parking related matters.
- Explore online capacity to provide additional administrative functions including permit applications and real time parking conditions announcements.

The current City and County of Denver website offers many resources regarding parking, however, the SPP recommends that existing online resources be reorganized and enhanced so that stakeholders can quickly navigate through the most comprehensive and updated information available. An improved website can better connect stakeholders to pertinent information regarding parking policies and procedures. It will also connect stakeholders to City staff who can best answer specific questions and encourage broader participation in the creation and implementation of parking management strategies.

In addition, explore ways that online administrative functions can be enhanced. There may be opportunity to provide online applications for parking permits such as the Residential Parking Permits or special occupancy permits. This service can provide additional user convenience, consistency, and efficiency. A well-designed website can also serve as a primary portal to alert stakeholders of changes or announcements so that conditions such as major construction or special events are communicated and alternative parking options are clearly explained.

Status: Denver Public Works has allocated resources to reorganize online web resources available through www.denvergov.org. The availability of online applications will be updated as resources allow.

IMPROVE WAY FINDING AND THE AVAILABILITY OF INFORMATION FOR OFF-STREET PARKING FACILITIES

Way Finding and Information

- Encourage parking operators and providers to offer better information

about off-street availability

- Monitor success of Park NOW Denver and adjust or expand to other high parking demand areas throughout the city

The location, cost, and public availability of off-street facilities are not always clear to drivers. Even if a facility is open to the public, the rules of that location such as parking rates or hours of operation are often hard to determine. Confusion or lack of information often results in a driver default to on-street parking. Encouraging parking operators to provide better information about off-street parking availability can increase utilization these facilities.

Status: The City and County of Denver in conjunction with the Downtown Denver Partnership has developed Park NOW Denver, a public parking recognition program that will help drivers find off-street parking locations and provide more information regarding these lots and garages. Participating lots will be required to meet a certain set of criteria so that parking users can be assured of a consistent parking experience. Participating lots must provide clear information regarding rate information, payment options, hours of operation, and contact information should a customer have questions. In addition, new wayfinding signage posted around the downtown area will help drivers identify participating off-street parking lots. Encouraging the use of off-street facilities will free up on-street spaces for short-term parkers. The Public Parking Recognition Project is currently being piloted and, if deemed successful, the program could extend to other urban center areas throughout the city.

USE NEW LANGUAGE IN DENVER'S ZONING CODE TO SUPPORT SHARED PARKING ARRANGEMENTS.

Shared Parking

- Develop a "Shared Parking FAQs" brochure or webpage with information on shared parking as it relates to the Denver Zoning Code as well as private agreements.
- Evaluate the use of Denver Zoning Code shared parking arrangements and monitor and adjust those provisions as needed.

The Denver Zoning Code was adopted in June 2010 and includes new language to support Location tools for parking management. New provisions encourage





developers to coordinate with surrounding uses to share parking resources according to travel behavior needs and use patterns. Shared parking can also provide developers with potential parking reduction incentives. Whether land uses are changing, evolving, developing or are established; there is a great opportunity for private property owners and developers to seek out shared parking arrangements to maximize the use of existing resources and limited land supplies to meet parking needs. Shared parking arrangements that result in base rate reductions require City approval but many shared parking partnerships can be arranged without formal approval. The SPP recommends that businesses, residents, or other stakeholders explore shared parking opportunities in their neighborhoods. Attention to stakeholder input and behavior is essential for the design of a successful shared strategy that meets the diverse needs of a variety of users.

Status: A “Shared Parking FAQs” brochure or webpage with tips and important information regarding private shared parking arrangements will be created as resources allow.

NEXT STEPS - 3 TIMING

SUPPORT PARKING ACCESS NEEDS AND EXPLORE NEW TECHNOLOGIES

- Continue to work with stakeholders to determine time restrictions that support parking and access needs.
- Utilize new technologies to understand user behaviors and calibrate time restrictions.

The SPP recommends calibrating time restrictions with the needs of the activities and stakeholders in an area. If a block is primarily occupied by upscale restaurants or other entertainment uses, on-street parking may need to accommodate stays of two to three hours in these areas. One-hour restrictions on this block may annoy restaurant patrons and could impact economic vitality for business owners.

The availability of new technologies increase opportunities to collect valuable data before making parking management decisions. For example, license-plate recognition technologies provide information on duration and turnover behaviors and indicate the origination points of visitors. In addition, new meter technologies can also provide stay or duration data that informs user behavior patterns. These technologies can allow city staff to study behavior in specific areas of the city so

that AMPs or more localized parking management decisions can better meet the needs of adjacent land uses.

NEXT STEPS - 4 PRICING

UTILIZE THE MOST UP-TO-DATE AND CONVENIENT TECHNOLOGY TO SUPPORT ON-STREET PARKING MANAGEMENT STRATEGIES.

- Utilize new Smart Meters to improve customer service and performance through user payment flexibility.
- Match parking demand with rates that support on-street parking management.

Smart Meter technology offers more flexibility and programming options so that different pricing and time structures match conditions and demand rates. They have the capacity to offer variable pricing rates in high demand areas or be programmed for special event pricing. Smart Meters are wirelessly linked and have the ability to send alerts to meter technician teams when there are jams or other meter errors. Digital display screens on each meter allow Right of Way Enforcement Teams to communicate with users. Messaging can change depending on circumstances. For instance, a display may read, “No Parking – Street Sweeping,” which can save drivers from receiving a citation when parking is prohibited. If parking is free on a particular day, the display might read “Free Parking Today” to alert a user that payment is not required.

Status: By mid-Summer 2010, over 4,500 new “IPS Smart Meters” were installed throughout Denver replacing older, traditional meter heads. Once the installation is complete, the concentration of new meters will be in Downtown Denver and in urban center areas like Cherry Creek. Smart Meters are solar powered, wireless, and accept new forms of payment including Visa and MasterCard credit and debit cards in addition to coins. While parking keys will no longer be compatible, Smart Meters will accept “ParkSmart Denver” cards that are sold at different locations throughout the City. This new meter technology means that users will no longer be required to carry change providing additional options and convenience to users.





STRENGTHEN RELATIONSHIPS WITH OTHER PARKING PROVIDERS TO UNDERSTAND THE IMPACTS OF ON AND OFF-STREET PARKING RATES.

- Periodically perform rate surveys in Downtown and other high demand areas to understand how current rates impact existing parking supply and demand.

Cities like Boulder and Colorado Springs own, operate and manage the majority of on and off-street parking in their downtown areas. A single managing authority makes it easy to coordinate on and off-street rates and encourages drivers to utilize all different types of facilities. In Downtown Denver, however, a number of public and private entities manage the different types of parking supply. Rate surveys can inform City parking staff about the interplay of supply and demand. This effort will help City staff understand the market threshold for parking pricing so that all existing resources are used efficiently regardless of ownership. Extremely low or high rates can have unintended consequences on the overall parking system. Rate surveys also help City staff understand and anticipate parking behaviors by various user groups. This exercise can also work in tandem with the Park NOW Denver public parking recognition program explained in the Location strategies section.

NEXT STEPS - 5 SUPPLY

MAXIMIZE THE USE OF EXISTING PARKING RESOURCES BEFORE BUILDING ADDITIONAL PARKING SUPPLY

- Explore opportunities to maximize existing supply including shared parking arrangements, the evaluation of unused loading-zones, etc. that are no longer needed, and the promotion of new, public off-street public facilities.

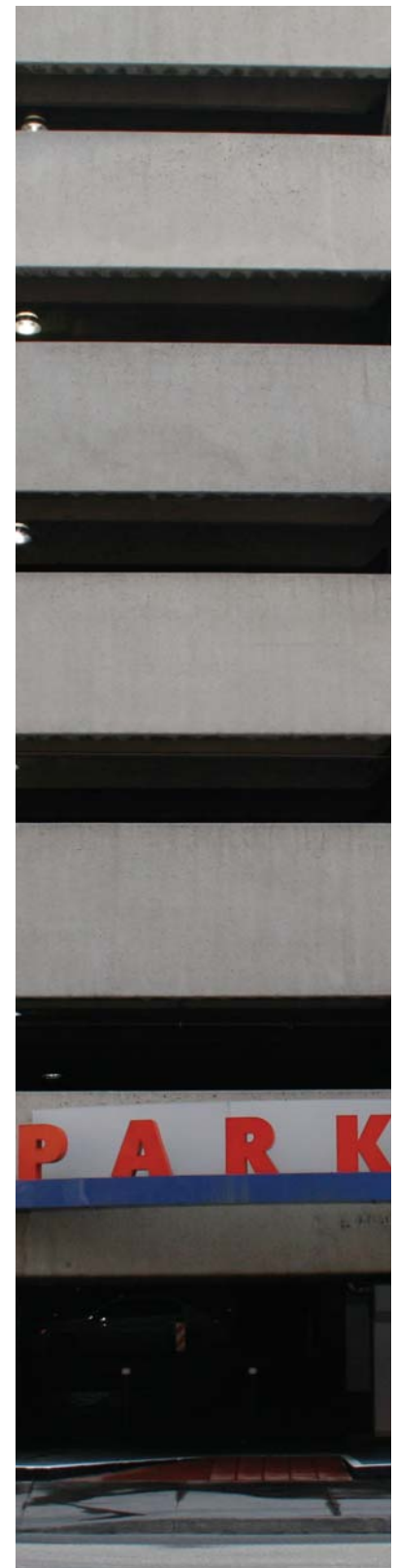
Denver is an established city with the majority of its high-demand areas built-out or redeveloping with a higher intensity. These land patterns provides limited opportunity to create vast new supplies of parking. City planning professionals and area property developers strive to use available real estate to its highest and best use as defined by both land use patterns, Smart Growth principles, and City policy guidance. New sources of parking supply are costly, especially when structured or underground. In addition, surface parking lots often detract from vibrant places. The five-step parking management process recognizes the significant financial and land costs associated with adding additional parking

and focuses instead on maximizing the use of existing parking resources to the greatest extent possible.

Shared parking opportunities as discussed above in the Location strategies section can maximize supply by allowing uses with different demand profiles to use the same parking inventories at different times. In the same vein, each property owner throughout the city should assess the parking patterns of their stakeholders and any potential shared opportunities that exist in the adjacent area.

Several additional opportunities exist to maximize parking. There may be locations where lots can be re-configured or re-stripped to create new spaces in accordance with the Denver Zoning Code. Off-street lots could relocate dumpsters or other large items to make use of spaces that were previously inaccessible. In addition, City staff will continue to assess areas where uses have changed to add supply. For example, loading zones that are no longer required can be reclaimed as on-street inventory following an evaluation of needs. Finally, residents can reorganize or clear out personal garages to provide additional off-street options in neighborhoods.

Status: Denver Public Works Traffic Engineering Services will continue to evaluate loading zones or no-parking zones for additional on-street parking opportunities as conditions change. Municipal developments throughout the city have also added public parking spaces in high-demand areas. For example, a new parking garage located on the new Denver Justice Center Campus in Downtown Denver offers over 600 new spaces - some of which are publically available for use. In addition, the Denver Botanic Gardens recently completed a new public parking structure that increased parking from 180 to 300 spaces.



IMPLEMENTATION SUMMARY

RECOMMENDATIONS	TIME FRAME			
	ONGOING	1-3 YEARS	3-5 YEARS	FUTURE
Key Recommendations				
Acknowledge a variety of land use patterns and contexts	■			
Manage parking as an asset	■			
Encourage an integrated approach to parking management	■			
Optimize the use of existing parking resources before building new facilities	■			
Integrate the SPP vision into other planning processes	■			
Evaluate the effectiveness of applied parking tools and provisions in the Denver Zoning Code			■	
Pilot the Area Management Plan program		■		
Demand				
Encourage the use of multiple modes of transportation				
Monitor the popularity of car-sharing programs in Denver		■		
Evaluate the results of on-street car-sharing spaces in the downtown area after designated pilot period		■		
Monitor and adjust provisions regarding car-sharing parking reductions in the Denver Zoning Code as needed	■			
Prioritize bicycle and pedestrian movements in Denver by working to expand a safe and connected network of routes for both modes	■			
Complete the “Denver Moves” planning effort to identify investment areas for better bicycle and pedestrian connections in on and off-street locations		■		
Encourage support for bike-sharing programs to complement the overall alternative transportation system	■			
Monitor and adjust bicycle parking requirements in the Denver Zoning Code as needed.	■			

IMPLEMENTATION SUMMARY

RECOMMENDATIONS	TIME FRAME			
	ONGOING	1-3 YEARS	3-5 YEARS	FUTURE
Encourage private developers and employers to utilize Travel Demand Management strategies and programs				
Encourage private developers and employees to utilize ideas from this plan to manage parking demand through creative strategies	■			
Continue to support Transportation Management Associations or organizations as they work with property/business owners and employees to institutionalize TDM strategies	■			
Location				
Enhance Denver's parking-related information and resources				
Create an integrated parking website that serves as a primary source of information for all parking related matters.		■		
Explore online capacity to provide additional administrative functions including permit applications and real time parking conditions announcements.				■
Improve way finding and the availability of information for off-street parking facilities				
Encourage parking operators and providers to offer better information about off-street availability	■			
Monitor success of Park NOW Denver and adjust or expand to other high parking demand areas throughout the city			■	
Use new language in the Denver Zoning Code to support shared parking arrangements				
Develop a "Shared Parking FAQs" brochure or webpage with information on shared parking as it relates to the Denver Zoning Code as well as private agreements.		■		
Evaluate the use of Denver Zoning Code shared parking arrangements and monitor and adjust those provisions as needed.		■		
Timing				
Support parking needs and explore new technologies				
Continue to work with stakeholders to determine time restrictions that support parking and access needs	■			

IMPLEMENTATION SUMMARY

RECOMMENDATIONS	TIME FRAME			
	ONGOING	1-3 YEARS	3-5 YEARS	FUTURE
Utilize new technologies to understand user behaviors and calibrate time restrictions				■
Pricing				
Utilize the most up-to-date and convenient technology to support on-street parking management strategies				
Utilize new Smart Meters to improve customer service and performance through user payment flexibility	■			
Match parking demand with rates that support on-street parking management				■
Strengthen relationships with other parking providers to understand the impacts of on- and off-street parking rates				
Periodically perform rate surveys in Downtown and other high-demand areas to understand how current rates impact existing parking supply and demand	■			
Supply				
Maximize the use of existing parking resources before building additional parking supply				
Explore opportunities to maximize existing supply including shared parking arrangements, the evaluation of unused loading-zones, etc. that are no longer needed, and the promotion of new, public off-street public facilities.	■			



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GLOSSARY

Area Management Plan (AMP) – An area specific parking plan for places in Denver that have high utilization rates, diverse user groups, or a complex mix of land uses that will identify context-specific strategies that cover a larger scale and engages a variety of stakeholders.

B-Cycle – The Denver bike sharing program launched in April 2010, provides bikes to make short trip connections to bike docking stations located throughout the City.

Blueprint Denver – Blueprint Denver is the first step in implementing the vision of Denver’s Comprehensive Plan 2000. It serves as an integrated land use and transportation plan and was adopted in 2002 as a supplement to the Comprehensive Plan. Key land use concepts include directing growth and redevelopment to Areas of Change, while preserving Areas of Stability.

Car Sharing – programs that provide individuals access to a centrally owned and maintained fleet of vehicles on a per-hour or per-day basis.

Debt Service – The series of payments of interest and principal required on a debt over a given period of time.

Denver Comprehensive Plan 2000 – A document created to define the vision of what Denver residents want for their community through a series of goals, visions of success, objectives and strategies.

Denver Moves – A Citywide effort to increase bicycle and pedestrian connections, to focus on the linkages between on and off street routes and to create of a stronger, integrated system that connects people to destinations.


Denver Regional Council of Governments (DRCOG) – A nonprofit association of 55 local governments dedicated to enhancing and protecting the quality of life in the nine-county Denver region.

Denver Right-of-Way Enforcement (ROWE) – A team tasked with providing quality customer service and management for on-street parking in the public right-of-way.

Denver Strategic Transportation Plan (STP) – A road map for transportation policy now and into the future. Acknowledges that Denver’s infrastructure cannot accommodate unlimited trips by single occupancy vehicles. Identifies travel sheds within the City and recognizes the importance of moving people, not just cars.

Denver Zoning Code – the compilation of land use and building form regulations for the City. Adopted in 2010 as the first major revision to the zoning code since 1954. It simplifies and reduces many parking base requirements, introduces parking exemptions and reductions, and calibrates requirements by neighborhood context.

DRCOG Transportation Improvement Programs (TIP) – A funding tool established through the Denver Regional Council of Governments to promote alternative modes of travel.



Dynamic Wayfinding – Signs that are electronic and can change to alert users of changing parking conditions.

Flexible Work Schedules – An option to stagger employee trips to make better use of the existing parking inventory.

Gateway Signs – A type of wayfinding strategy that alerts a user of an entrance into a location.

Greenprint Denver – An action agenda initiated by the mayor’s office to support sustainable development for the City and County of Denver and to improve the environment with transportation-related goals, including an emphasis on increased public transit access and use and a decreased reliance on single-occupancy vehicles.

Heat Island Effect – The affect that a large surface parking lot has on increasing temperatures by absorbing and retaining heat.

Kiosks / Smart Meters – Used to employ variable pricing.

Managed Parking – Parking facilities that are monitored and maintained by management, either public or private. Are maintained with meters, signage, enforcement, etc.

Management Hours – The hours when parking is managed, should be tailored to meet specific needs.

Mayor’s Parking Commission (MPC) – An appointed body enabled by the Mayor’s Office. It consists of a variety of stakeholders who represent residential and commercial interests as well as other organizations. They review and provide input for existing and proposed parking policies and management practices.

Mixed Use – A development that mixes residential, commercial, and office space within the same buildings and districts.

Multimodal Streets – streets that accommodate and move various forms of travel including public transit (bus or rail), bicycling, walking, and automobiles.

Off-Street Parking – Parking that is provided outside of the right-of-way of a public street, typically in a surface parking lot or public structure. (BP Denver) Falls into four categories: City-owned public parking, City-owned private parking, privately-owned public parking, and privately-owned parking that is dedicated to a specific use.

On-Street Parking – Parking that is provided within the right-of-way of a public street, typically in designated parallel or diagonally striped spaces adjacent to moving traffic lanes. (BP Denver) Are publically accessible on a first-come, first-served basis.

Park NOW Denver – A public parking recognition program that will help drivers find off-street parking locations and provide other pertinent parking information. This program was developed by the City and County of Denver in conjunction with the Downtown Denver Partnership.

Parking Capacity – An area is considered “at capacity” with 85% of spaces are full.

Parking “cashout” – a strategy to reduce vehicle trips that allows employees to opt out of having a parking space and instead receive compensation.

Parking Demand – The amount of parking used at a specific time and place. It is influenced by vehicle ownership, the popularity of an area, the nature of uses in an area, availability of alternative forms of transportation, and other external factors such as fuel costs.

Parking Demand Profiles – A tool that categorizes users into groups of people whose parking needs are similar in terms of location, time, and duration. These profiles aid in providing a conceptual picture of parking in a given area.

Parking District – A concept that seeks to more effectively use the existing parking supply on a district-wide basis rather than as individual lots.

Parking Duration – Describes how long a vehicle occupies a parking space.

Parking Occupancy/Utilization – The percentage of parking spaces occupied at a given time, also called “utilization”. This reflects the relationship between parking demand and supply.

Parking Supply Inventory – The number of total spaces available for use.

Parking Turnover Rates – a way to describe how often a parking space becomes available, or “turns over” during an hour.

“ParkSmart Denver” Cards – Declining balance cards that allow users to pay at parking meters without using a credit card or coins.

Permit Parking – A tool used to reserve street parking in specific areas for certain users.

Regional Transportation District (RTD) – The regional public transportation agency for the six County Denver metro areas.

Residential Parking Permit (RPP) – An ordinance introduced to protect neighborhoods in high-demand areas from parking impacts

Ridesharing – Carpooling, is a useful method of transport for those living in areas not served well by public transit.

Right-of-way (ROW) – Publicly owned property used for transportation and utility infrastructure, including sidewalks, through travel lanes, parking lanes, tree lawn areas between detached sidewalks and streets, roadway median strips, parkways, bridges, and alleys.

Shared Parking – parking that is shared by more than one user, such that multiple property owners share a common parking facility. Consists of traditional shared parking which requires zoning approval, and accessory shared parking, which provides flexibility to meet parking demand and can be arranged outside of a city process.

Smart Growth – A concept that encourages growth that economically, environmentally, and fiscally sustainable that

makes the most efficient use of public infrastructure.

Smart Meters - smart meters are solar powered, wireless, and accept new forms of payment including VISA, MasterCard and debit cards.

Strategic Parking Plan (SPP) – Comprehensive city-wide framework that helps articulate and clarify the vision and approach for parking in the City and County of Denver.

Technical Advisory Committee (TAC) – Staff from Public Works, Community Planning and Development, and other City departments that contributed to the SPP.

Time Limits – A defined time period that a vehicle may remain in a parking space.

Transit Incentives/Subsidies – A strategy to reduce parking demand where a user is encouraged to use transit options instead of a single occupancy vehicle.

Transportation Management Associations (TMAs) – Private, non-profit organizations that provide transportation-related information within a defined geographic area.

Transportation Management Associations or Organizations (TMAs or TMOs) – Groups that get City support that work directly with employers or property owners to create TDM programs

Travel Demand Management (TDM) – Strategies that challenge the notion that a single occupancy vehicle is the best form of mobility, such strategies include bicycle parking, showers, transit subsidies, carpool programs, and flex-time schedules to reduce vehicle parking demands.

Unmanaged parking – Parking that is not managed, has no meters or signs limiting duration.

Variable Pricing – With this system there is no time limit for parking, but hourly parking prices increase with longer parking durations, making longer-term parking more expensive with each successive hour.

Vehicle Control Agents (VCAs) – Part of the ROWE, this team is responsible for monitoring parking management strategies for the City, they issue citations and administer vehicle booting and towing as well as provide parking enforcement for special events.

Wayfinding – signs that direct an intended user to a location; for instance, signs directing drivers to public off-street parking facilities.