

# Improving Transit in Southeast Michigan: A Framework for Action

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## Abstract

This document sets the course for a comprehensive transit system in Southeast Michigan. Combining extensive public input with research and technical analysis, the study finds that an improved transit system would benefit the entire transportation system by providing a balance of viable options. A comprehensive transit system would enhance the region's economic competitiveness, address needs of the transit dependent, and provide a choice for those who do not have to use transit. To be effective, the transit system must be dependable, frequent, fast, safe, and affordable. The study calls for a four-tiered transit system: a 12-corridor, rapid transit network; enhanced fixed-route bus service; improved and expanded community transit, and the establishment of regional transit links. These four tiers would be accompanied by a full set of amenities. Increased funding is necessary to implement the proposed system. The regional transit plan, which is not financially constrained, will serve as an illustrative element in the 2025 RTP.

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# Acronyms

**ADA**

Americans with Disabilities Act of 1990

**AATA**

Ann Arbor Transportation Authority

**AVL**

Automated Vehicle Location

**BRT**

Bus Rapid Transit

**BWAT**

Blue Water Area Transit

**CBD**

Central Business District

**CPP**

Community Partnership Program (SMART)

**DDOT**

Detroit Department of Transportation

**DPM**

Detroit People Mover

**DTC**

Detroit Transportation Corporation; operates the Detroit People Mover

**FTA**

Federal Transit Administration, formally the Urban Mass Transit Administration

**GIS**

Geographic Information Systems

**ITS**

Intelligent Transportation Systems

**LET**

Lake Erie Transit

**LETS**

Livingston Essential Transportation Service

**LOS**

Level of service

**LRT**

Light rail transit

**MAC**

Metropolitan Affairs Coalition

**MDOT**

Michigan Department of Transportation

**MPO**

Metropolitan Planning Organization

**MTA**

Metropolitan Transit Authority (Flint)

**PPHPD**

Passenger per peak hour, peak direction

**ROW**

Right-of-Way

**RTP**

2025 Regional Transportation Plan for Southeast Michigan

**SEMCOG**

Southeast Michigan Council of Governments

**SMART**

Suburban Mobility Authority for Regional Transportation

**TSA**

Transit Supportive Area



# Glossary

## **Bus rapid transit (BRT)**

A rubber-tired form of rapid transit that offers many of the same features as light rail including use of dedicated lanes or "transit ways," traffic signal prioritization, fare payment prior to boarding, quick passenger loading and unloading, and fast, frequent service.

## **Capacity**

The maximum rate of flow at which persons or vehicles can be reasonably expected to travel during a specified time period under prevailing roadway, traffic, and control conditions.

## **Capital**

Refers to long-term assets such as transit vehicles, land, stations, or trackage. Capital costs are those non-recurring or infrequently recurring costs of capital, which often include related expenses. Capital funding is financial assistance from federal, state, or local sources to finance public highway or transit capital projects.

## **Choice riders**

Those who have other transportation options available (car, bicycle, walking, etc.), but choose to travel by transit for reasons of speed, comfort, convenience, traffic avoidance, or environmental principle.

## **Community-based transportation**

Transportation service provided by various community groups such as churches, youth groups, and senior citizen organizations. Many of these services are also run by human-service organizations, providing transportation for medical appointments, job training, and other specialized travel needs.

## **Community transit**

This service provides transit to and from specific destinations for individuals or small groups. It includes paratransit service within individual communities, as well as in low-density, rural areas. It also includes community or employer shuttle service between fixed-route transit lines and scattered employment, shopping, or residential areas within individual communities.

## **Commuter rail**

A form of rapid transit. Long-distance rail passenger service typically operating on existing tracks, owned and operated by freight railroad companies. The service usually runs between central cities and outlying areas (suburbs and adjacent urban areas).

## **Congestion**

Occurs when the number of vehicles on a roadway segment exceeds the roadway's capacity for efficiently carrying vehicles, resulting in travel slower than the roadway's design speed. Roadways may experience either recurring congestion (regularly exceeding capacity) or non-recurring congestion (caused by a roadway incident, such as a traffic crash or abandoned vehicle). SEMCOG defines congestion for the 2025 RTP analyses as level of service (LOS) "F" (or volume to capacity ratio greater than 1.0).

## **Curb-to-curb**

A transit service that picks up passengers at the curb outside their place of origin and delivers them to the curb outside their place of destination. This service does not typically include passenger assistance between the vehicle and the doors.

**Daily**

An average weekday in Southeast Michigan.

**Demand**

In transportation planning, a term for the number of potential users of a system and their desired travel times and routes.

**Dial-a-ride**

See paratransit service.

**Door-to-door transit service**

A transit service that picks up passengers at the door of their place of origin and delivers them to the door of their place of destination. This service may include passenger assistance between the vehicle and doors.

**Elderly**

Persons age 65 and older.

**Farebox revenue**

Revenue from cash, tickets, tokens, and pass receipts used to pay for rides on a system.

**Federal Transit Administration (FTA)**

Administers, regulates, and helps fund all public transportation in the U.S.

**Fixed-route transit service**

Transit service provided on a repetitive, fixed-schedule basis along a specific route with vehicles stopping to pick up and deliver passengers at designated stations/stops.

**Freight**

Any commodity being transported.

**High-speed rail**

A rail transportation system with exclusive right-of-way serving densely traveled corridors at speeds of 100 miles per hour and greater.

**Intelligent Transportation Systems (ITS)**

Computer and communications technologies that facilitate the transportation of people and goods.

**Intermodal**

Planning and infrastructure focusing on connectivity between modes (such as bikes, cars, buses, and trains) to facilitate transfers between them.

**Just-in-time delivery**

A method of inventory control minimizing warehousing. The shipping container is treated as a movable warehouse and its contents must arrive "just in time" for use.

**Level of service (LOS)**

A measure of the quality of service on transit routes. The two factors primarily considered in this measure are frequency (how often vehicles arrive at a given stop/station) and hours of service.

**Light rail transit (LRT)**

Lightweight passenger rail cars operating on fixed rails that are separated from auto traffic but usually in the same right-of-way.

**Metro Detroit**

The tri-county area of Wayne, Oakland, and Macomb.

**Metropolitan Planning Organization (MPO)**

Organization, designated by the governor and local units of government, that is responsible, along with the state, for comprehensive transportation planning.

**Operating expenses**

Expenses to provide transportation service, plan and coordinate improvements, and maintain safe conditions, including both direct costs (such as wages and fuel) and indirect costs (computer expenses and advertising).

**Operating funds**

Financial assistance from federal, state, or local sources to finance public transit operating expenses.

**Paratransit**

Passenger cars, vans, or small buses operating in response to calls from individual passengers to the transit operator, which then schedules and dispatches a vehicle to pick up the passengers and transport them to their destinations. Typically, the vehicles do not operate over a fixed route or on a fixed schedule. The vehicle may be dispatched to pick up several passengers at different pick-up points before taking them to their respective destinations. Twenty-four-hour advance reservations are often necessary.

**Park-and-ride lot**

Lot in which passengers park their cars and board transit vehicles or carpool to their destination.

**Pedestrian**

An individual traveling on foot (or wheelchair in the case of a person with a disability).

**Pedestrian friendly**

Transportation service, initiatives, development, projects, and/or policies that encourage mobility of and access for pedestrians.

**Public Act 51 of 1951**

Directs the collection and distribution of transportation-related revenues in the State of Michigan. Identifies sources of funding including fuel user fees, vehicle registration fees, driver license fees, and miscellaneous sources.

**Rapid transit**

A type of public transportation that typically operates in its own exclusive right-of-way, separate from mixed-flow traffic. This allows transit vehicles to travel faster and avoid traffic congestion. Rapid transit modes include automated guideway transit (People Mover), bus rapid transit, and heavy, light, and commuter rail.

**Region**

An entire metropolitan area including designated urban and rural subregions. The Southeast Michigan region includes Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties.

**Regional Transportation Plan for Southeast Michigan (RTP)**

SEMCOG's long-range (20-25 year), multi-modal transportation plan documenting the projects, policies, and programs designed to meet the surface transportation needs of the region. The most recent RTP was published in 2000 and includes travel forecasts through 2025.

**Ridership**

Number of passengers using a transportation system within a given period of time.

**Right-of-way (ROW)**

The land needed for the construction and operation of a transportation facility.

**Suburb to suburb**

Public transit serving passengers traveling from one suburb to another.

**Transit dependent**

Persons who must rely on public transit or paratransit services for most of their transportation.

**Transit supportive area (TSA)**

Geographic areas that contain at least three households or four jobs per acre. *The Transit Capacity and Quality of Service Manual*, published by the Transportation Research Board, cites these criteria as the minimum level of development that can support hourly fixed-route transit service.

**Transportation system**

An intermodal system containing all forms of transportation in a unified, interconnected manner, including highways, transit, non-motorized pathways, aviation, rail, marine ports, etc.

**Trip**

Any travel by a person, regardless of the mode used.

**Welfare-to-work**

Refers to the federal Job Access and Reverse Commute grant program which assists states and localities in developing new or expanded transportation services connecting welfare recipients and other low-income persons to jobs and other employment-related services.

# Executive Summary

Southeast Michigan needs a reliable and efficient public transit system. Such a system is absolutely essential for the quality of life and prosperity of the region. It is important that we provide affordable public transportation to people who do not have access to motor vehicles. It is also important to provide a viable transportation option to those who usually drive.

Enhanced transit can complement the current transportation system. As we do not have the money to build our way out of congestion, an improved transit system can play a role in reducing traffic congestion, fuel consumption, and air pollution.

Thriving metropolitan areas have good transit systems. As we position ourselves for future growth, an enhanced transit system will improve our region's economic competitiveness and our ability to attract business, industry, and tourism.

We need a plan that can be implemented. To accomplish this, there must be true regional consensus on the service. This plan is a blueprint for the region, integrating transit with our entire transportation system. It is a component of the 2025 Regional Transportation Plan and considers how transit can improve mobility in Southeast Michigan. The plan helps meet SEMCOG's goal of moving people and goods both effectively and efficiently throughout our seven-county region. It includes a regional network that incorporates a variety of service levels, provides an array of features and amenities, and delivers the greatest good to the greatest number of people.

The plan recommends a four-tiered service — rapid transit (a new component), improved fixed-route bus and community transit services, and the creation of regional links.

## Preliminary Work

### Learning from our past

Over the past 80 years or so, nine transit plans were developed for the region and failed to be implemented for one reason or another. Primary stumbling blocks included:

- Lack of regional consensus on the details,
- Fragmented decision making with no strong public or private leadership,
- Lack of local funding,
- Weak, inefficient governance,
- Myths about what transit can and cannot do, and
- Lack of grass-roots support.

Unlike previous plans, this plan attempted to build consensus from the start. The transit plan includes input from all transportation system stakeholders. Technical analysis was enhanced by stakeholder input. This input included 23 public working sessions held at various stages of the plan's development throughout the seven-county region; as well as regular committee and one-on-one meetings with elected officials, key decision makers, technicians, and various stakeholders. By including viewpoints of all stakeholders in its development, this transit plan is based on true regional input. Along with the growing agreement by public and private sector leaders to improve transit in our region, this plan enables us to work together to better address the funding and governance issues.

## Where are we now?

A complete picture of the existing transit system is vital to understanding the issues and needs of our region. Such an inventory is the first step in identifying what transit currently does well in this region and where it needs to improve.

These key points were made by the public:

- Transit service needs to be more reliable.
- Current bus service is not frequent enough.
- More transit service is needed in the evenings and on weekends.
- Some areas of the region need additional fixed-route service.
- Many people do not know where current transit service is located.
- Safety, convenience, and comfort are issues that need to be addressed.
- Transit connections are needed between the major urbanized areas of the region (Metro Detroit, Ann Arbor, Brighton/Howell, Monroe, and Port Huron).

SEMCOG's research and technical analysis identified the following:

- The major problem with current bus service is the frequency and hours of service, not its location.
- While current fixed-route service in the region provides relatively good coverage, there are some unserved areas.
- Paratransit service coverage needs to be increased.
- Public transit is underfunded.

To better understand how well our current system functions, SEMCOG compared Southeast Michigan's transit system with the 20 largest urbanized areas across the country, plus Cleveland, Denver, Portland, Sacramento, and Salt Lake City, all of which recently developed rapid transit systems:

- Southeast Michigan is the fifth largest urbanized area in the country and its population density is higher than in most other areas; yet, we are one of only four regions not currently operating or constructing a rapid-transit system.
- Southeast Michigan ranks 23<sup>rd</sup> in both the number of miles and hours of transit service it provides.
- Current transit ridership is low compared with other major metropolitan areas.
- Southeast Michigan ranks 21<sup>st</sup> in the amount of local dollars spent on transit (\$19 per capita).

## Recommendations

- Develop a four-tiered transit system (Figure 1):
  - **Tier 1: Rapid Transit** — Providing fast, frequent, and reliable service for people making relatively long trips in heavily-traveled corridors.
  - **Tier 2: Fixed-Route Bus** — Expanding and enhancing current fixed-route services in areas with sufficient development density to support such service.
  - **Tier 3: Community Transit** — Providing paratransit or fixed-route shuttle services within individual communities, as well as in the lower density, more rural areas of the region.
  - **Tier 4: Regional Links** — Connecting the major urbanized areas of the region to one another by providing links between the tri-county transit systems and service in Livingston, Monroe, St. Clair, and Washtenaw Counties.
- Secure funding to implement the transit improvements outlined in all four tiers of the proposed system.

- Create a regional transit authority to coordinate transit operations and oversee the allocation of funds.
- Develop a plan for creating a region-wide transportation information system to coordinate the services of numerous public, private, and nonprofit transportation operators in the region.
- Recognize the role of private transportation providers in the overall transit system.

### Rapid transit recommendations

- Pursue development of the proposed rapid-transit system; it includes 259 miles of service in 12 regional corridors — 8 Mile, 16 Mile, Fort Street, Grand River, Gratiot, Greenfield, Jefferson, M-59, Michigan, Telegraph, Van Dyke, and Woodward.
- Move forward with detailed alternatives analysis on the Downtown Detroit to Metro Airport study.
- Pursue funding for detailed alternatives analysis of the Woodward Corridor.
- Identify and pursue funding for detailed alternatives analysis of a priority crosstown transit corridor.
- Develop detailed transit ridership forecasts.

### Fixed-route bus recommendations

- Improve frequency and hours of service.
- Improve reliability of fixed-route service.
- Identify options for providing service to locations not currently served.

### Community transit recommendations

- Expand service.
- Improve existing service.
- Reduce advance-reservation time.
- Improve coordination of community-based transportation services.

### Regional link recommendations

- Move forward with detailed alternatives analysis in the Lansing to Detroit corridor.
- Explore the feasibility of transit service between the Ann Arbor urbanized area and Metro Detroit, including service to Detroit Metro Airport.
- Explore feasibility of adding or improving bus service between Metro Detroit and Livingston, Monroe, and St. Clair Counties.
- Explore the feasibility of adding bus service between Brighton and Ann Arbor.
- Increase coordination of transit service between our region and the Windsor, Flint, Jackson, and Toledo urbanized areas.

### Recommendations for features and amenities

- Improve transit safety, both on vehicles and at transit stops.
- Construct transit stations and shelters.
- Improve physical accessibility to transit.
- Improve accessibility for people with special needs.
- Provide easy-to-understand information.
- Increase the use of technology to enhance transit service.

## Costs

The estimated total capital cost for implementing the improvements outlined in this plan (assuming use of bus rapid transit) is \$2 billion, spread over the next 25 years as the system develops. An additional \$200 million in operating funds will be required annually.

## Funding

A major challenge to implementing the transit improvements presented in this plan is funding. Implementing any new service, major or not, requires additional capital and operating funds. All areas of the region, large and small, urban and rural, are in need of additional transit funds. While our senators and congressional representatives are eager to bring federal capital dollars to the region, receipt of these is dependent upon the availability of adequate local dollars to match these funds and provide the long-term operating assistance that is required. A significant increase in local transit funding will be necessary to make the proposed system a reality.

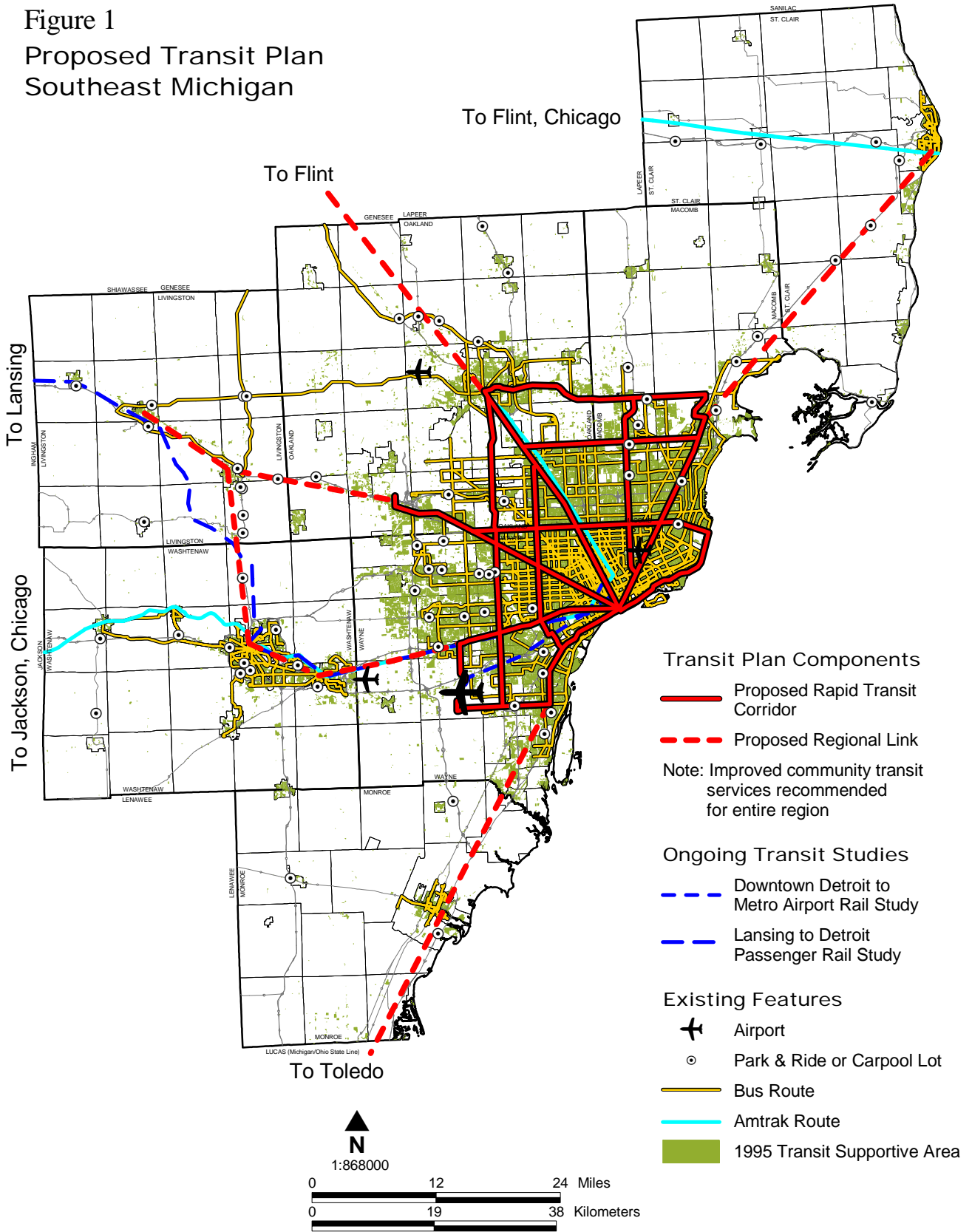
Possible taxing mechanisms include income tax, payroll tax, excise tax on services, sales tax, property tax, gas tax, and vehicle-registration fee. Whatever mechanism is used, it must be applied equitably and not put an unfair burden on any one segment of the population. The Citizens Research Council is currently studying this issue and will be releasing its report on transit funding options in the near future.

## Governance

Another major challenge to implementing this transit plan is governance. Agreement must be reached on an entity to govern the new transit system. A regional transit authority could be constructed in several different ways. However, regardless of its final form, it must provide a mechanism for coordinating transit service throughout the entire seven-county region. A coalition of the Detroit Regional Chamber and local and state government leaders are currently shaping a proposal for a new governance entity. A legislative bill authorizing the creation of such an entity is expected to be introduced in late 2001.



Figure 1  
 Proposed Transit Plan  
 Southeast Michigan



Source: SEMCOG

State Plane NAD83  
 June 2001

# Introduction

SEMCOG is the designated Metropolitan Planning Organization (MPO) for Southeast Michigan. It is a regional planning partnership accountable to local member governments in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties.

As the regional planning agency, SEMCOG supports local planning in the areas of transportation, environment, community and economic development, and education. The agency's mission involves solving regional planning problems, improving the efficiency and effectiveness of the region's local governments, and providing a forum for addressing issues that extend beyond individual governmental boundaries.

In June 2000, SEMCOG adopted the 2025 Regional Transportation Plan for Southeast Michigan (RTP). The RTP is a technically sound plan that assesses current and future needs, estimates future funding expectations, and identifies solutions for those needs. SEMCOG recognizes that in shaping a fiscally constrained plan, public transit showed only minor improvements in the RTP, mostly replacement of existing buses. The strongest concern raised in public comments about the plan was public transit — more specifically the inadequate level of public transit service in our region. This document addresses concerns raised in the RTP and provides a framework for action to improve transit in the region.

## Our Transportation System is the Spine of Our Region

Southeast Michigan's transportation system is a cornerstone of the region's economy and quality of life. The mobility it provides our residents, businesses, and visitors is vital to everyday activities. Mobility is key to allowing people to get to their jobs and appointments on time. It allows industry to receive delivery of goods to keep their operations going, and minimizes time wasted sitting in traffic. An efficient transportation system is vital to maintaining and enhancing our economy as well as our natural and cultural resources.

The region needs a balance of viable transportation options. Providing practical choices for the safe, efficient movement of people and goods is crucial for maintaining and enhancing economic competitiveness and quality of life in the region. Like a diverse economy, providing a balance of viable options for trip making creates a more efficient system that is better equipped to handle existing and new demands.

A significant opportunity to maintain and enhance this mobility is through transit. As the region positions itself for future growth, a properly designed and implemented transit system will improve our overall transportation system and our ability to compete with other regions for business, industry, and tourism.

## **2025 RTP Called for the Development of a Transit Plan**

The RTP recognized that in order for all of the transportation issues to be addressed, regional transit needs must be more fully understood and prioritized. As a result, the RTP called for development of a transit plan encompassing all seven counties of our region.

### Improved transit will benefit the entire transportation system

The RTP recognizes that a properly planned and constructed transit system works to make the remaining components of the transportation system function better. It is not a matter of choosing transit over personal vehicles or other methods of travel, it is a matter of gaining balance and providing options in our system. If a

transit system is designed and implemented correctly, it allows the other methods of travel to be more cost effective, suffer less congestion, and improve their connectivity to each other.

## The Transit Plan is a Blueprint for Our Region: A Framework for Action

This plan is a blueprint for the region, integrating transit with our entire transportation system. It is a component of the 2025 Regional Transportation Plan and considers how transit can improve mobility in Southeast Michigan. The plan helps meet SEMCOG's goal of moving people and goods both effectively and efficiently throughout our seven-county region. It includes a regional network that incorporates a variety of service levels, provides an array of features and amenities, and delivers the greatest good to the greatest number of people.

### Consensus needed on concept *and* details

Achieving consensus on the need to enhance transit is only half the task — gaining agreement on implementation has historically been a problem for our region. For the past 80 years the region has agreed in general that a comprehensive transit system is needed. Agreeing on the details of what the system should be and how it should be governed and financed has been the difficulty. This plan, and the methods used in its development, set a course for action by establishing a viable framework for developing a comprehensive transit system. This includes addressing the stumbling blocks that have kept the region from implementing previous plans.

# Making the Case: Why Do We Need to Improve Transit in Southeast Michigan?

The transportation system is key to the region's success in providing mobility to residents, visitors, businesses, and industry. The more efficient the system, the more mobility it provides and the more it enhances the region's economy and quality of life.

## Mobility = Access + Time

Regional mobility is a measurement of a transportation system's efficiency. The degree to which the region's transportation system provides mobility is determined by two primary questions:

- C Access: Can I or my goods get from point A to point B with relative ease?
- C Time: How long will it take?

The relationship of the accessibility and time components is complex, but a very basic element is the availability of options. For example, if you use your car to make a trip, is there more than one set of roads you can use if congestion occurs? Backing up a step, are there options besides using a car to make the trip? Whether or not you have options for either of these questions impacts access, time, and, therefore, mobility.

Any transit system for Southeast Michigan must meet a variety of needs. While this is true of the transportation system as a whole, it makes sense that these needs also apply to the transit component. To understand these needs, one must consider the potential users, each with her/his own expectations of the system which can change depending upon trip purpose, length, or time of year.

Many of the needs depend on the issue of access. Most people think of access as a physical consideration, but it is more complex. First of all, the thought of using transit may not even occur to an individual. But, if it does, then a whole series of questions begin to form:

- C Can I get to the transit system easily?
- C Do I have to worry about how to use it?
- C Does it go where I need it to go?
- C When will the vehicle arrive?
- C If I miss the first vehicle, how soon will the next one arrive?
- C How long will the trip take?

In reality, the frequency and duration (hours of operation) of transit service greatly impacts someone's decision to use transit, if they have a choice. For example:

- C If you begin work at 8 a.m. and it takes 20 minutes to get to work by bus, the trip can be very attractive if the bus arrives at your stop at 7:30 a.m. If however, the bus is only scheduled to arrive once an hour, at 7 a.m. and 8 a.m., the trip is not nearly as attractive. The first bus gets you to work too early, the second one too late.
- C If a bus route offers very frequent service in the peak travel periods but does not operate in the middle of the day or in the evening, some workers may choose not to use it because they fear being stranded if they unexpectedly need to leave work early or stay late in the evening.

Poor levels of service not only affect a passenger's travel time but accessibility to transit as well. Consider the following:

- C For jobs to be accessible by transit, the transit route must be located near the business and operate during the business's work hours. Many retail and manufacturing jobs require employees to work evenings and weekends. If the bus route does not operate during these times, the jobs are not accessible by transit.
- C A passenger's travel time is greatly impacted by the frequency of service, particularly if he or she must transfer from one bus to another during their trip. If buses arrive only once every 30 minutes and the passenger who is transferring just misses the connecting bus, their travel time is immediately increased by the 30 minutes they will spend waiting for the next bus to arrive. Add to that the seasonal discomfort of waiting outside in the elements and you have a compelling reason not to use transit.

## Learning From the Private Sector

Nowhere is the need for options more apparent than for movement of goods. Industry is relying more and more on the efficiency of the region's transportation system. Many industries are moving away from the traditional warehousing of parts or finished products to "just-in-time delivery," where industrial production systems are timed to receive parts and produce end-products as needed to minimize storage. An effect of the just-in-time concept is that industry relies on the transportation system to function as a sort of "mobile warehouse" to store goods during transport. As a result, any inefficiencies of the transportation system can harm business and, ultimately, the region's economy.

We can learn from the private sector, which uses the most efficient mix of transportation options (whether rail, truck, air, or water) to move goods. For example, a business may use a truck to move a specific component, but a train to move a final product — access and time are key criteria in selecting a mode. Southeast Michigan's transportation system provides a balance of options for goods movement, but not for movement of people. This needs to change. Driving, walking, bicycling, and taking public transportation all need to be viable parts of the mix.

## Reasons for Transit

Southeast Michigan needs to add viable regional transit to its list of transportation options for a variety of reasons. A comprehensive regional transit system can:

### Enhance the region's economic competitiveness

In today's global economy, the region is competing with every other major metropolitan area (most of which have more efficient transit systems) for business, jobs, tourism, conventions, and desirability as a place to live and work. Southeast Michigan's economy is strong and quality of life is good — we need to keep it that way. Covering a seven-county area of 4,600 square miles, Southeast Michigan is a vast region rich with diversity and important to the nation's economy.

- C The region has experienced steady economic growth, which is expected to continue.
  - Population and employment are among the largest in the country, and while increasing at a slower rate than the rest of the nation, are projected to grow steadily.
  - While still the auto-manufacturing capital, it has a diverse economy designed to better weather economic downturns than in the past.
  - Some of the finest research and learning facilities in the world are located here.
  - Many past environmental problems are on the mend and efforts to avoid creating new ones are plentiful and successful.

Southeast Michigan can stay strong by identifying opportunities to improve itself and by avoiding potential pitfalls. A sound, comprehensive transportation system, including public transit, is essential to attracting and retaining businesses and workers, now and in the future. As other metropolitan areas have realized the importance of diversifying regional mobility options via transit to maintain and improve their economic competitiveness, so too Southeast Michigan must examine the potential benefits. In fact, of the top 20 most heavily populated regions in the U.S., Southeast Michigan is one of only four not providing rapid transit. Many of these regions have developed rapid transit in the past 10 years. This includes such major competitors as St. Louis, Minneapolis, and Seattle.

### Provide mobility for a growing population

The seven-county Southeast Michigan region is growing at a steady one-half percent per year. SEMCOG forecasts that over the next 30 years the region will add:

- 550,000 more people — reaching a total population of 5.37 million;
- 445,000 new jobs — increasing to 3.25 million jobs;
- 390,000 new households — increasing to 2.27 million households; and
- 272,000 acres of urbanized land — an area the size of 12 townships, or Lake St. Clair.

With this growth will come new pressures on the transportation system and its performance. Transit will help to alleviate some of these pressures.

### Serve a population that is rapidly aging

Baby boomers will soon be entering the elderly population, vastly changing Southeast Michigan's population age profile and transportation needs. Over the next 30 years:

- Southeast Michigan's elderly population is expected to double.
- The proportion of the total population age 65 or older will grow as well, from 12 percent of the total population to 22 percent. The elderly tend to rely more heavily on transit as diminishing eyesight and other health problems make it more difficult for them to drive.
- There will be 500,000 people over age 75.

### Provide mobility for the disabled and transit dependent

The transit system should meet the special needs of those who rely on it as their primary mode of travel such as the disabled, those without a personal vehicle, the elderly, and youth.

- The elderly and disabled have special transit access needs that affect vehicle and transit-stop design, as well as the way service information is communicated.
- In addition, the Americans with Disabilities Act of 1990 (ADA) requires the provision of curb-to-curb service within three-quarters-of-a-mile of any fixed-route transit line to individuals who cannot use the regular service due to a disability.
- The region is home to 192,420 households that do not have a personal vehicle available. These residents rely on transit for many trips.
- Young people who do not drive or do not have access to a vehicle have many unique and frequent transportation needs including travel to school and extracurricular activities.

### Provide another option for those with a choice

Currently, only two percent of all trips in Southeast Michigan are made using transit. This low figure is due at least in part to the lack of a reliable transit system. Many of those who currently use automobiles would use transit if it were a viable option. According to a recent survey conducted by SEMCOG, 77 percent of Southeast Michigan residents would likely use transit for some trips if the system were improved.

## Help ease the growing labor shortage

Over the next 30 years, there will be an increasing labor shortage requiring greater reliance on public transit to connect potential workers to jobs:

- The region will create 445,000 new jobs while the working-age population will decline by 233,000.
- Currently, one-third of households in Detroit do not have access to an automobile.

Potential workers in these households offer a pool for jobs that need to be filled. Transit can and should help eliminate transportation barriers for residents and businesses.

Southeast Michigan businesses have difficulty in retaining employees as well as attracting workers from outside the region. In addition to the challenge of getting current residents to jobs, many industries have problems attracting job recruits from outside our region — particularly the information-age professionals who demand a high quality of life. In this highly competitive economy, workers are seeking amenities, such as parks, cultural facilities, and recreational and educational opportunities that add to an area's livability. Also, among these important amenities that contribute to a region's attractiveness and image is its transportation system. Southeast Michigan's lack of a comprehensive transit system — including a rapid-transit option — is viewed negatively by many. In contrast, peer regions who are successful in attracting workers, such as Chicago, Boston, Atlanta, Seattle, and Cleveland, all have comprehensive transit systems among the regional amenities they offer.

## Help alleviate traffic congestion

Congestion on the region's roads and highways is increasing. There are currently 132 million weekday vehicle miles traveled in Southeast Michigan. By 2025, that will increase by 15 million to 147 million vehicle miles traveled. If no capacity improvements are made, 33 percent of that travel will be on congested roads. Even if all improvements in the RTP are implemented, 28 percent of travel will still be on congested roads and highways.

### **We cannot "pave away" congestion**

We cannot fiscally or physically pave our way out of all our congestion and mobility problems. Consider the region's unmet transportation needs:

- The 2025 RTP identifies \$41 billion in transportation needs.
- The RTP only identifies \$24 billion in anticipated revenue — representing a \$17 billion dollar shortfall in funds.
- Eighty-seven percent of all transportation funds will be needed to simply maintain existing pavement and bridges and also replace buses.
- The RTP calls for widening 425 miles of roadway out of the 725 miles identified as congested.

Clearly, the region needs to identify ways of increasing the performance of our transportation system. On a regional basis, we have reached a point of diminishing returns on physical road improvements. We can continue to make incremental gains through these improvements or look for ways to get the existing roads to function better. When considering ways to increase overall transportation system efficiency, transit has considerable potential.

## Reduce fuel consumption and air pollution

A properly designed and implemented comprehensive transit system will allow the entire transportation system to function better, resulting in less congestion, fuel consumption, and air pollution.

# Learning From Our Past

## Reasons We Failed

Over the past 80 years or so, nine transit plans were developed for the region but failed to be implemented for one reason or another (see timeline: *A Brief History of Transit in Southeast Michigan*). Primary stumbling blocks included:

- Lack of regional consensus on the details,
- Fragmented decision making with no strong public or private sector leadership,
- Lack of local funding,
- Weak governance structure,
- Myths about what transit can and cannot do, and
- Lack of strong grass-roots support.

This has resulted in past plans sitting on a shelf and not being implemented. This time, the process is geared specifically toward addressing these obstacles.

## Why This Plan is Different

Unlike previous efforts, this plan attempted to build consensus from the start. The transit plan has included all transportation system stakeholders. Technical analysis was enhanced by stakeholder input. This input included 23 public working sessions held at various stages of the plan's development, as well as regular committee and one-on-one meetings with elected officials, key decision makers, technicians, and various stakeholders. There have also been meetings with transit operators, coordination with other transit projects (such as the Downtown to Metro Airport and Lansing to Detroit rail studies), and a 1,400-person regional opinion survey to gauge the public's habits and desires regarding transit.

### This plan builds on consensus

The plan recognizes and supports the growing, broad-based consensus that is creating a strong momentum for comprehensive transit, including:

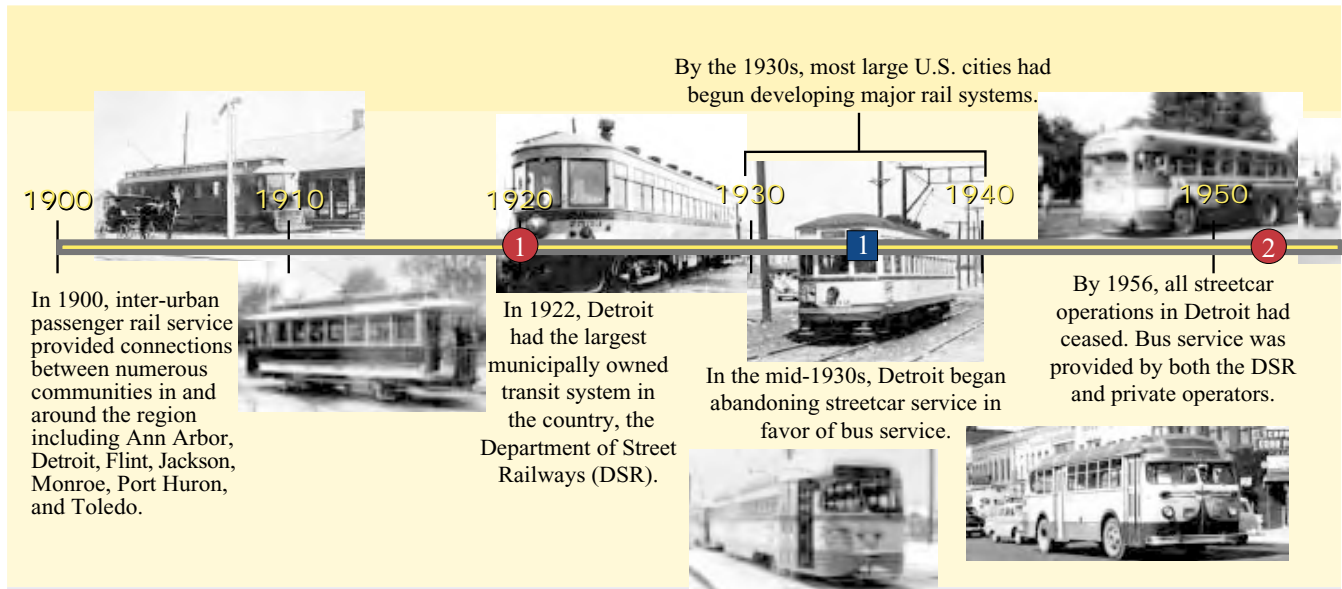
- Heads of Macomb, Oakland, and Wayne Counties and the Mayor of Detroit (John Hertel, L. Brooks Patterson, Edward McNamara, and Dennis Archer, respectively) have agreed that the current regional transit governance structure is broken and must be fixed.
- Private-sector organizations including the Metropolitan Affairs Coalition (MAC), the Detroit Regional Chamber, and Detroit Renaissance have made transit a priority.
- In a joint statement, DaimlerChrysler, Ford Motor Company, and General Motors expressed their support for public transit in Southeast Michigan and their commitment to work collaboratively to enhance transit in the region. (While the auto companies have been very supportive behind-the-scenes for quite some time, this recent statement of support publicly declared their position.)
- Newly formed, grass-roots organizations are aggressively focusing on the issue.
- Key state and federal legislators are pushing for action.
- Public support is strong.

### This is a plan the region can rally around and make happen

By including viewpoints of all stakeholders in its development, this transit plan is based on true regional input. Along with the growing agreement by public and private sector leaders to improve transit in our region, this plan enables us to work together to better address the funding and governance issues.



# A brief history of transit



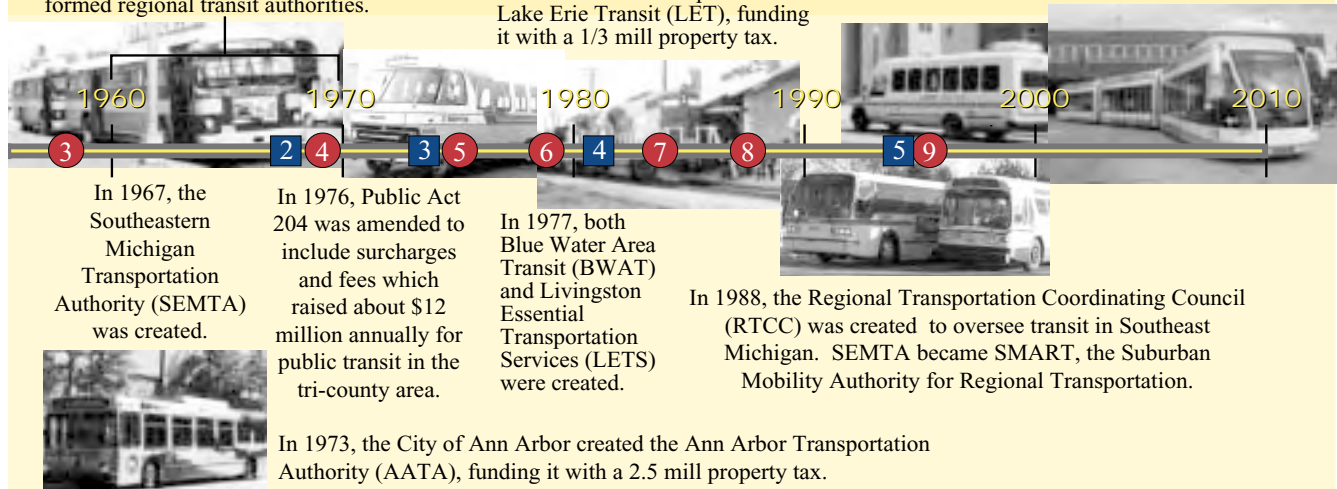
## ● Transit plans developed for Southeast Michigan

- 1 In 1920, the Detroit Rapid Transit Commission prepared the first regional transportation plan, recommending a multimodal system.
- 2 In 1953, the *Detroit Metropolitan Area Transportation Study* was completed, calling for a balanced system of highways and mass transit.
- 3 In 1958, the Detroit Rapid Transit Commission published a new plan which called for a regional monorail system.
- 4 In 1969, the comprehensive Detroit Regional Transportation and Land Use Study (TALUS) recommended rail rapid transit in eight metro corridors.
- 5 In 1975, SEMCOG adopted its *1990 Long-Range Transportation Plan*, which called for substantial improvements in public transit.
- 6 In 1979, SEMTA approved a detailed regional transit plan which included the development of rail lines and a comprehensive bus system.
- 7 In 1984, SEMTA approved the *Regional Public Transportation Consensus Plan*, a refined version of the 1979 plan.
- 8 In 1988, plans released by SEMCOG and the Metropolitan Transit Development Committee each called for substantial transit improvements.
- 9 In 1997, the Metropolitan Affairs Coalition and the Detroit Regional Chamber published a plan envisioning a three-tiered system of rapid transit, expanded fixed-route bus service, and flexible local service.

# in Southeast Michigan

In the 1960s, spurred by passage of the Urban Mass Transportation Act and by bankruptcies of private transit providers, many metro areas formed regional transit authorities.

In 1980, the City of Monroe and Frenchtown Township created Lake Erie Transit (LET), funding it with a 1/3 mill property tax.



## ■ Missed opportunities for enhancing transit in Southeast Michigan

- 1 In the 1930s, public-works projects were comparatively inexpensive to build. Therefore, most large U.S. cities chose to develop major rail transit systems during this time. Detroit, however, began to abandon its rail service in favor of bus service.
- 2 Unlike regional transportation authorities in other metro areas, SEMTA was created without a corresponding dedicated local tax to support public transit, limiting the region's ability to compete for federal funds and to operate service.
- 3 In 1974, Southeast Michigan received a \$600 million commitment for mass transit from the Ford administration. A portion of this money helped fund the People Mover, but the majority of funds were lost because Detroit and the suburbs could not reach an agreement on how to spend them.
- 4 In 1982, Public Act 204's transit funding provisions (license-plate fee) expired because SEMTA and the Detroit Department of Transportation could not reach a merger agreement.
- 5 In 1997, Michigan's gas-tax was increased, but no additional funds were allocated to transit.

## Myths

Misinformation is one of the road blocks to building a comprehensive transit system in Southeast Michigan. There are numerous myths about how transit operates and what it is, and is not, capable of doing. Following are a few key myths and some clarification.

### Myth: Fare box revenues should cover most operating costs

No public transit system in the United States operates on farebox revenue alone. Even New York City, with the highest transit ridership in the country, receives only 56 percent of its revenues from fares. By the same token, gas taxes and other user fees for cars and trucks do not cover the entire cost of building, maintaining, and operating roadways. In fact, in 1998, \$110 million in non-user subsidies were collected by Southeast Michigan road commissions and local governments for road improvements.<sup>1</sup> Transit, like roads, schools, and libraries, is a public service that requires an ongoing subsidy to fill a vital need.

### Myth: Public transit is not really needed in our region

In most countries — and in virtually every metropolitan region in this country — public transit is considered a vital public utility . . . a needed public service like libraries, roads, and public-safety activities. Its ability to meet the needs of the transit dependent, offer viable transit options for choice riders, and complement and improve the overall transportation system, make it an important component of our region's quality of life.

### Myth: Local funding of transit is virtually non-existent in our region

Public transit is a locally supported service in Macomb, and parts of Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties through a dedicated property tax. In addition, the City of Detroit contributes a significant amount of money annually from its general fund. While these funds indicate that citizens recognize the value of public transit, they are not enough. For example, in Macomb, Oakland, and Wayne Counties, every dollar of the limited funding available is being used to simply maintain the existing service. There are no funds available to meet the growing need for expanded service.

### Myth: We have enough local funding for transit

While many communities do provide local support for transit, the level of this funding falls far below that spent in other regions. Of 25 major metropolitan areas across the country, Southeast Michigan ranks 21<sup>st</sup> in the amount of local transit funding — spending only \$19 per capita. Most of the other regions spend two-to-four times that amount.

### Myth: Transit will harm automobile travel

A well-designed transit system actually complements and enhances automobile travel by making the road system more efficient. This is true in any metropolitan area in the world, including places like Los Angeles and Chicago.

### Myth: One public transit mode can solve the bulk of the issues

Pick a metropolitan area you think has a good transit system. Does it provide just bus service? Does it provide just rail service? Probably not. Efficient and effective transit systems use a combination of modes to meet the needs of their users.

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<sup>1</sup> 1998 Act 51 Audit Reports

**Myth: Southeast Michigan does not have the population and employment density required to support rapid transit**

Of the 20 largest metropolitan areas in the country, Southeast Michigan ranks ninth in density, ahead of such areas as Boston, Baltimore, and Atlanta, which operate extensive rapid transit systems. Of these 20 regions, only four are not currently operating or constructing a rapid transit system. Many of these regions have constructed their systems in the last 10 years.

**Myth: Southeast Michigan residents would not use an improved transit system**

A recent survey of 1,400 households in the seven-county Southeast Michigan region showed 77 percent of respondents would likely use a new system. This includes 42 percent of survey respondents who would "very likely" use a new public transit system that is clean, safe, and inexpensive, with frequent service to specific destinations. An additional 35 percent were "somewhat likely" to use a new transit system.

**Myth: Most people in the region would not support increased local funding for transit**

Fifty-nine percent of respondents in the recent survey of 1,400 households in Southeast Michigan say they would support additional funding for public transit. Individual county percentages break down as follows:

- City of Detroit, 65 percent
- Livingston County, 50 percent
- Macomb County, 53 percent
- Monroe County, 55 percent
- Oakland County, 57 percent
- St. Clair County, 54 percent
- Washtenaw County, 60 percent
- Wayne County, 63 percent

On a scale of 1-10, with 10 being "very likely," respondents were asked their likelihood to support a transit tax. Their responses by county were:

- City of Detroit, 6.19
- Livingston County, 5.59
- Macomb County, 5.46
- Monroe County, 5.21
- Oakland County, 5.53
- St. Clair County, 5.45
- Washtenaw County, 5.84
- Wayne County, 6.05

# Considering the Public's View

In addition to conducting new and using existing technical analyses, the foundation of this plan is an extensive effort to gather input from all stakeholders in Southeast Michigan, including elected officials, transit operators, current transit system users, potential transit users, special interest groups, national transit experts, and the general public. Along with using typical planning research methods, SEMCOG has undertaken a multi-pronged approach to understanding the issues surrounding transit in the region. This approach includes four basic elements.

## Public Forums

Nearly 800 people attended 23 public workshops held throughout the region at four points of the planning process.

The first set of workshops was held in August 2000 at the project's startup to gather input on our transportation system as a whole and the role transit should play. Participants worked in small discussion groups to identify what they wanted in a transit system.

The second set was held in January 2001. SEMCOG presented information to help participants identify where people are and where they want to go. Eleven maps were used to show where people currently live, where they are expected to live in the next 25 years, where they work, get health care, and shop. In small discussion groups, participants mapped potential transit corridors, determined levels of service along those corridors, and prioritized desired transit amenities.

The third series of workshops took place in May 2001. Participants analyzed the results of their January input and SEMCOG's preliminary technical analysis.

The fourth series of public meetings, held in August and September of 2001, gathered comments on the transit plan document itself. Participants commented on the location of proposed transit corridors; proposed features and amenities; and the cost, funding and governance of the proposed system. In addition to the public meetings, citizens were invited to submit comments by mail, fax, email, or telephone. Many of these comments resulted in changes to the final document.

In each set of public meetings, participants were also asked to comment on the public involvement process used to develop the plan. Their opinions on meeting times, locations, and format were sought. This information will be used to improve SEMCOG's overall public involvement process.

## Public Opinion Survey

In addition to the public forums, SEMCOG conducted a scientific survey of 1,400 households in the seven-county Southeast Michigan region, asking opinions on public transit. The survey included three categories: current transportation system conditions, looking at a future system, and funding the system. The survey found:

- C On a scale of 1-10, with 10 being very satisfied, the average rating of Southeast Michigan's current transportation system, including transit, is low at 4.19.

- C Road condition was the highest-ranked problem on the current transportation system, followed by:
  - Transportation for the elderly and people with disabilities, and
  - Transportation for people without a dependable car and for those who prefer an alternative to driving.
- C Nine percent reported using public transit within 60 days of the survey. Consistent with previous studies, 2.5 percent of respondents said they use transit on a regular basis.
- C Regarding a new public transit system for the region, 42 percent of survey respondents were "very likely" to use a new public transit system that is clean, safe, and inexpensive, with frequent service to specific destinations. An additional 35 percent were "somewhat likely" to use a new transit system. In total, 77 percent of respondents would likely use a new system.
- C Safety was the most frequently mentioned feature for improved public transit service, followed by reliability/dependability and convenience/flexibility.
- C Respondents cited advanced age or disability and avoiding traffic congestion as reasons they might choose transit in the future.
- C And how will we fund this new system? Fifty-nine percent of survey respondents said they would support additional funding for public transit. Only 14 percent said they would oppose additional funding. Of those at least somewhat likely to support additional funding for public transit, 58 percent prefer an increase in the sales tax.

In short, this survey showed that residents of Southeast Michigan are seeing an increased need for a new system, and that there's a base level of support to pay for it.

## Stakeholder Survey

In order to get a more extensive, non-scientific view of others interested in developing the transit plan, the public opinion survey described above was made available at various SEMCOG meetings, was advertised extensively in the media, and was available electronically on SEMCOG's Web site for several months. The survey was distributed at transit plan public workshops, all SEMCOG advisory councils and committee meetings, and to various transit advocacy groups, local and state government agencies, and anyone who requested a copy of the survey.

A total of 1,200 responses were received and tabulated. Although not scientific, these results are an additional gauge of the people most interested in transit. Results show:

- C On a scale of 1-10, satisfaction with the current regional transportation system was lower than the scientific survey at 2.87 (4.19 in scientific survey).
- C The number one rated primary concern with the current transportation system is transportation for younger people, while the condition of the road surface was number one in the scientific survey.
- C Persons who regularly use transit was higher at 28 percent, versus 2.5 percent in the random survey.
- C Regarding funding, 39 percent of stakeholder survey respondents indicated that they would prefer an increase in the sales tax to support regional transit. On a scale of 1-10, with 10 being very likely, willingness to support enhanced funding for public transit came in at 8.03 out of 10.

## Input From Other Stakeholders

A working group with representatives from the seven public transit operators in the region was formed to provide input into this plan and to better coordinate transit and other issues. This group provided input on all aspects of the plan via group and individual meetings, regular mail, e-mail, telephone, and fax. SEMCOG, MAC, the Detroit Regional Chamber, and Detroit Renaissance have met regularly on the private-sector needs for public transit and to formulate solutions. Out of this, MAC took the lead in researching the feasibility of SpeedLink — a form of bus rapid transit. The Detroit Regional Chamber took the lead in pushing for enhanced (restructured) governance of regional public transit. The Citizens Research Council is evaluating options for enhancing revenue for regional public transit.

In addition to its Executive Committee and General Assembly, SEMCOG regularly convenes advisory councils to give and receive feedback from a variety of perspectives. All of these councils provided input into the plan.

SEMCOG met and/or communicated with a variety of other interests to discuss development of the plan, including elected officials, advocacy groups, transit experts, the media, and the public.

### What stakeholders said

In summary, stakeholders said the region needs a transit system that:

- Provides regional mobility 24 hours a day, seven days a week, with rush hour and non-rush hour service,
- Is dependable, frequent, fast, safe, secure, and clean, with reasonable rates,
- Serves the needs of many different groups — the transit dependent as well as those who have a choice,
- Is easy-to-use, with understandable routes, schedules, and transfers, and helpful customer service,
- Contributes to the economic health of Southeast Michigan by:
  - increasing regional marketability,
  - increasing mobility for workers and customers,
  - maximizing efficient land use, and
  - helping revitalize mature, urban areas.

Improved transit is viewed by most stakeholders as a viable, attractive option for all people and not solely a last resort for the transit dependent. This political and public opinion on transit, combined with efforts to engage stakeholders in development of this plan, mean the region appears to be up for the challenges ahead in implementing the proposed transit improvements.

# Where Are We Now?

## Assessment of the Current Transit System

A complete picture of the existing transit system is vital to understanding the issues and needs of our region. Such an inventory is the first step in identifying what transit currently does well in this region and where it needs to improve. The following summary is based on information gathered through interviews with the region's public transit providers, and information gathered from the Federal Transit Administration's (FTA) National Transit Database and the Michigan Department of Transportation's (MDOT) Transportation Management System.

## Overview of Current Transit Service

A variety of public transit services are currently operating in the seven-county region of Southeast Michigan. These services range from traditional, fixed-route bus operations in urban areas to specialized van transportation in more rural communities. At present, there are seven primary public transit operators in the region:

- C **Ann Arbor Transportation Authority (AATA)** provides fixed-route and paratransit services in the Ann Arbor/Ypsilanti urbanized areas as well as surrounding communities in Washtenaw County;
- C **Blue Water Area Transit (BWAT)** provides fixed-route and paratransit service in and around the Port Huron area in St. Clair County;
- C **Detroit Department of Transportation (DDOT)** provides the largest fixed-route bus system in the region, serving passengers in the City of Detroit; it also provides paratransit service for persons with disabilities;
- C **Detroit Transportation Corporation (DTC)** operates the "People Mover," a fully automated, elevated guideway system in Detroit's Central Business District (CBD);
- C **Lake Erie Transit (LET)** provides fixed-route and paratransit service in and around the City of Monroe and Frenchtown Township, in Monroe County. It also provides paratransit service in Bedford Township with a connection to the Toledo transit system;
- C **Livingston Essential Transportation Service (LETS)** provides paratransit service within Livingston County, as well as transportation to medical appointments in neighboring counties and,
- C **Suburban Mobility Authority for Regional Transportation (SMART)** provides fixed-route and paratransit services in Macomb, Oakland, and Wayne Counties, including trips to and from the City of Detroit that cross city boundaries.

Together, these operators, provide over 219,500 fixed-route and paratransit trips per day in the region. Roughly 90 percent of these trips occur in the tri-county area (Macomb, Oakland, and Wayne Counties). Detailed descriptions of each of these providers are contained in Appendix A.

### **Fixed-route transit service**

Table 1 summarizes characteristics of the region's fixed-route transit services. These services provide access to 843,000 households and 1.6 million jobs in the region. A total of 140 bus routes operate in Southeast Michigan with an average weekday ridership of 207,900. The Detroit People Mover provides CBD circulation for 5,600 riders each week. Figure 2 shows existing fixed-route bus service in Southeast Michigan, including several routes that extend into the region from the Flint area.



Table 1  
Fixed-Route Transit Service

Transit System	Average Hours of Service per Day <sup>1</sup>	Average Weekday Ridership	Number of Fixed Routes <sup>2</sup>	Local Funding Source	Annual Local Funding Amount <sup>4</sup>
AATA	17	15,500	24	2.50 mill property tax	\$8,860,000
BWAT	12-16	3,100	8	0.65 mill property tax	\$630,000
DDOT	20 - 24	155,900	54	City of Detroit General Fund	\$61,000,000 <sup>3</sup>
DTC	15-19	5,600	1 (downtown circulation)	City of Detroit General Fund	\$9,200,000
LET	6-10	1,400	7	0.33 mill property tax	\$553,000
SMART	15-19	32,000	47	0.33 mill property tax	\$21,000,000
<b>TOTAL</b>		213,500	141		\$101,243,000

<sup>1</sup>Total hours per day can vary depending on route. <sup>2</sup>Does not include flex, or special routes. <sup>3</sup>May vary depending on budget appropriation. <sup>4</sup>Includes local funding for all modes, not just fixed-route.

Source: National Transit Database, 2001; AATA, BWAT, DDOT, DTC, LET, and SMART, 2001.

### Public paratransit service

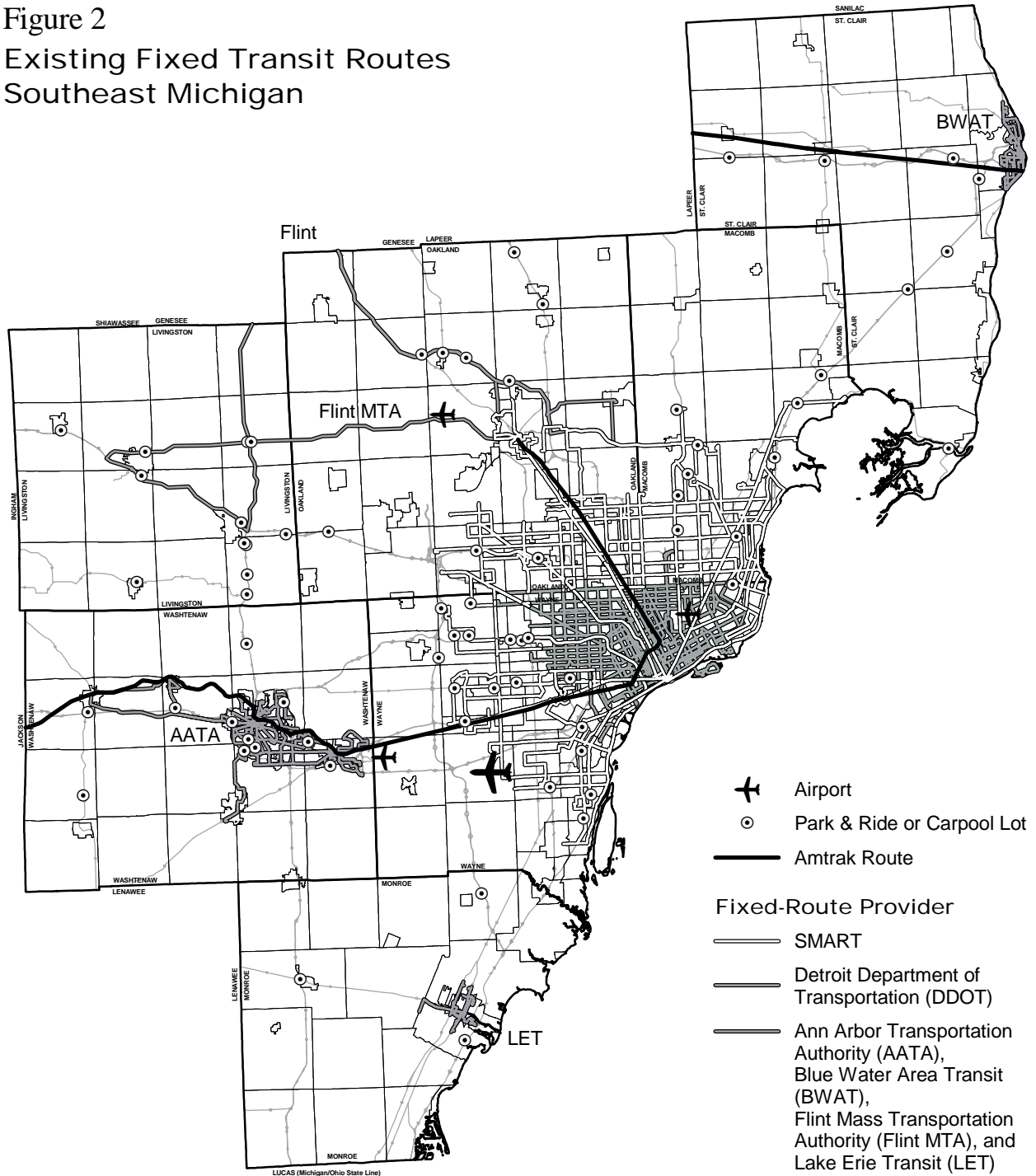
In addition to fixed-route service, all of the region's transit operators provide some sort of paratransit service. Paratransit refers to service that is more customized. Rather than operating on a fixed-route, paratransit service has flexible routes to accommodate the passengers it carries on any given day. It generally takes the form of curb-to-curb service, which involves picking someone up at the curb in front of their home or other trip origin and dropping them off at the curb in front of their destination. Paratransit service can be delivered by a variety of vehicles including small buses, vans, and shared-ride taxis.







In Southeast Michigan, the type of paratransit service offered varies greatly. Some operators only service specialized populations, such as the elderly and disabled, while others offer service to the general public.

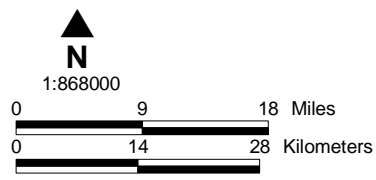
Under the federal Americans with Disabilities Act of 1990 (ADA), all transit operators must provide curb-to-curb paratransit service for disabled persons whose trip origin and destination are within .75 mile of any fixed transit route. ADA riders must be pre-certified by the transit operator and have a disability that precludes them from using the regular fixed-route service.

All paratransit service requires the passenger to call the transit operator to reserve a ride. The amount of advanced reservation time required varies. Some require at least 24-hour advance notice while others offer same-day service. All service is subject to the availability of seats; rides are generally reserved on a first-call, first-served basis. Thus, even if the operator does not require advance notice, a passenger often must call a day ahead to ensure there will be space available.

Figure 2  
Existing Fixed Transit Routes  
Southeast Michigan



-  Airport
-  Park & Ride or Carpool Lot
-  Amtrak Route
- Fixed-Route Provider**
-  SMART
-  Detroit Department of Transportation (DDOT)
-  Ann Arbor Transportation Authority (AATA), Blue Water Area Transit (BWAT), Flint Mass Transportation Authority (Flint MTA), and Lake Erie Transit (LET)



Source: SEMCOG

State Plane NAD83  
June 2001

Approximately 6,000 paratransit trips per day are provided by the region's public transit providers. In addition, many local communities provide some sort of specialized transportation services for residents, many of which involve transporting senior citizens to neighborhood community centers and medical appointments. SMART, in particular, has actively promoted such transportation services within its service area through its Community Partnership Program. This program provides funds to help communities obtain and operate their own vehicles.

### **Community-based transportation services**

In addition to the region's public transit providers, over 400 other organizations provide some sort of community-based transportation service within the region. Community-based transportation refers to service provided by various community groups such as churches, youth groups, and senior citizen organizations. Many of these services are also run by human-service organizations, providing transportation for medical appointments, job training, and other specialized travel needs. For liability or administrative reasons, many of these services are prohibited from transporting the general public.

In the past, these providers tended to operate in isolation, with little or no coordination of services with other operators in their area. Consequently, one provider might have more demand than it could handle and another might be making a similar trip with a vehicle only half full. Attempts have been made to coordinate these small, community-based services. For example, AATA has begun a transit brokerage service that helps people identify transportation options for Washtenaw County trips that are outside AATA's service area. Using a computerized information database, RideSource identifies potential transportation providers and either passes this information on to the customer or directly books a trip for them on the other service.

The EZRide Program, initiated by the MAC and operating in the City of Detroit, works to coordinate the transportation service of multiple, community-based transportation providers. The program was established in partnership with the Eastside Community Resource Center, DDOT, and Ford Motor Company to break down passenger eligibility requirements and restrictions that prevent or discourage organizations from sharing in meeting the needs of different populations. The program coordinates the services of five nonprofit transportation providers in order to meet the needs of diverse populations, including welfare-to-work clients, seniors, low-income persons, and the disabled.

In St. Clair County, BWAT has begun supplying buses for six social service agencies in the county that provide transportation for their clients. In many cases, BWAT has actually taken over the operation of these transportation services, allowing the social service organizations to concentrate their energy and resources on their primary mission.

While the above programs have made progress in coordinating transportation resources in some parts of the region, much more needs to be done to more effectively utilize the vast amount of scattered transportation resources these community-based systems represent.

### **Private transportation services**

In addition to public and community-based transit, many private transportation services also operate in Southeast Michigan. Chief among these are taxi cab companies, providing 24-hour service, seven days a week in many areas. According to figures from the Detroit Taxi Industry, taxis provide rides to approximately 20,000 people each day. Most of this service is privately arranged, with the passenger directly contacting the taxi company to arrange a ride. However, some of this service is provided in partnership with public transit operators or local communities. For example, AATA has contracted with a local taxi company to provide transportation in the City of Ann Arbor during the hours that their regular bus service is not available. And in the City of Detroit, the school district has partnered with taxi companies to provide transportation for special education students.

In addition to taxis, private bus service also operates in the region on both a scheduled and charter basis. Regional and inter-regional Greyhound service is discussed under “Tier 4: Regional Links” in the Transit Toolbox section of this report. In addition to Greyhound, other private bus operators provide various types of local transportation. Companies such as Commuter Express specialize in transporting people to and from work, others provide airport service or travel to special events.

These private transportation services fill specific needs and are an important component of the region’s transportation system. While some of these services have been integrated with public transit operations, further coordination should be pursued in order to maximize the efficiency of the overall transportation system.

## Strengths and Weaknesses of Existing Service

### **The public’s view**

Through the public input process previously outlined, a number of key points were consistently raised:

#### **Transit service needs to be more reliable**

Public input from the forums and the telephone survey indicated that current transit service is unreliable. Buses in some areas of the region are often late or fail to show up at all.

Operators acknowledge that this is a problem, largely due to a shortage of drivers. Driver shortage is critical. A tight labor market, low pay (particularly low starting wages), and hard working conditions in some areas are contributing factors. Without enough drivers, transit operators are forced to do one of two things: cut service or pay the existing drivers overtime in order to operate all of their service. Excessive overtime means higher costs for the operators and increased driver fatigue.

Aging vehicles also contribute to unreliable service. Older vehicles need increased maintenance and are more likely to break down, causing delays in scheduled service. The low level of transit capital funding in the region means that older buses, which are less reliable, cannot be replaced in a timely manner. It also means operators cannot afford to purchase sufficient spare vehicles to fill in for those that must be brought in for repairs.

Traffic congestion also impacts the reliability of transit service. If transit vehicles must travel in mixed-flow traffic, without traffic signal prioritization or other mechanisms to give them priority status, they will be subject to the same travel delays experienced by automobiles on busy roadways.

#### **Current bus service is not frequent enough**

Forum participants repeatedly commented that buses do not arrive often enough at transit stops. This impacts riders in a number of ways. Specifically, riders complained that, if they miss a bus, they often have to wait 30 minutes or more for the next one. They also said that the long time period between buses forces them to schedule their daily activities around the bus schedule rather than traveling when it’s convenient for them. Riders also commented that infrequent service makes transferring from one bus to another much more onerous, as their original bus may drop them off over 30 minutes before the bus they are transferring to is scheduled to arrive.

#### **More transit service is needed in the evenings and on weekends**

This lack of service seriously diminishes the usefulness of transit to many people in the region. In addition, for those who do not have access to an automobile, lack of weekend and evening service effectively eliminates the possibility of obtaining many retail and industrial jobs, which often require employees to work during these time periods.

### **Some areas of the region need additional fixed-route service**

People expressed the need for additional transit routes in their area, particularly in western Wayne County and Southwest Detroit.

### **There is a need for service linking the major urbanized areas of the region.**

Transit connections are needed between the urbanized areas of Metro Detroit, Ann Arbor, Brighton/Howell, Monroe, and Port Huron.

### **Many people do not know where current transit service is located**

While some areas do lack transit, many people were surprised to learn that there was bus service near their home, as well as in other areas they routinely traveled. In some cases, frequency of service appears to be the real issue. Because buses on many routes operate only every 30-60 minutes, they are less visible to the public. This gives the impression that service does not exist. Knowledge of the current transit system needs to be increased so that everyone who can access transit is aware it exists. At the same time, frequency of service on existing routes needs to be increased to make it more useful to current and potential riders.

### **The issues of safety, convenience, and comfort were also identified by the public**

The need for additional personal safety — on vehicles, while waiting for buses, at parking lots, and walking to and from bus stops — was a critical issue identified by forum participants. The perception that the current transit system is unsafe causes many people to restrict their use of transit or not use it at all.

Lack of conveniences — shelters; ample parking; helpful signs; friendly customer service; and information about fares, routes, schedules, and how to use the system — was identified by forum participants as a problem needing to be addressed. Also, the absence of high-speed buses and easy transfers make using the current system less appealing. Comfort with the system needs to improve in the areas of security, cleanliness, and comfortable seating.

## **SEMCOG's research and technical analysis**

### **The major problem with current bus service is the frequency and duration, not its location**

Using national guidelines for rating service frequency and duration (hours of service) on fixed routes, only one-third (33 percent) of the region's bus routes would receive a grade of C or better<sup>1</sup>. Service in the peak period, when travel demand is highest, is relatively low, with buses arriving at most stops every 30 minutes. On some routes, buses arrive every 60 minutes. Service during non-peak travel times is even less frequent. Many routes do not operate in the evenings or on weekends, and much of the service that does operate is so infrequent that it does not meet the needs of those who could access it.

### **While current fixed-route service in the region provides relatively good coverage, there are some unserved areas**

Using national guidelines for defining areas with sufficient employment and/or population densities to support fixed-route service, SEMCOG mapped those areas in the region conducive to such service (Figure 3). These "transit supportive areas" (TSA) contain at least three households or four jobs per acre. According to *The Transit Capacity and Quality of Service Manual*, published by the Transportation Research Board, this is the minimum level of development that can support hourly fixed-route transit service.

When the existing fixed-route transit system is overlaid on the TSA, it shows that most of the area within the region that could likely support fixed-route service is currently covered by an existing route(s) (Figure 4). In fact, 68 percent of all jobs and households in the region's TSA are within a 1/4 mile of existing service.

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<sup>1</sup>Transit Cooperative Research Program of the Transportation Research Board. *Transit Capacity and Quality of Service Manual*, TCRP Web Document 6, January 1999, pp. 5-16, 5-19.

Those TSAs that do not presently have service tend to be on the periphery of the region's urbanized areas (e.g., Canton, Marysville, Novi, Rochester Hills, and Woodhaven). When we look at the future, it is these outlying communities that will increase in density, making them even more conducive to fixed-route transit service. The reason most of these outlying communities do not have fixed-route service is that they have chosen to opt out of transit by not contributing locally to its funding.

In general, the City of Detroit has good transit route coverage. However, a small pocket in Southwest Detroit, near Dearborn, as well as several small sections on Detroit's eastside appear to have a need for increased service. The eastside area also contains a high proportion of zero-car (or highly transit dependent) households, intensifying the need for improved service.

The Warren and Sterling Heights area, between Van Dyke and Dequindre, shows a fairly large unserved area. SMART's New Service Initiative proposes a new bus route on Mound Road, which would improve access in this area.

While identifying unserved TSA is useful, it should be noted that this criterion alone should not be used to determine the creation of new fixed-route service. Other factors, such as proximity to major activity centers and socio-economic characteristics of a given neighborhood should also be considered. In addition, there are other ways of providing transit accessibility that may be more cost effective, including the development of park & ride lots at existing transit stops that are within driving distance of targeted areas or providing shuttle service to and from existing bus routes. Transit operators and local communities need to work together to identify the most effective solution(s) for each specific area.

### **Paratransit service coverage needs to be increased**

Figure 5 shows the areas of the region that currently provide general public and ADA paratransit service. In unshaded areas, there is no general public service. However, there is some limited paratransit service for the elderly and disabled (called specialized services). Much of this service provides very specialized transportation including trips to senior centers, community mental health facilities, and medical appointments. It does not include trips to work, shopping, or social activities.

The impact of all of the present restrictions on paratransit use means that many individuals living outside fixed-route service areas have severely reduced mobility because they lack transportation options. They must have an automobile or rely on someone who does.

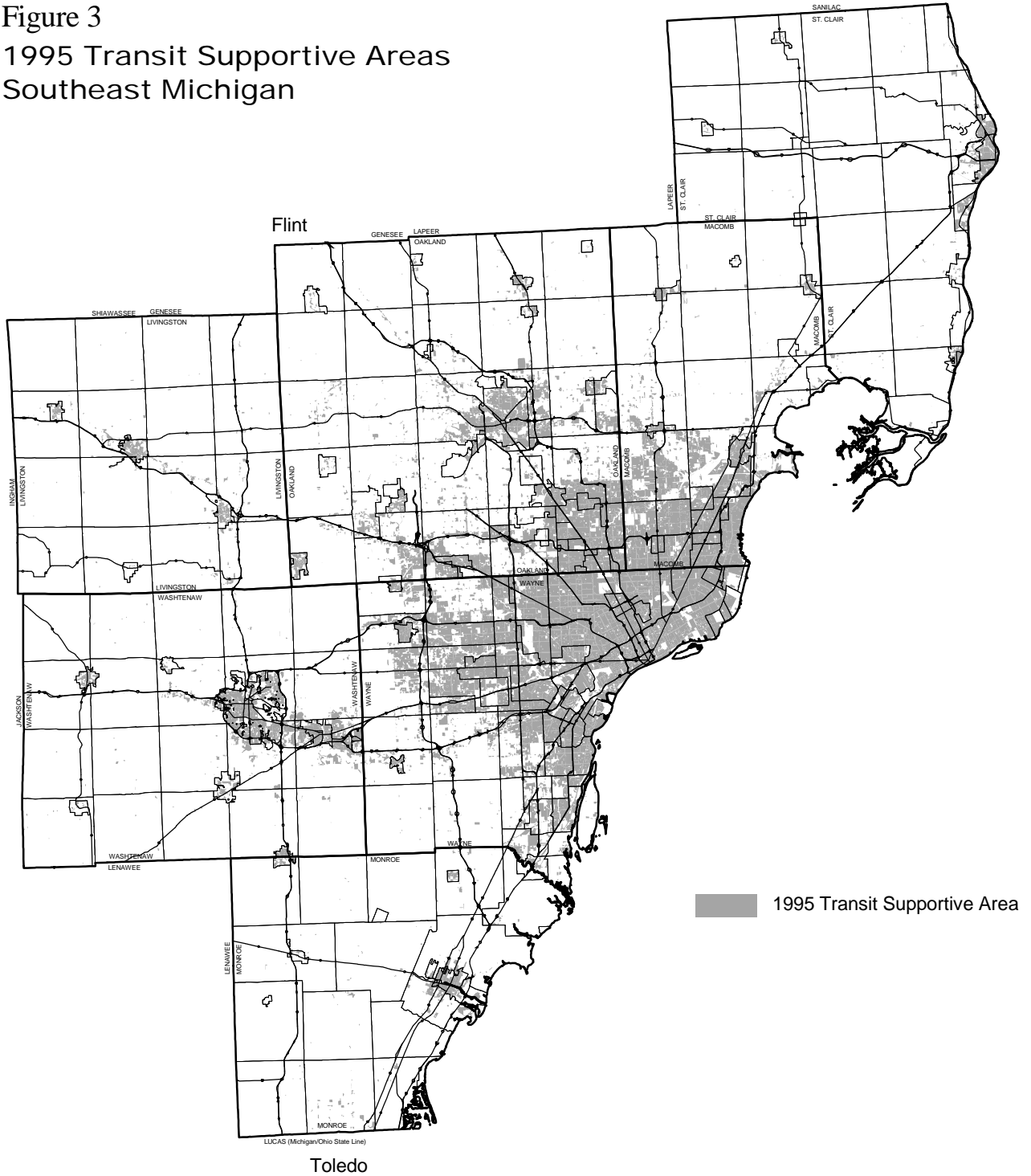
### **The level of paratransit service needs to be improved**

Many areas that currently provide paratransit service, whether general public or specialized, have very limited operating hours. They provide little or no weekend and evening service. For the elderly, evening travel is often difficult because their vision is significantly reduced. Even those who might be able to drive during the day are not able to do so at night.

The absence of evening and weekend service also impacts job seekers. If available jobs require night and/or weekend work, those jobs are inaccessible to individuals without a car.

In addition, most paratransit service requires the passenger to call and reserve their trip at least 24 hours in advance. This poses several problems. First, it requires the passenger to have a telephone, which many low-income people do not. Second, it requires all travel to be pre-planned. If a person suddenly discovers they are out of medicine, they will have to wait at least 24 hours to get a ride to the pharmacy. Their wait may actually be longer if the paratransit system is completely booked when they call.

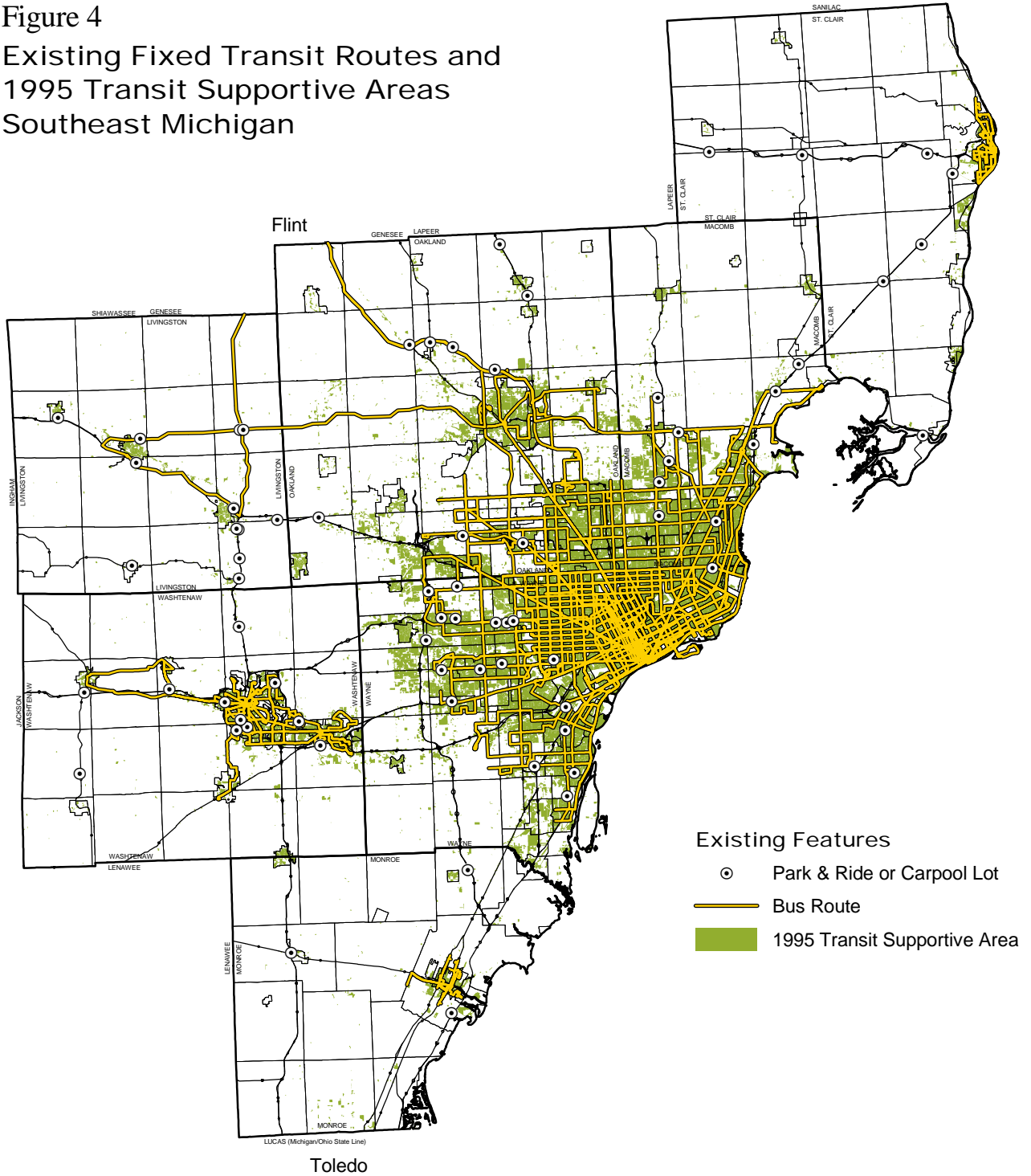
Figure 3  
 1995 Transit Supportive Areas  
 Southeast Michigan



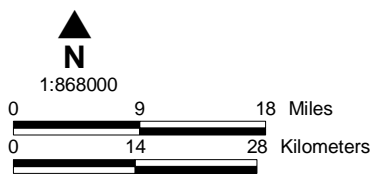
Source: SEMCOG

State Plane NAD83  
 June 2001

Figure 4  
 Existing Fixed Transit Routes and  
 1995 Transit Supportive Areas  
 Southeast Michigan



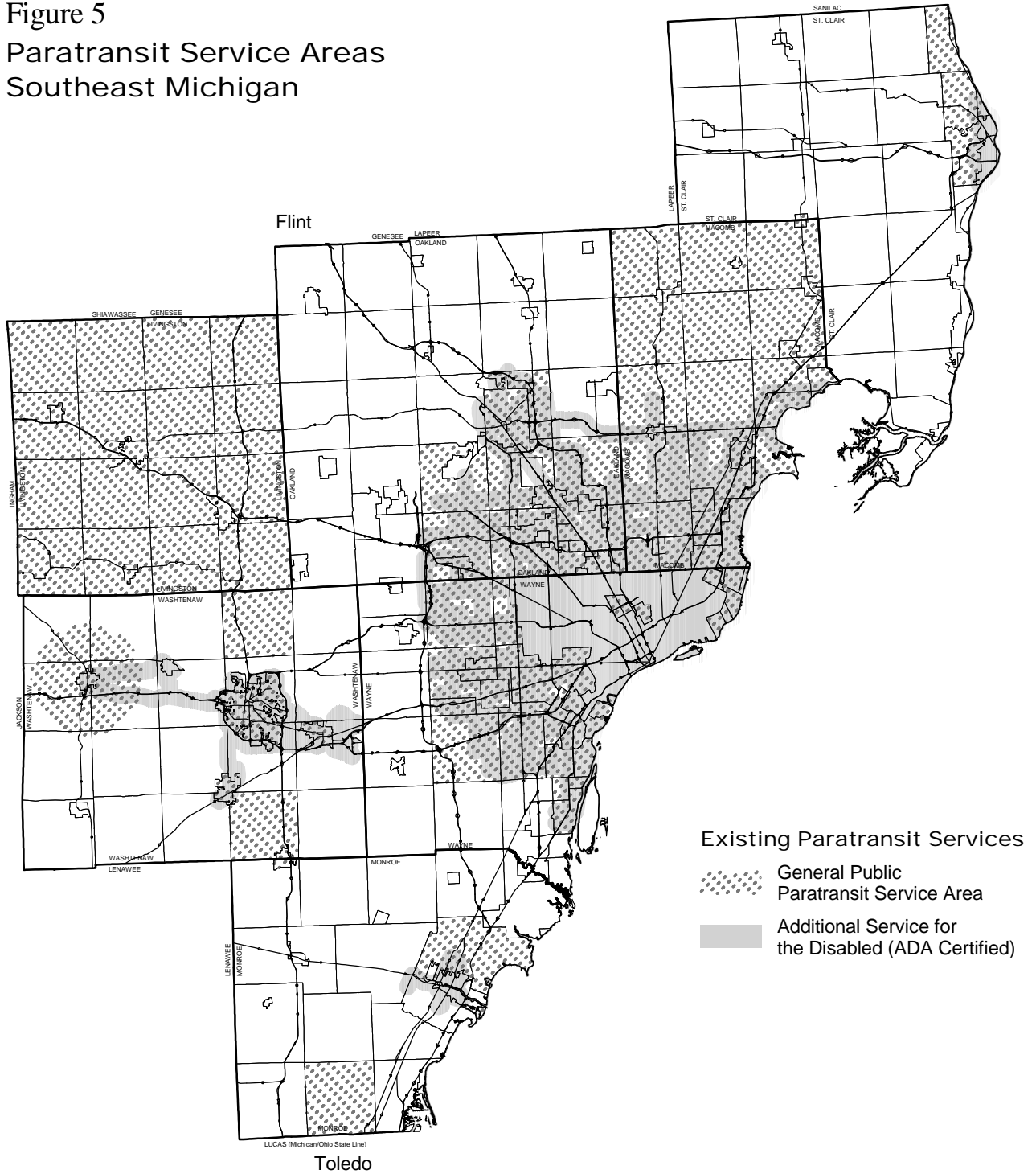
Source: SEMCOG



State Plane NAD83  
 June 2001



Figure 5  
 Paratransit Service Areas  
 Southeast Michigan



Source: SEMCOG

State Plane NAD83  
 June 2001

### **Public transit is underfunded**

Current problems with driver shortages, equipment failures, and aging vehicles, maintenance and storage facilities are straining the already limited budgets of our regional transit operators. A recent survey of 25 major metropolitan areas shows that most spend over twice as much as Southeast Michigan, per capita, on their transit systems.

The lack of sufficient funds is attributable to all levels of government — federal, state, and local. Federal funding for transit has been declining rapidly in recent years. At one time, the federal government provided 50 percent of transit's operating dollars and 80 percent of its capital funds. Today, the federal government provides almost no operating funds, with the exception of some maintenance and selective rapid transit projects. Changing government policies may also reduce capital funding from 80 percent to approximately 50 percent.

State funding for transit, which comes primarily from the gas tax, has not increased. While the gas tax was increased in 1997, this increase was allocated entirely to roads. Consequently, transit did not share in the financial benefits of this additional revenue.

Local funding for transit is also low. Of the 25 metropolitan areas surveyed, our region ranks 21<sup>st</sup> in the amount of dollars spent on transit, providing only \$19 per capita. While lack of local funding is a regional problem, some areas are harder hit than others. AATA currently receives \$8.9 million annually from a dedicated 2.5-mill property tax in the City of Ann Arbor. In contrast SMART, which has a service area 12.5 times larger than AATA's, receives only \$21 million annually from a dedicated one-third-mill property tax.

### **How do we compare to other metro areas?**

To better understand how well our current transit system functions, it is useful to look at transit systems in other similar metropolitan areas and see how Southeast Michigan compares. For this purpose, the 20 largest urbanized areas from across the country were selected, along with five other peer regions — Cleveland, Denver, Portland, Sacramento, and Salt Lake City. The following tables compare different characteristics of these regions and their transit systems including population, service levels, funding, and ridership. The data are ranked to show where Southeast Michigan stands in relation to the other regions. All of the data were compiled from the Federal Transit Administration's National Transit Database and are from 1998, the most recent year available. "Urbanized Area" figures for Southeast Michigan included data for all three of the region's federally designated urbanized areas: Detroit, Ann Arbor, and Port Huron.

### **Southeast Michigan is the fifth largest urbanized area in the country and its population density is higher than in most other regions**

It is often said that Southeast Michigan lacks the population density necessary to support a rapid transit system, that regions with rapid transit are more densely developed, and have less suburban sprawl. However, as Table 2 shows, many regions with lower population density have developed rapid transit systems. Of the 25 metropolitan areas, Southeast Michigan ranks 11<sup>th</sup> in density, ahead of such areas as Cleveland, Baltimore, and Atlanta which operate extensive rapid transit systems. In fact, Southeast Michigan is one of only four regions not currently operating or constructing a rapid transit system.

### **Nationally, Southeast Michigan ranks low in the amount of transit service provided**

Southeast Michigan ranks 23<sup>rd</sup> in both the number of miles and hours of transit service it provides. As Table 3 shows, our region provides only 10.2 miles of service per capita compared to Seattle with 37.1. Ten of the other regions, including Salt Lake City, provide over twice the amount of service miles per capita as Southeast Michigan.

When comparing hours of service, the picture is much the same. Table 4 shows that our region provides less than one service hour per capita. Seven of the other regions provide over twice that amount, including Seattle and

Portland, whose transit systems are comparatively new. Clearly, Southeast Michigan's level of transit service is well below the national average relative to its size and standing as a major metropolitan area.

**Current transit ridership is low compared with other major metropolitan areas**

With the low levels of transit funding and service outlined above, it is no surprise that transit ridership in the region is also low. Table 5 shows that Southeast Michigan ranks next-to-last in ridership with only 60 daily riders per 1,000 population. Only the Tampa area has a lower ridership.

In 1998, the year these data were compiled, approximately 238,000 transit trips were made each day in our region. Meanwhile, smaller, less dense areas such as Baltimore, Seattle, and Houston carried over 320,000 passengers per day. This suggests that our region has the potential to generate more transit trips than it presently does.

**You get what you pay for: The low level of service operated in our region and the correspondingly low ridership are directly related to the low level of funding available for transit**

Of the 25 metropolitan areas, Southeast Michigan ranks fifth in population but 21st in the amount of local dollars spent on transit. As Table 6 shows, our region spends only \$19 per capita on transit annually. Most other regions spend over twice that amount, with areas such as Cleveland, Atlanta, and Denver providing over four times the level of local funding provided in our region.

In addition to local dollars, transit systems also receive funds from passenger fares as well as state and federal government subsidies. Table 7 lists the total 1998 transit operating funds received in the different metropolitan areas, along with the source of those funds. Once again, Southeast Michigan is low on the list, receiving only \$59 per capita in total operating support. Most of the other regions spend over twice as much on their transit systems.

A close look at the percent of operating funds contributed by the federal government, shown in Table 7, shows the small role Washington plays in funding transit operations. Over the past decade, the federal government has gone from providing roughly 50 percent of operating revenue for transit systems to less than five percent in most regions. In addition, their subsidy for transit capital expenses has effectively been reduced from 80 percent to about 50 percent. These drastic reductions have made all transit systems much more dependent on local funds for construction and operation.

Table 2  
 Population Density and Rapid Transit Service  
 Comparison of 25 Major Metropolitan Areas

Density Rank	U.S. Population Rank	Region	Urbanized Area (sq. miles)	Urbanized Area Population	Persons per Sq. Mile	Has Rapid Transit?
1	2	Los Angeles	1,966	11,402,946	5,800	Yes
2	16	Miami	353	1,914,660	5,424	Yes
3	1	New York	2,967	16,044,012	5,407	Yes
4	3	Chicago	1,585	6,792,087	4,285	Yes
5	6	San Francisco-Oakland	874	3,629,516	4,153	Yes
6	4	Philadelphia	1,164	4,222,211	3,627	Yes
7	7	Washington, DC	945	3,363,031	3,559	Yes
8	11	San Diego	690	2,348,417	3,404	Yes
9	22	Denver	459	1,517,977	3,307	Yes
10	32	Sacramento	334	1,097,005	3,284	Yes
11	5	Southeast Michigan	1,225	3,982,364	3,251	No
12	17	Baltimore	593	1,889,873	3,187	Yes
13	10	Boston	891	2,775,370	3,115	Yes
14	41	Salt Lake City	254	789,447	3,108	Yes
15	29	Portland	388	1,172,158	3,021	Yes
16	18	Seattle	588	1,744,086	2,966	Yes
17	14	Phoenix	741	2,006,239	2,707	No*
18	21	Cleveland	636	1,677,492	2,638	Yes
19	19	Tampa	650	1,708,710	2,629	No
20	9	Houston	1,178	2,901,851	2,463	No*
21	15	St. Louis	728	1,744,086	2,396	Yes
22	8	Dallas-Fort Worth	1,443	3,198,259	2,216	Yes
23	20	Pittsburgh	778	1,678,745	2,158	Yes
24	13	Minneapolis	1,063	2,079,676	1,956	UC
25	12	Atlanta	1,137	2,157,806	1,898	Yes

Source: Federal Transit Administration. National Transit Database, 1998.

UC: Under Construction

\* Dedicated local funding for rapid transit service has been approved. Alternatives analysis is currently being performed.

Table 3  
 Transit Service Miles per Capita  
 Comparison of 25 Major Metropolitan Areas

Rank	Region	Urbanized Area Population	Vehicle Service Miles <sup>1</sup>	Miles per Capita
1	New York	16,044,012	694,052,571	43.3
2	Seattle	1,744,086	64,709,527	37.1
3	San Francisco-Oakland	3,629,516	126,956,368	35.0
4	Boston	2,775,370	80,796,120	29.1
5	Washington, DC	3,363,031	97,316,369	28.9
6	Chicago	6,792,087	196,007,294	28.9
7	Portland	1,172,158	33,557,530	28.6
8	Salt Lake City	789,447	20,912,793	26.5
9	Denver	1,517,977	37,658,091	24.8
10	Atlanta	2,157,806	52,726,178	24.4
11	Baltimore	1,889,873	35,288,270	18.7
12	Philadelphia	4,222,211	77,002,287	18.2
13	Cleveland	1,677,492	30,552,315	18.2
14	San Diego	2,348,417	41,362,455	17.6
15	Pittsburgh	1,678,745	29,528,831	17.6
16	Houston	2,901,851	48,595,398	16.7
17	Miami	1,914,660	31,474,756	16.4
18	St. Louis	1,744,086	27,881,420	16.0
19	Dallas-Fort Worth	3,198,259	45,592,889	14.3
20	Los Angeles	11,402,946	151,056,641	13.2
21	Sacramento	1,097,005	12,926,306	11.8
22	Minneapolis	2,079,676	23,658,284	11.4
23	Southeast Michigan	3,982,364	40,780,216	10.2
24	Phoenix	2,006,239	18,199,396	9.1
25	Tampa	1,744,086	8,752,187	5.0

Source: Federal Transit Administration, National Transit Database, 1998.

<sup>1</sup>The term "service miles" refers to the combined number of miles all transit vehicles in the system travel while in service. It excludes miles traveled when the vehicles are not in service, such as at the end of the day when a bus heads back to the garage.

Table 4  
 Transit Service Hours per Capita  
 Comparison of 25 Major Metropolitan Areas

Rank	Region	Urbanized Area Population	Vehicle Service Hours <sup>1</sup>	Hours per Capita
1	New York	16,044,012	42,883,860	2.67
2	Seattle	1,744,086	4,317,201	2.48
3	San Francisco-Oakland	3,629,516	7,765,360	2.14
4	Portland	1,172,158	2,487,846	2.12
5	Chicago	6,792,087	12,942,544	1.91
6	Washington, DC	3,363,031	6,300,762	1.87
7	Boston	2,775,370	4,894,668	1.76
8	Atlanta	2,157,806	3,189,447	1.48
9	Denver	1,517,977	2,193,815	1.45
10	Cleveland	1,677,492	2,290,444	1.37
11	Salt Lake City	789,447	1,076,648	1.26
12	Philadelphia	4,222,211	5,497,219	1.30
13	Baltimore	1,889,873	2,446,580	1.29
14	Pittsburgh	1,678,745	2,095,257	1.25
15	Miami	1,914,660	2,214,366	1.16
16	San Diego	2,348,417	2,652,396	1.13
17	Houston	2,901,851	3,162,651	1.09
18	Los Angeles	11,402,946	11,368,850	1.00
19	Dallas-Fort Worth	3,198,259	3,153,346	0.99
20	St. Louis	1,744,086	1,678,907	0.96
21	Minneapolis	2,079,676	1,692,391	0.81
22	Sacramento	1,097,005	868,095	0.79
23	Southeast Michigan	3,982,364	3,082,291	0.77
24	Phoenix	2,006,239	1,357,232	0.68
25	Tampa	1,708,710	605,999	0.35

Source: Federal Transit Administration, National Transit Database, 1998.

<sup>1</sup>The term "service hours" refers to the combined number of hours all transit vehicles in the system travel while in service. It excludes hours traveled when the vehicles are not in service, such as at the end of the day when a bus heads back to the garage.

Table 5  
 Transit Ridership in Major Metropolitan Areas  
 Comparison of 25 Major Metropolitan Areas

Rank	Metropolitan Area	Urbanized Area Population	Average Trips per Weekday (Unlinked)	Riders per 1000 Population
1	New York	16,044,012	9,454,930	589
2	Boston	2,775,370	1,113,025	401
3	Washington, DC	3,363,031	1,245,718	370
4	San Francisco-Oakland	3,629,516	1,288,110	355
5	Chicago	6,792,087	1,869,724	275
6	Los Angeles	11,402,946	1,780,655	261
7	Portland	1,172,158	287,797	246
8	Atlanta	2,157,806	525,474	244
9	Philadelphia	4,222,211	1,015,762	241
10	Seattle	1,744,086	355,547	204
11	Baltimore	1,889,873	362,020	192
12	Denver	1,517,977	242,622	160
13	Pittsburgh	1,678,745	251,117	150
14	Cleveland	1,677,492	229,600	137
15	Miami	1,914,660	262,001	137
16	San Diego	2,348,417	300,567	128
17	Salt Lake City	789,447	89,090	113
18	Houston	2,901,851	320,153	110
19	Minneapolis	2,079,676	218,897	105
20	St. Louis	1,744,086	180,793	104
21	Sacramento	1,097,005	100,320	91
22	Dallas-Fort Worth	3,198,259	225,762	71
23	Phoenix	2,006,239	125,661	63
24	Southeast Michigan	3,982,364	237,728	60
25	Tampa	1,708,710	33,046	19

Source: Federal transit Administration, National Transit Database, 1998.

Table 6  
 Local Operating Funds per Capita  
 Comparison of 25 Major Metropolitan Areas

Rank	Region	Urbanized Area Population	Local Operating Funds	Local Funds per Capita
1	San Francisco-Oakland	3,629,516	\$509,025,403	\$140
2	Seattle	1,744,086	241,540,916	138
3	Portland	1,172,158	118,697,359	101
4	Houston	2,901,851	266,278,404	92
5	Cleveland	1,677,492	151,173,464	90
6	Denver	1,517,977	133,379,108	88
7	Atlanta	2,157,806	176,984,230	82
8	New York	16,044,012	1,042,108,497	65
9	Miami	1,914,660	119,019,994	62
10	Washington, DC	3,363,031	198,277,741	59
11	Chicago	6,792,087	355,661,300	52
12	Los Angeles	11,402,946	582,468,480	51
13	Boston	2,775,340	140,566,308	51
14	St. Louis	1,744,086	82,325,089	47
15	Dallas-Fort Worth	3,198,259	146,097,270	46
16	Salt Lake City	789,447	33,785,952	43
17	Sacramento	1,097,005	44,288,859	40
18	Minneapolis	2,079,676	62,123,787	30
19	San Diego	2,348,417	48,228,779	21
20	Phoenix	2,006,239	41,148,215	21
21	Southeast Michigan	3,982,364	75,935,304	19
22	Philadelphia	4,222,211	72,283,635	17
23	Pittsburgh	1,678,745	22,973,822	14
24	Tampa	1,708,710	14,071,581	8
25	Baltimore*	1,889,873	0	0

Source: Federal Transit Administration, National Transit Database, 1998.

\*Baltimore's transit system is operated by the State of Maryland



Table 7  
 Total Operating Funds per Capita  
 Comparison of 25 Major Metropolitan Areas

Rank	Region	Urbanized Area Population	Total Operating Funds	Operating Funds/ Capita	Percent of Total Operating Funds by Source				
					Fares	Local	State	Federal	Other
1	New York	16,044,012	\$5,852,975,73	\$365	56%	18%	22%	1%	3%
2	Boston	2,775,370	785,618,639	283	29%	18%	51%	0%	2%
3	San Francisco-Oakland	3,629,516	925,845,375	255	38%	55%	5%	0%	2%
4	Washington, DC	3,363,031	758,945,085	226	47%	26%	21%	1%	5%
5	Seattle	1,744,086	373,638,142	214	21%	65%	4%	5%	5%
6	Chicago	6,792,087	1,337,915,392	197	44%	27%	18%	1%	11%
7	Philadelphia	4,222,211	732,155,282	173	38%	10%	45%	4%	3%
8	Portland	1,172,158	189,425,621	162	21%	63%	1%	4%	11%
9	Atlanta	2,157,806	325,231,743	151	28%	54%	0%	10%	8%
10	Pittsburgh	1,678,745	237,122,440	141	25%	10%	56%	4%	5%
11	Denver	1,517,977	211,507,815	139	21%	63%	0%	10%	6%
12	Baltimore	1,889,873	260,456,249	138	36%	0%	63%	0%	1%
13	Cleveland	1,677,492	208,328,840	124	21%	73%	3%	1%	3%
14	Miami	1,914,660	222,776,200	116	29%	53%	7%	10%	1%
15	Houston	2,901,851	333,588,098	115	15%	80%	0%	0%	5%
16	Los Angeles	11,402,946	1,048,365,288	92	31%	56%	5%	5%	3%
17	Dallas-Fort Worth	3,198,259	291,332,906	91	14%	50%	0%	33%	3%
18	Salt Lake City	789,447	70,960,117	90	18%	48%	0%	25%	9%
19	St. Louis	1,744,086	134,854,632	77	22%	61%	7%	7%	3%
20	Minneapolis	2,079,676	151,256,133	73	36%	41%	19%	2%	2%
21	San Diego	2,348,417	159,003,179	68	42%	30%	15%	7%	6%
22	Sacramento	1,097,005	66,442,727	61	28%	67%	0%	1%	4%
23	Southeast Michigan	3,982,364	235,921,284	59	19%	32%	46%	2%	1%
24	Phoenix	2,006,239	83,158,393	41	28%	49%	15%	6%	2%
25	Tampa	1,708,710	24,334,613	14	24%	58%	12%	1%	5%

Source: Federal Transit Administration, National Transit Database, 1998.

# Transit Toolbox: What Options Are Available for Transit?

In order for transit to help provide regional mobility, it must have a comprehensive system of services that improve access and travel time throughout the region. Individuals have differing travel needs that change depending upon trip destination and purpose. These differing individual needs, along with the different development patterns throughout the region require a mix of options to provide an effective transit system. As a result, no single mode of transit, or set of features, will satisfy all the travel needs of the people in Southeast Michigan — there must be an integrated mix.

This chapter outlines various options available to address Southeast Michigan's transit needs identified through SEMCOG's technical analysis and public involvement process. The chapter is divided into three parts: Tiers of Transit Options, Features and Amenities, and Ongoing Studies.

## Tiers of Transit Options

Currently, Southeast Michigan uses two tiers of transit to address its needs — fixed-route and paratransit. Two additional tiers (rapid transit and regional links) are options that need to be considered, along with a full set of features and amenities. Each of the tiers described below would play a unique role in the overall transit system, none could stand on its own. Each is of equal importance and must be fully integrated with the other tiers to provide an effective and efficient transportation system. The four tiers of options include:

### Tier 1: Rapid Transit

This service moves large numbers of people quickly, travels fixed routes, and limits stops to designated stations. Rapid-transit trips tend to be longer than most other tiers, moving large numbers of people between high-density activity centers — such as from a suburban center to a downtown.

### Tier 2: Fixed-Route Bus

This is the predominant type of service provided in Southeast Michigan today. Large- and medium-sized buses use the existing road network to carry 30-50 passengers on shorter trips on scheduled routes, usually with unlimited stops, although sometimes offering express service.

### Tier 3: Community Transit

This service fills in the gaps by providing transit to and from specific destinations for individuals or small groups. It includes paratransit service within individual communities, as well as in low-density, rural areas. It also includes community or employer shuttle service between fixed-route transit lines and scattered employment, shopping, or residential areas within individual communities.

### Tier 4: Regional Links

This service connects all parts of the region to one another by providing linkages between the tri-county transit systems and service in Livingston, Monroe, St. Clair, and Washtenaw Counties. The service could take a number of forms including commuter rail, express or subscription bus, or paratransit. The precise mode used would be determined by the level of expected ridership, available right-of-way, average trip length, and travel patterns in a particular corridor.

Table 8 illustrates the different functions of each service tier. More detailed analysis of rapid transit and regional links is provided in this section. Analysis of fixed-route bus and community transit is found in the chapter titled "Where Are We Now?"

Table 8  
 Characteristics of Transit Tiers

Characteristic	Tier 1: Rapid Transit	Tier 2: Fixed-Route Bus	Tier 3: Community Transit	Tier 4: Regional Links
Travel Focus	Regional	Sub-regional and feeder to Tiers 1 & 4	Community and feeder to other three tiers	Regional/Interregional
Service Types	Light and heavy rail, bus rapid transit, commuter rail, automated guideway	Express, limited-stop, local bus	Shuttle, flexible route, community-based	Commuter rail or express bus
Right-of-Way (ROW)	Separate ROW or exclusive road lane	Roadway — mixed traffic	Roadway — mixed traffic	Separate ROW or major roadway — mixed traffic
Travel Speed	High, transit-priority measures	Moderate	Lower	High
Stop Spacing	¼ - 1½ miles	⅛ - ½ mile	⅛ - ¼ mile for shuttles; direct curbside access to destination for community transit	2 - 20 miles
Stop Type	Station	Bus stop	Marked bus stop for shuttles; curbside for community transit	Station
Wait Times	Low	Low to moderate	Low to moderate for shuttles; community transit requires advance notice	Moderate to long; less frequent service
Span of Services	Full-service day, seven-day service	Full-to-partial service day, five-to-seven day service	Full to partial service day, five-to-seven day service	Full to partial service day, five-to-seven day service
Service Access	Pedestrian, bicycle, park & ride, drop-off, other transit	Pedestrian, bicycle, park & ride, drop-off, other transit	Pedestrian, bicycle, drop-off, other transit	Pedestrian, bicycle, park & ride, drop-off, other transit
Typical Trip Lengths	Long six miles or more	Medium two-six miles	Short two miles or less, can be longer in rural areas	Long fifteen miles or more
Areas Served	High-density, residential, and employment	Moderate-to-higher density, residential, and employment	Lower-density residential and employment; remote destinations	Regional connection between urbanized areas
Land Use Density	High	Moderate-to-high	Low-to-high	Moderate-to-high
Passenger Volumes	High	Moderate	Low	Medium-to-high
Customer Experience	Fast travel; high reliability; full amenities	Moderately fast; good reliability; partial amenities	Slower speed; good reliability, partial amenities; custom trips for community transit	Fast travel; good reliability; partial-to-full amenities

Source: SEMCOG, 2001.

## **Tier 1: Rapid Transit**

Rapid transit provides a fast, frequent, and easy-to-use service that would benefit Southeast Michigan residents, businesses, and visitors alike. It would provide a more attractive alternative to auto use than Tier 2 or 3 service in some of our most heavily traveled corridors and would also enhance the region's image, leaving a favorable impression with those who visit the area.

### **Determining rapid-transit corridors**

During SEMCOG's public forums, participants used information on traffic congestion, population and employment densities, proximity of major activity centers, and the location of low-income and elderly populations to identify potential rapid transit corridors and preferred modes. A total of 23 corridors were identified in this process, including: 8 Mile Road, 12 Mile Road, 14 Mile Road, 16 Mile Road, Ford Road, Fort Street, Grand River Avenue, Gratiot Avenue, Greenfield Road, Jefferson Avenue, I-94, I-696, I-275, M-10 (Lodge Freeway), M-39, M-59, Michigan Avenue, Middlebelt Road, Telegraph Road, Van Dyke Avenue, U.S. 23, Warren Avenue, and Woodward Avenue.

SEMCOG evaluated these corridors for rapid-transit suitability, looking at travel demand, current transit ridership, and proximity of corridors to one another. This analysis resulted in a refinement to 14 potential rapid transit network corridors. Table 9 shows these corridors along with data for key criteria used in their evaluation.

Further analysis eliminated the two freeway corridors — I-696 and I-275. Discussions with the Michigan Department of Transportation (MDOT) indicated the cost of locating a rapid-transit facility in an existing freeway median would be cost prohibitive, at approximately \$60 million per mile. Accessibility issues related to pedestrian movements in and around the freeway right-of-way, and the fact that the interstates are not adjacent to many major activity centers, made them undesirable corridors.

The remaining 12 corridors became the focus for the proposed rapid-transit system in the region. Table 10 defines each of these corridors.

Figure 6 shows the location of the proposed routes. Together they create an interconnected rapid-transit system, offering both suburb-to-suburb and central city-to-suburb service. They would provide 259 miles of rapid transit service and their combined 265 stations would provide access to over 350,000 households and 745,000 jobs. In addition, the rapid-transit service would provide access to a majority of the region's major activity centers including:

- C Cranbrook Institute of Science and Art Museum
- C Detroit's Cultural District
- C Detroit Metropolitan Wayne County Airport
- Detroit Zoo
- C Baseball, football, and hockey stadiums
- C Major hospitals: Beaumont, Detroit Medical Center, Botsford, Providence, Lynn
- C Michigan State Fairgrounds
- C Regional shopping malls: Eastland, Somerset, Southland, Twelve Oaks

Figure 7 shows how the proposed rapid transit corridors link the region's major activity centers.

Table 9  
Rapid Transit Corridor Evaluation

Corridor	Total Population <sup>1</sup>	Population Density <sup>2</sup> (person/acre)	Total Employment <sup>1</sup>	Employment Density <sup>1</sup> (job/acre)	Traffic Volumes	Transit Ridership <sup>2</sup>
<b>8 Mile</b>	139,167	8	62,523	4	Low	4,180
<b>Big Beaver</b>	56,241	5	55,285	5	Medium	409
<b>Fort-Eureka</b>	80,317	8	96,573	9	Low-Medium	3,170
<b>Grand River</b>	133,367	10	103,195	7	Medium	13,401
<b>Gratiot</b>	134,573	10	110,748	8	Medium-High	12,720
<b>Greenfield</b>	119,340	9	93,705	7	Low	7,990
<b>I-275</b>	39,149	3	33,516	3	High	NA
<b>I-696</b>	111,703	6	95,035	5	High	NA
<b>Jefferson</b>	48,747	8	86,321	6	Low-Medium	5,358
<b>M-59</b>	64,152	4	55,729	3	Medium-High	130
<b>Michigan</b>	79,492	6	137,430	10	Low-Medium	3,740
<b>Telegraph</b>	104,580	5	65,551	3	Medium	640
<b>Van Dyke</b>	84,480	6	132,974	9	Low	8,665
<b>Woodward</b>	126,760	8	185,548	11	Low-Medium	18,040

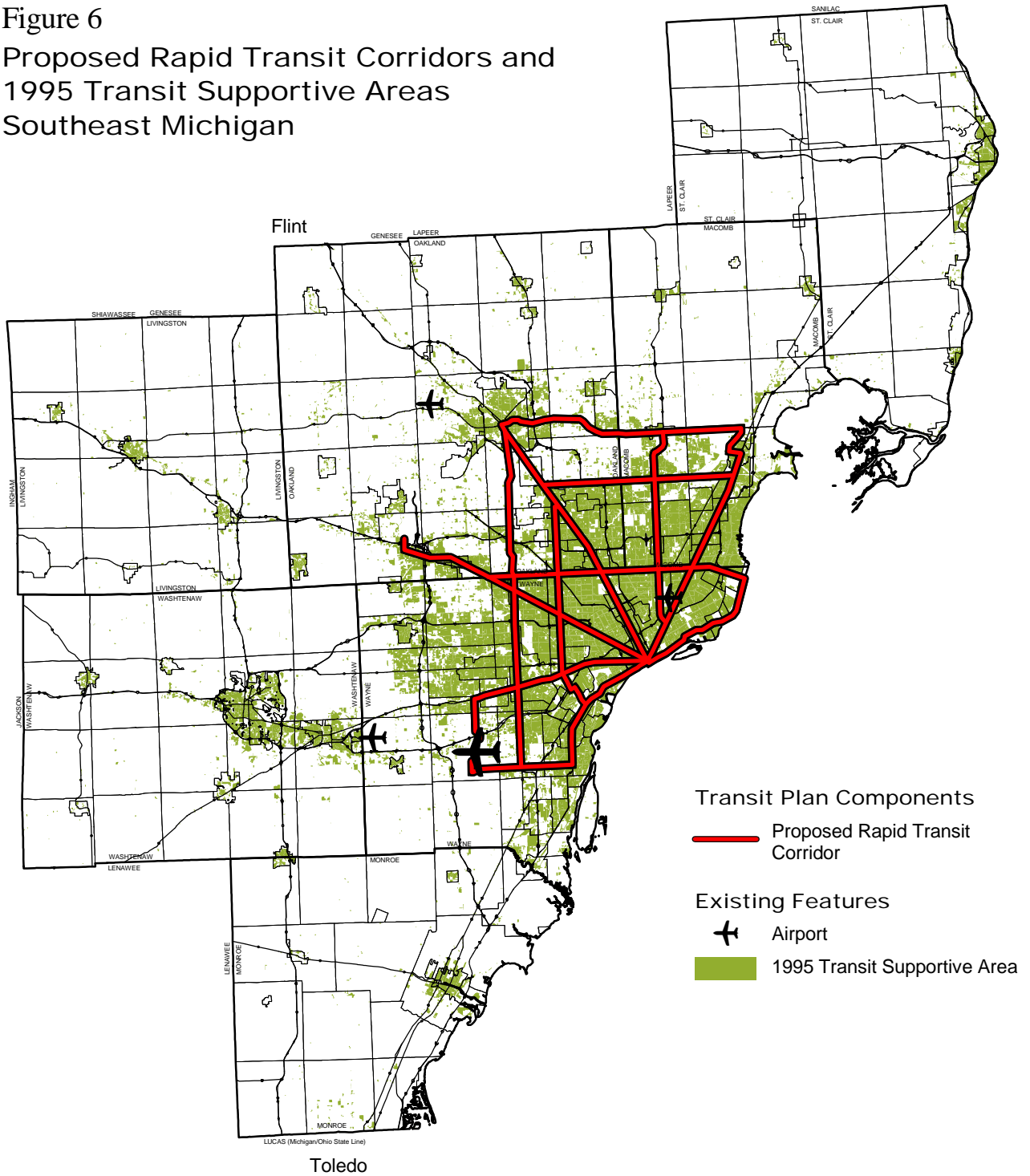
Source: SEMCOG Year 2000 Regional Development Forecast, and MAC, *SpeedLink - A Rapid Transit Option for Greater Detroit*, 2001.

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<sup>1</sup> Population and employment data include those areas within ½ mile radius of the roadway.

<sup>2</sup> Calculated using detailed ridership data from DDOT and SMART.

Figure 6  
 Proposed Rapid Transit Corridors and  
 1995 Transit Supportive Areas  
 Southeast Michigan



Source: SEMCOG

N  
 1:868000  
 0 9 18 Miles  
 0 14 28 Kilometers  
 State Plane NAD83  
 June 2001

**Figure 7**  
**Proposed Rapid Transit Corridors**  
**and Major Activity Centers**  
**Southeast Michigan**

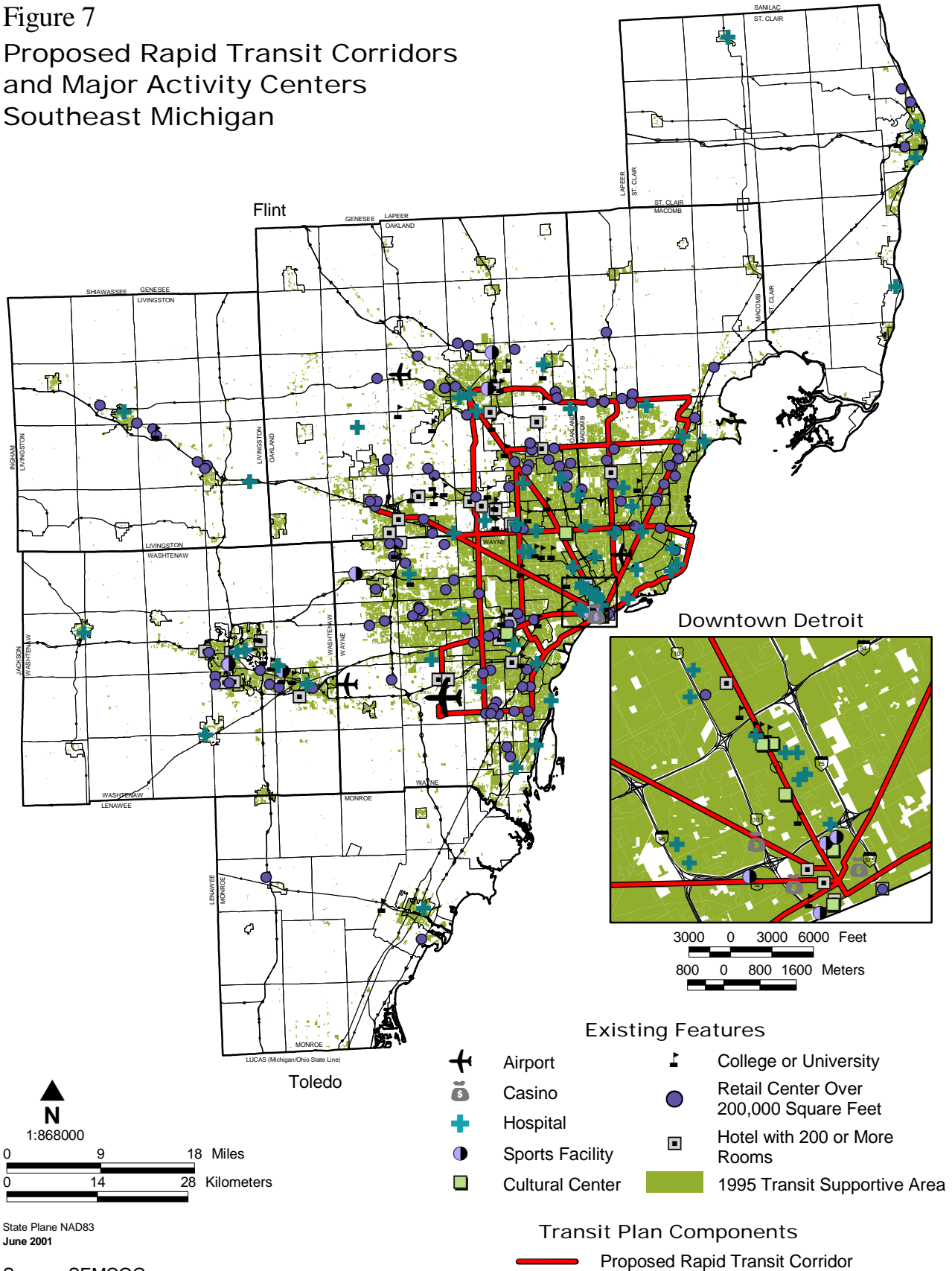


Table 10  
Proposed Rapid Transit Corridors

<b>Corridor</b>	<b>From</b>	<b>To</b>
8 Mile Road (M-102)	Jefferson Avenue (Grosse Pointe Shores)	Grand River Avenue (Livonia)
16 Mile Road (Big Beaver/ Metro Parkway)	Woodward Avenue (Bloomfield Hills)	Gratiot Avenue (Clinton Township)
Fort Street (M-85)/Eureka Road	Downtown Detroit	Metro Airport (Romulus)
Grand River Avenue (M-5)	Downtown Detroit	Twelve Oaks (Novi)
Gratiot Avenue (M-3)	Downtown Detroit	Mt. Clemens
Greenfield Road	Woodward Avenue (Birmingham)	Fort Street (Detroit-Downriver)
M-59	Pontiac	Gratiot Avenue (Mt. Clemens)
Jefferson Avenue	Downtown Detroit	8 Mile Road (Grosse Pointe Shores)
Michigan Avenue (US-12)	Downtown Detroit	Middlebelt Road (Metro Airport)
Telegraph Road (US-24)	Downtown Pontiac	Eureka Road (Taylor)
Van Dyke Avenue (M-53)	Gratiot Avenue (Detroit)	M-59 (Utica)
Woodward Avenue (M-1)	Downtown Detroit	Pontiac

Source: SEMCOG, 2001.



### **Options for providing rapid transit**

Rapid transit can take many different forms. These include light-rail trolleys; heavy-rail systems such as subways, commuter rail, automated guideways (People Mover); and, more recently, bus rapid transit which mimics light-rail service but runs on rubber tires rather than train tracks. In general, the decision on what mode works best is based on several factors:

- C length of transit corridor,
- C frequency of stops along the corridor,
- C expected level of transit ridership, and
- C construction and operating costs.

Several modes, including automated guideways, subways, and other heavy-rail technologies are very costly to construct and operate, and require higher ridership levels than are anticipated in this region to make them cost effective. For these reasons, these modes were not considered.

Table 11 compares the capital and operating costs of various rapid transit modes, along with the level of ridership normally carried by each. While some modes are much more expensive to build and/or operate, their cost can be justified if anticipated ridership is very high. Preliminary rapid-transit ridership estimates for Southeast Michigan, developed in the MAC's SpeedLink study, indicate that ridership would be at a medium level.

Commuter rail (passenger cars pulled by a locomotive) is designed to carry people over long distances, with very few stops. It runs on existing rail lines along with freight trains. These rail lines are generally in industrial areas and pose problems with pedestrian accessibility and proximity to major activity centers. Furthermore, there are no existing crosstown rail lines to accommodate suburb-to-suburb travel (Figure 8) and the radial lines that do exist are already in heavy use for freight movement, creating access and safety issues that would be difficult to overcome. For these reasons, commuter rail was excluded as a mode for the 12 rapid transit corridors identified. However, it may have application in other parts of the region, where service could be piggybacked with existing or proposed passenger-rail service. This is discussed later under Tier 4: Regional Links.

Light rail transit (LRT) and bus rapid transit (BRT) are designed to carry moderate levels of transit riders and provide more frequent stops. These two modes provide the greatest potential in our region. Research done as part of MAC's SpeedLink project concluded that, based on Southeast Michigan's demographic and travel characteristics, BRT is capable of doing everything LRT can, at a much lower cost.

The final decision on the transit mode for each corridor will actually be made at the later, federally required, detailed alternatives-analysis phase of implementation. However, current information supports the use of BRT. As it does not require construction of tracks, BRT can be implemented more quickly than LRT. In fact, the SpeedLink study concluded that three-to-five BRT lines could be implemented for every LRT line.

### **Tier 2: Fixed-Route Bus**

This is traditional bus service consisting of large buses operating along fixed routes on fixed schedules. It is, and will continue to be, the backbone of the region's transit system. As shown in Figure 9, this tier provides both feeder service to rapid transit and primary service for those making shorter trips or traveling in corridors where ridership levels do not warrant rapid-transit service. Since it operates in mixed traffic, it is subject to the same slowdowns as personal vehicles. In addition, this tier provides more frequent stops (unless in express mode) which also works to slow vehicle speed and lengthen trip time. As a result, fixed-route service is excellent for making shorter trips, but is not as desirable as rapid transit for longer trips.

As noted in the “Strengths and Weaknesses of Existing Service” section of this report, a major problem with existing service is the low frequency, and lack of evening and weekend operations. Improvements must be made in these areas to provide more reliable and accessible transit service. In addition, the new rapid-transit system will rely heavily on this tier of service to feed its high-speed lines, making its improved frequency and reliability essential to the overall performance of the transit system.

### Tier 3: Community Transit

Providing effective, flexible transit service at the community level is an integral feature of any transit system. As the name implies, community transit provides local or neighborhood-oriented transit services. Typically, small-to-medium-sized buses or vans are used to provide direct transportation from a person’s origin to their destination. It can also take the form of community or employer shuttle service from bus or rapid-transit lines to these sites. Shared-ride taxi service is another method of providing community transit. Users can be those with special needs, such as the elderly and disabled, as well as the general public who need to get to a specific destination not served by the other tiers. Figure 10 shows areas of the region that have paratransit service, available to the general public, and those that are currently unserved. The entire region should have some form of community transit service.

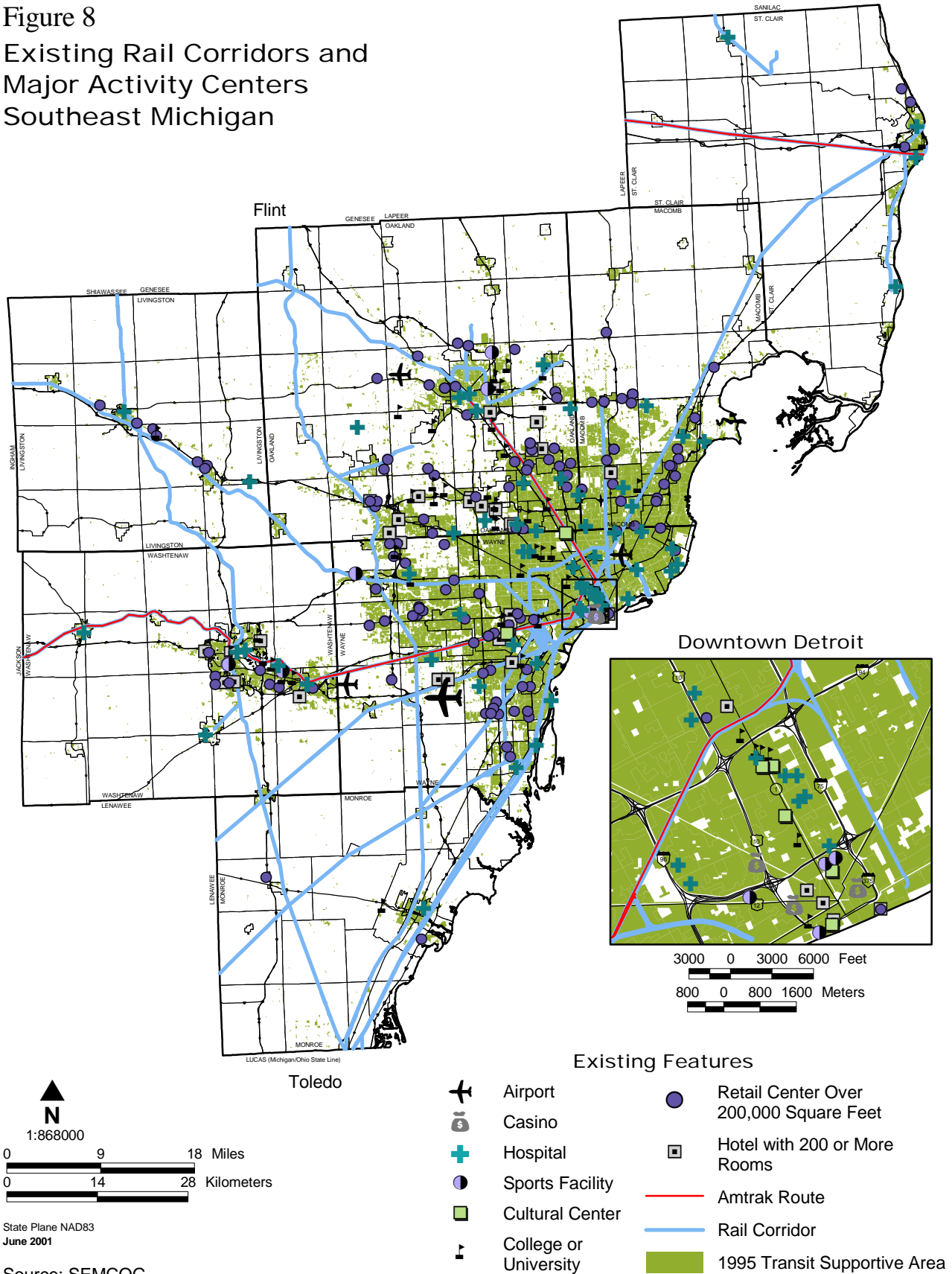
Table 11  
Characteristics of Rapid-Transit Modes

<b>Mode</b>	<b>Capacity (Passengers per peak hour/peak direction)</b>	<b>Operating Costs Per Service Hour</b>	<b>Capital Cost per Mile</b>
<b>Heavy Rail (Subways, Elevated Trains)</b>	High capacity (Up to 60,000 pphpd)	\$175-\$250	\$100-\$300 million
<b>Automated Guideway Transit (People Mover)</b>	Medium capacity (Up to 30,000 pphpd)	\$75-\$100	\$93-\$123 million
<b>Bus Rapid Transit</b>	Medium capacity (Exclusive ROW, up to 30,000 pphpd; arterial, up to 10,000 pphpd)	\$100	\$6-\$8 million
<b>Light Rail</b>	Medium capacity (Exclusive ROW, up to 30,000 pphpd; arterial, up to 10,000 pphpd)	\$200	\$31-\$56 million
<b>Commuter Rail</b>	Low-to-medium capacity (Up to 6,000 pphpd)	\$300-\$400	\$2-\$10 million *

\* Does not include additional funds to purchase right-of-way for new routes.

Source: SEMCOG, 2001; *SpeedLink: A Rapid Transit Option for Greater Detroit*, MAC, 2001; and *Woodward Corridor Transit Alternatives Study*, Detroit Transit Corporation, May 2000.

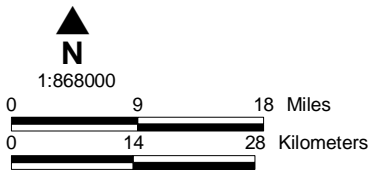
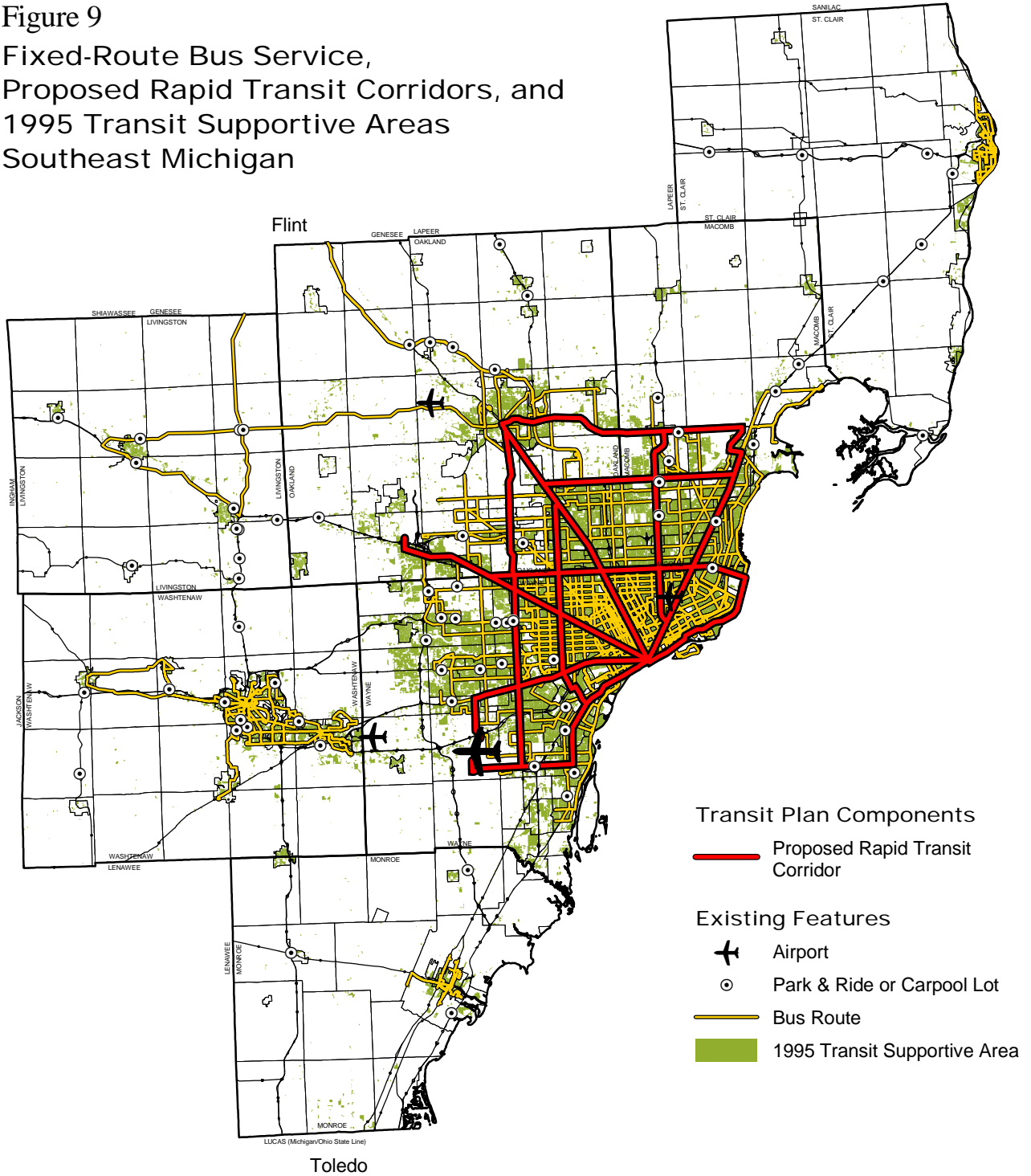
**Figure 8**  
**Existing Rail Corridors and**  
**Major Activity Centers**  
**Southeast Michigan**



State Plane NAD83  
 June 2001

Source: SEMCOG

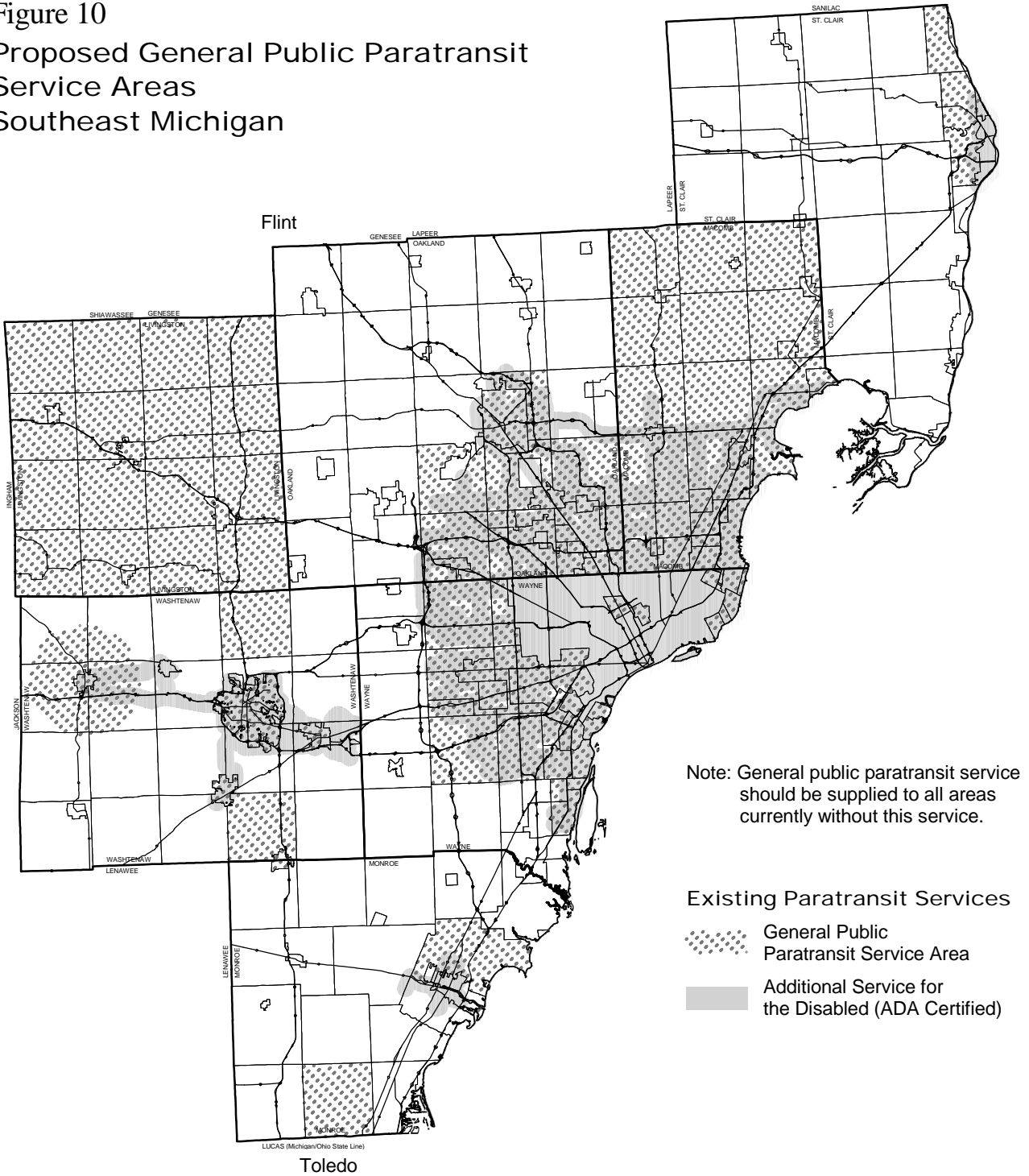
Figure 9  
 Fixed-Route Bus Service,  
 Proposed Rapid Transit Corridors, and  
 1995 Transit Supportive Areas  
 Southeast Michigan



Source: SEMCOG



State Plane NAD83  
 June 2001

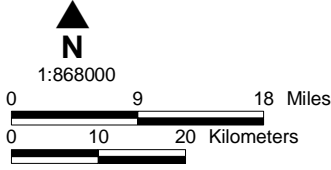
Figure 10  
 Proposed General Public Paratransit  
 Service Areas  
 Southeast Michigan



Note: General public paratransit service should be supplied to all areas currently without this service.

Existing Paratransit Services

-  General Public Paratransit Service Area
-  Additional Service for the Disabled (ADA Certified)



#### Tier 4: Regional Links

While some level of transit service is currently available in all Southeast Michigan counties, connections between these services are not always present. Linkages between the tri-county area of Macomb, Oakland, and Wayne Counties are currently provided; recommended rapid transit and fixed-route improvements will enhance these links. The region lacks public transit connections between the tri-county transit system and service in Livingston, Monroe, St. Clair, and Washtenaw Counties. Public forum participants recognized this gap in service and called for an investigation into the need for regional links between these areas. Participants also recognized the need for inter-regional connections to Windsor, Flint, Jackson, and Toledo.

The introduction of fixed-route transit service is one option for providing regional links. Fixed-route transit typically services high concentrations of trips moving from common origins to common destinations. In order to assess potential demand for this type of service, SEMCOG used data from its 2025 RTP regional travel forecasts to estimate the number of daily trips moving between portions of Detroit's urbanized area and the cities of Ann Arbor, Ypsilanti, Brighton, Howell, Monroe, and Port Huron. These traffic volumes are displayed in Figure 11 and include both current and future estimates.

As the map indicates, the Ann Arbor-to-Detroit corridor, with approximately 42,000 trips per day, warrants further investigation of regular fixed-route transit service. There also appears to be a strong potential for service in the Livingston-to-Detroit and Brighton-to-Ann Arbor corridors. While the remaining corridors show lower traffic volumes, some level of transit should be explored in these areas as well.

Existing services may already be meeting some of these regional needs. Amtrak currently provides passenger service between Ann Arbor, Dearborn, and Detroit. Port Huron also has Amtrak service but it does not connect to other service in the region. Greyhound offers express bus service from Metro Detroit to Ann Arbor, Monroe, Toledo, Brighton, Howell, and Flint. At the inter-regional level, the Flint Metropolitan Transit Authority (Flint MTA) and SMART have a bus connection at Great Lakes Crossing Mall north of Pontiac. The Flint MTA also provides service connections to the Cities of Howell and Brighton. While useful to some, these existing connections are generally not frequent or reliable enough to provide convenient commuter service. However, they may be a good starting point from which to build.

In addition to the connections between major urbanized areas of the region, there may be a need for inter-county community transit service. Data on cross-county commuting patterns indicates that a large number of workers are traveling between Metro Detroit and the outlying counties every day. However, much of this travel is scattered among low-density areas and does not lend itself to fixed-route service. Cross-county community transit service may provide an effective option for persons making these trips, and should be investigated further.

#### Options for regional link service

**Express light-rail transit.** Because an entire new set of tracks would need to be built, express LRT is considered too expensive to build given the relatively low demand for trips between Metro Detroit and the outlying areas.

**Express bus.** Express buses, operated by either an existing public transit operator, Greyhound, or another entity could use interstate highways to move between Metro Detroit and outlying areas, as well as between Livingston County and Ann Arbor. Express bus service could begin very soon after funding becomes available. AATA is currently considering introducing service to Metro Airport, which would meet some of these needs.

**Commuter rail.** Only the Ann Arbor to Metro Detroit corridor appears to have enough potential demand to warrant exploring commuter rail service. Presently, suitable tracks exist between Ann Arbor and Metro Detroit for commuter rail. Although these are currently used quite heavily for freight movements, they are also used for passenger service. According to MDOT's 1997 report, "Southeastern Michigan Regional Rail Study," a single commuter rail line with stations in Ann Arbor, Ypsilanti, Dearborn, Detroit, and a Metro Airport connection would cost about \$36 million to build from scratch and about \$9 million a year to operate, making it cost prohibitive. However, there is potential for economies of scale due to several ongoing studies and projects.

Considering the following studies and planned projects for this rail corridor, providing commuter rail in this corridor may become feasible:

- The section of track between the Cities of Ann Arbor and Detroit is currently scheduled to be rebuilt, as part of the Mid-West High Speed Rail Initiative, to accommodate high-speed trains traveling up to 110 miles per hour between Chicago and Detroit. Improvements to that line are expected to be finished in five to seven years.
- Presently, Amtrak operates three round trips daily along the tracks between Chicago, Ann Arbor, Metro Detroit, and Pontiac. Amtrak plans to run 10 round-trip, high-speed trains daily between Chicago and Metro Detroit when the track improvements are finished.
- In addition, the Lansing to Detroit Passenger Rail Study has proposed regular daily passenger service between the Cities of Lansing, Howell, Ann Arbor, Dearborn, and Detroit using that same section of high-speed track. This will add 10 more daily round trip trains between Ann Arbor and Metro Detroit.

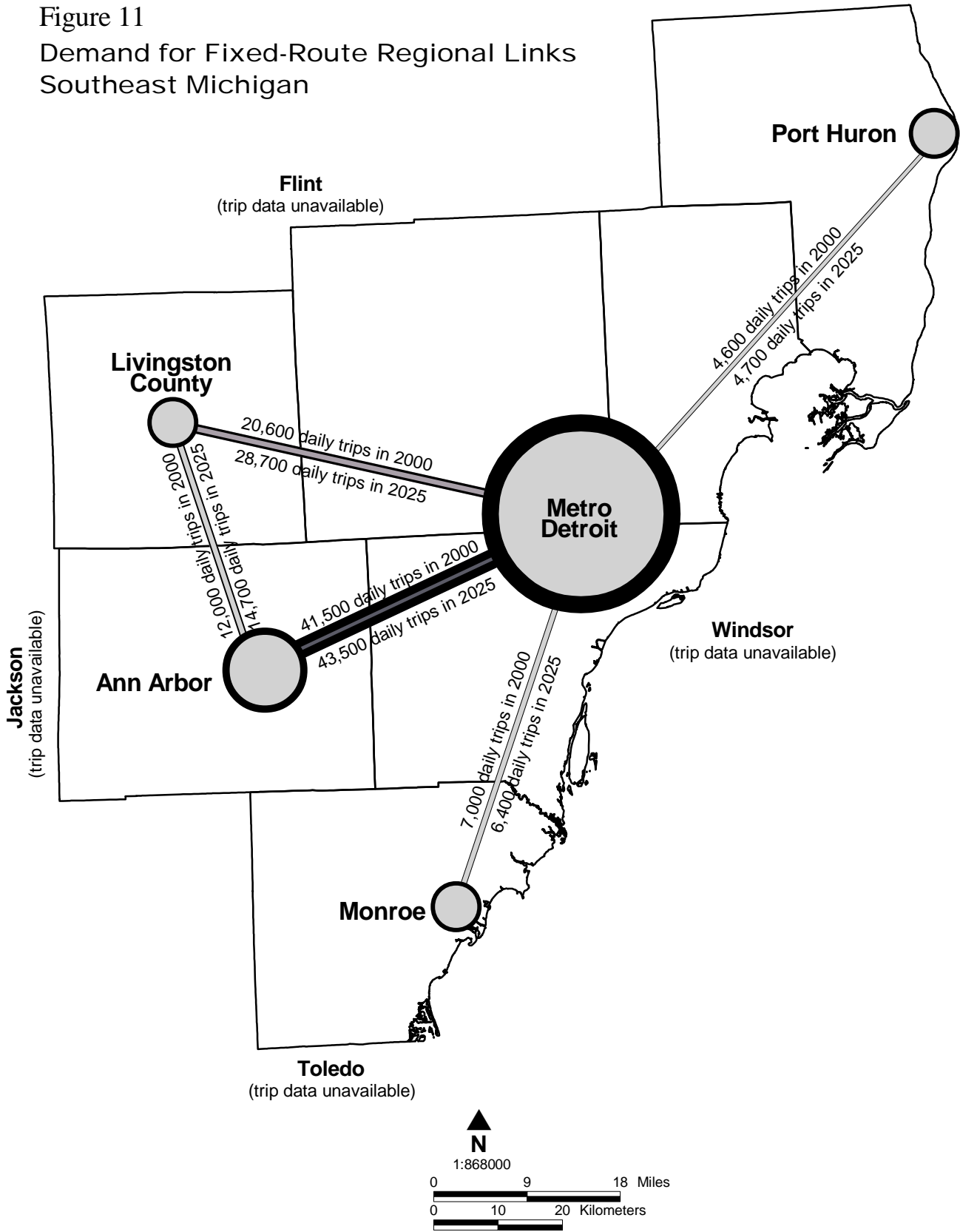
By coordinating these planned track improvements, increases in Amtrak service, and the Lansing to Detroit Passenger Rail Study, some mutual benefits could be gained. For example, the increased service provided by the Amtrak trains and potential service from Lansing to Detroit may meet transit needs between Ann Arbor and the tri-county area. In return, connections from the rail service to existing and recommended transit service in these areas could help boost the ridership of Amtrak and Lansing to Detroit.

Finally, it may be possible to contract with Amtrak and/or the Lansing to Detroit service to provide commuter rail service on their existing trains between Ann Arbor and Metro Detroit for a lower cost than building a commuter rail line from scratch. Amtrak indicates a willingness to discuss these possibilities, but cannot make firm commitments at this time.

**Community transit.** As mentioned previously, there may be a role for community transit in servicing shorter, more scattered, cross-county trips. Close coordination between the different public transit operators and/or communities in these areas will be needed in order to implement such service.

Whatever type of regional link service is selected, it must connect to transit services in Metro Detroit and the outlying areas it serves. This includes connections to bus routes, rapid transit lines, and park-and-ride lots. Figure 12 shows the proposed regional link routes and how they relate to the rest of the proposed transit system.

Figure 11  
 Demand for Fixed-Route Regional Links  
 Southeast Michigan



Source: SEMCOG

State Plane NAD83  
 June 2001





## Features and Amenities

For a transit system to attract a wide variety of users, it must be convenient, comfortable, predictable, and safe. Along with vehicles, key components of a transit system that make it user friendly include stops and shelters, information, security, fare collection, and access. A number of options are available to address these needs.

### Safety and security

Personal safety for both passengers and transit employees on vehicles, in stations, in parking lots, and to and from stations, is a critical feature of a comprehensive transit system. A person's decision to use transit often hinges on their personal feelings of safety. Transit police, video cameras, emergency call boxes, and better lighting are some of the ways of addressing the issue.

### Transit boarding areas

The comfort and convenience of transit boarding areas is important. Public forum participants suggested that these areas include trash cans, restrooms, televisions, telephones, climate-controlled structures at certain stops (not just modular shelters), and shops and stores located near the stations. Facilities for picking up and dropping off passengers can vary from the most basic and inexpensive to elaborate and expensive.

### Signs

At the most basic level, placing transit signs at designated locations along a route is common with bus systems. Typically, signs are used in lower-activity areas.

### Shelters

Shelters are used in higher-activity areas such as business and shopping districts. They can be quite elaborate — some are heated, have electronic signs, and are landscaped.

### Transit stations

Transit stations are used at major transfer points or destinations — such as a downtown area. The buildings used for these facilities vary from basic modular structures to extravagant, commuter-train stations that include such things as unique architecture and landscape features.

### Physical accessibility

The physical needs of a wide variety of users should be considered when designing all parts of the transit system, especially in the design of stations, vehicles, intermodal connections, and infrastructure near the stations. Providing park-and-ride lots, sidewalks, and bike lockers are ways to ensure accessibility.

The timely removal of snow and ice on rapid transit routes, platforms, sidewalks, and station parking lots, as well as in and around fixed-route transit stops is also critical. Transit facilities and vehicles need to be easily accessible in all types of weather.

### Accessibility for people with special needs

The elderly, disabled, and people with young children often have special access needs. Providing for these can be accomplished with sensitive station, vehicle, and infrastructure design, and more information to assist and encourage potential users with special needs. Some provisions are required by ADA, while others are just good business. This includes such things as braille schedules, and visual and audio announcements. For a rider with vision problems, clearly marking transit vehicles can allow them to be seen soon enough to get to the boarding area on time.

## Easy-to-understand information

Any improvements in transit must include wide distribution of easy-to-understand information on how to use the transit system, beginning with basic information. For example, an individual should not have to question whether he/she needs a token or can use cash, nor whether the transit vehicle must be flagged or will automatically stop. To reach a broad market of potential users, a variety of methods should be used. Options range from more schedules, color coding routes and vehicles, and schedules in braille, to personal trip-planning services, audio-announcement systems, and real-time Internet, cell phone, and pager information systems.

## Vehicle design

Whatever tier of service is used, the vehicles must be attractive to potential riders. This means clean, comfortable, visually appealing, and user-friendly vehicles. Rapid transit vehicles, which service longer trips, should particularly emphasize comfort.

## Use of technology

Intelligent transportation systems (ITS) are defined as "the application of advance sensor, computer, electronics, and communications technologies and management strategies to increase the safety and efficiency of the surface transportation system." The basic premise of ITS is that by integrating different system components and technologies in a consistent fashion, great benefits can occur. ITS applications can be used for both highway and transit operations, such as roadway congestion management, interconnected traffic signals, area-wide traveler information services, electronic toll collection, and transit automatic vehicle location. Use of technology is an important element in meeting the region's multi-modal transportation needs.

ITS can be used in a number of ways to enhance transit service. It can provide for more cost efficient and reliable service, enhance the transit rider's experience by providing real-time information on the status of the service (e.g., how soon the next bus will arrive), and modernize some of the very basic functions of taking a transit trip (such as electronic fare payment). Specific applications of ITS technology to transit include:

### **Automatic vehicle location**

Transit ridership will be further enhanced with the use of automatic vehicle location (AVL) devices which allow dispatchers to know the location of any bus at any point in time (i.e., fleet management). By combining bus-location information with real-time traffic condition information, routes will be monitored and adjusted when necessary to ensure schedule adherence.

### **Signal prioritization**

ITS measures can be used to assure timely service by integrating the transit vehicles with signalized intersections (i.e., signal prioritization) that will extend a traffic signal's green phase in favor of transit vehicles. When a bus behind schedule approaches the signal, a device in the bus sends a message to alert the traffic signal controller to extend the green phase until the bus moves through.

### **Real-time information**

This application coordinates information from AVL, geographic information systems (GIS), and road management systems to provide real-time information to transit riders. Information can be provided via the Internet, kiosks, cellular phones, fax, in-vehicle audio messaging, and personal pagers. For example, these systems can be used to pinpoint how far a transit vehicle is from its next stop and relay estimated arrival times to interfaces such as variable message boards or television monitors at stops and stations.

### **Automated fare collection**

Standing in line to pay a fare does not work for rapid transit and hinders conventional transit by slowing the

system down. Barrier-free access innovations including swipe and debit cards, Internet payment, speed and monthly passes, turnstiles, proof-of-purchase systems, and ticket vending machines at stations should all be considered for different parts of the system. Fares and transfers should be coordinated throughout the system.

Integration of fare payment can also be used to transfer between different tiers of transit (e.g., fixed-route bus and community transit), and operating agencies (e.g., AATA, DDOT, and SMART). In addition, it can reduce the number of monetary transactions to one per month. Stored value fare cards hold the value of more than one transit fare. They allow the ease of payment of a complex fare structure, based on distance and time of day, without manual computation by the traveler or transit staff. Origins and destinations can be recorded on the card and used to divide the fare among agencies.

## Ongoing Studies

SEMCOG directly participates in or closely monitors a number of ongoing regional transit studies . These were considered in the development of the transit plan. The studies, which are shown in Figure 13, include:

### SpeedLink feasibility study

The SpeedLink feasibility study, conducted by the MAC, analyzed the potential use of bus rapid transit (BRT) in Metro Detroit (Macomb, Oakland, and Wayne Counties). BRT is a new and innovative technology using train-like buses to provide many of the same benefits as traditional forms of rapid transit such as light rail. The study found that BRT is feasible for Metro Detroit and would be quicker, easier, and less expensive to install than light rail, while providing swift, reliable service, and offering these similar features:

- Vehicles or "coaches" with comfort, amenities, and appearance of rail cars.
- Heated and air-conditioned passenger stations with advanced information systems allowing riders to know when the next vehicle is arriving.
- An easy-to-understand system, using color-coded vehicles, stations, and routes. Use of dedicated lanes or "transit ways" where needed to enhance vehicle flow.
- Fare collection systems allowing payment prior to boarding.
- Traffic-signal prioritization permitting vehicles to more easily travel through traffic signals and congested intersections.

### Woodward Corridor Transit Alternatives study

This study, sponsored by the Detroit Transportation Corporation (DTC), identified potential public transit infrastructure and service improvements in the Woodward Avenue Corridor. It was conducted as part of Detroit's comprehensive downtown reinvestment strategy. The study examined transit alternatives along Woodward Avenue from Jefferson to Eight Mile Road, with an extension of service possibly to Eleven Mile Road. It concluded that BRT and LRT alternatives are feasible and desirable in the corridor, and recommended that both alternatives be carried forward to the alternatives analysis phase. DTC is currently pursuing funding to start this phase of the project. No time line has been established for commencement of the alternatives analysis.

### Detroit Downtown Transit Vision

The Detroit Downtown Transit vision, which was completed in 2000, examined mobility issues in downtown Detroit. It identified various factors effecting mobility in the CBD, including new development and planned roadway improvements, and proposed a number of transit options for improving the movement of people within this area. The Detroit Department of Transportation will continue to move forward with this effort.

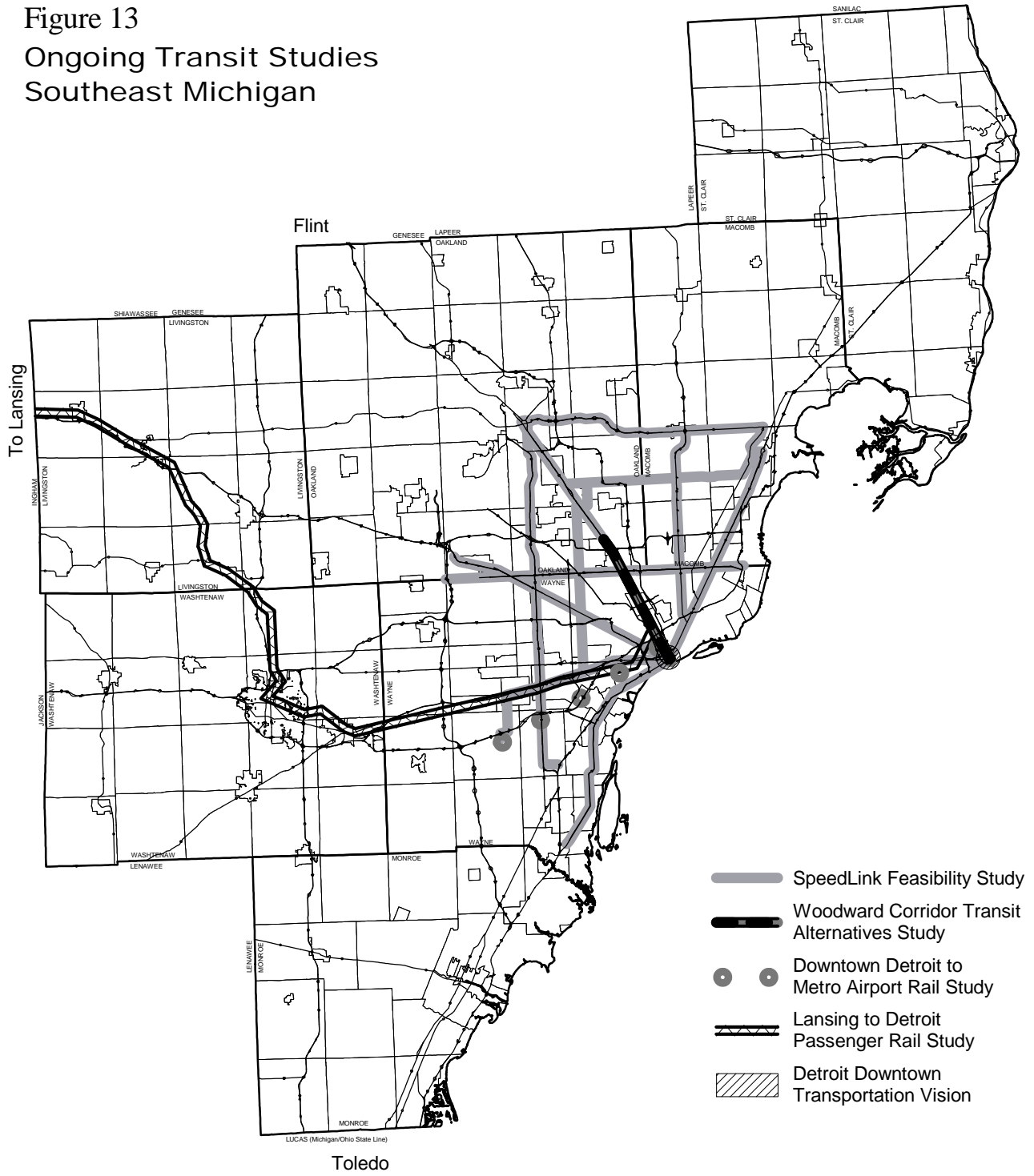
### Downtown Detroit to Metro Airport Rail study

The Downtown Detroit to Metro Airport Rail study finished its initial analysis of rail options and alignments in June 2001. The feasibility study explored three mode options for the corridor: automated guideway technology, commuter rail, and light rail. The study's steering committee recommended the project move to the alternatives analysis phase, where a detailed study will identify the best possible alignment and transit mode for the corridor. This next phase is expected to begin in early 2002 with an emphasis on BRT, a mode that was not included in the original study.

### Lansing to Detroit Passenger Rail study

The Lansing to Detroit Passenger Rail study explored the feasibility of daily passenger rail service between the Cities of Lansing, Howell, Ann Arbor, Dearborn, and Detroit. The study concluded that sufficient ridership existed to warrant further study. The project is now moving into the alternatives analysis phase and will include the exploration of a stop at Metro Airport. Alternatives analysis is expected to begin in late 2001.

Figure 13  
Ongoing Transit Studies  
Southeast Michigan



Source: SEMCOG

N  
 1:868000  
 0 9 18 Miles  
 0 14 28 Kilometers  
 State Plane NAD83  
 June 2001

# Transit Plan for Southeast Michigan: A Framework for Action

SEMCOG’s plan calls for development of a four-tiered transit system. While each plays a unique role in the overall transit system, no tier can stand on its own. Each is of equal importance and must be fully integrated with the other three tiers to provide an effective and efficient transportation system.

- |                                  |  |
|----------------------------------|--|
| <b>Tier 1: Rapid Transit</b>     | Providing fast, frequent, and reliable service for people making relatively long trips in heavily-traveled corridors.  |
| <b>Tier 2: Fixed-Route Bus</b>   | This tier is the backbone of the regional transit system, providing many direct trips as well as feeding the rapid transit network.  |
| <b>Tier 3: Community Transit</b> | Providing paratransit, or shuttle services, within individual communities, as well as in the lower density, more rural areas of the region.  |
| <b>Tier 4: Regional Links</b>    | Connecting the major urbanized areas of the region to one another by providing linkages between the tri-county transit systems and service in Livingston, Monroe, St. Clair, and Washtenaw Counties. |

Specifically, the plan recommends development of 259 miles of Tier 1 rapid transit service in 12 regional corridors:

- 8 Mile
- 16 Mile
- Fort Street
- Grand River
- Gratiot
- Greenfield
- Jefferson
- M-59
- Michigan
- Telegraph
- Van Dyke
- Woodward

This service would include approximately 265 stations, generally spaced one-half-mile to one-mile apart. Together, the 12 corridors form an interconnected, rapid-transit network that offers both crosstown and radial service. The precise mode of rapid transit in each corridor will be determined in the next phase of detailed alternatives analysis. However, the preliminary analysis outlined in the “Transit Toolbox” section of this report suggests that bus rapid transit would be the most cost effective choice.

It should be noted that the intent of the rapid transit system is to improve the transportation system as a whole. The detailed alternatives analysis that will be conducted in each proposed rapid transit corridor will not only examine the effectiveness of different transit modes in comparison to one another but will also look at transit’s impact on the surrounding roadway network. If the analysis indicates that implementation of a particular transit alternative (e.g., converting an existing traffic lane to a dedicated rapid transit lane) would negatively impact the movement of traffic and people in a given corridor, this alternative would not be preferred.

Tier 2 of the system would involve major improvements to the region’s current fixed-route bus system to enhance basic service as well as feed the proposed rapid-transit network. While some of these improvements

would include the introduction of new service in unserved areas with sufficient population and/or employment densities to support it, the main focus would be on improving service on existing routes. Both the frequency and hours of service should be increased. All routes should also provide Saturday and Sunday service.

Tier 3 would provide effective, flexible transit service at the community level. This would involve expanding current paratransit services into all low-density, rural areas of the region that are currently unserved by transit. It would also include improvements to existing service, providing longer hours and weekend service. The community transit tier would also include fixed or flexible shuttle service between fixed-route transit lines and scattered employment, shopping, or residential areas within individual communities. Service would be customized to meet individual community needs and might be operated by a transit agency or the community itself.

Tier 4 would address the need for regional links between Metro Detroit and urbanized areas in Livingston, Monroe, St. Clair, and Washtenaw Counties. These linkages could take a number of forms. In the heavily traveled Ann Arbor to Detroit corridor, commuter rail or express bus service appears to have potential. In other areas, express bus service may be the best option. Still other areas, where travel patterns are more scattered, may benefit from some form of community transit service.

The plan also includes recommendations on a full range of service features and amenities. The proposed transit system is shown in Figure 14.

## Recommendations

Specific recommendations are provided for each tier of service as well as for transit-system features and amenities. Several general recommendations pertaining to the transit system as a whole are also included.

### General recommendations

#### **Secure funding to implement the transit improvements called for in all four tiers of the proposed system**

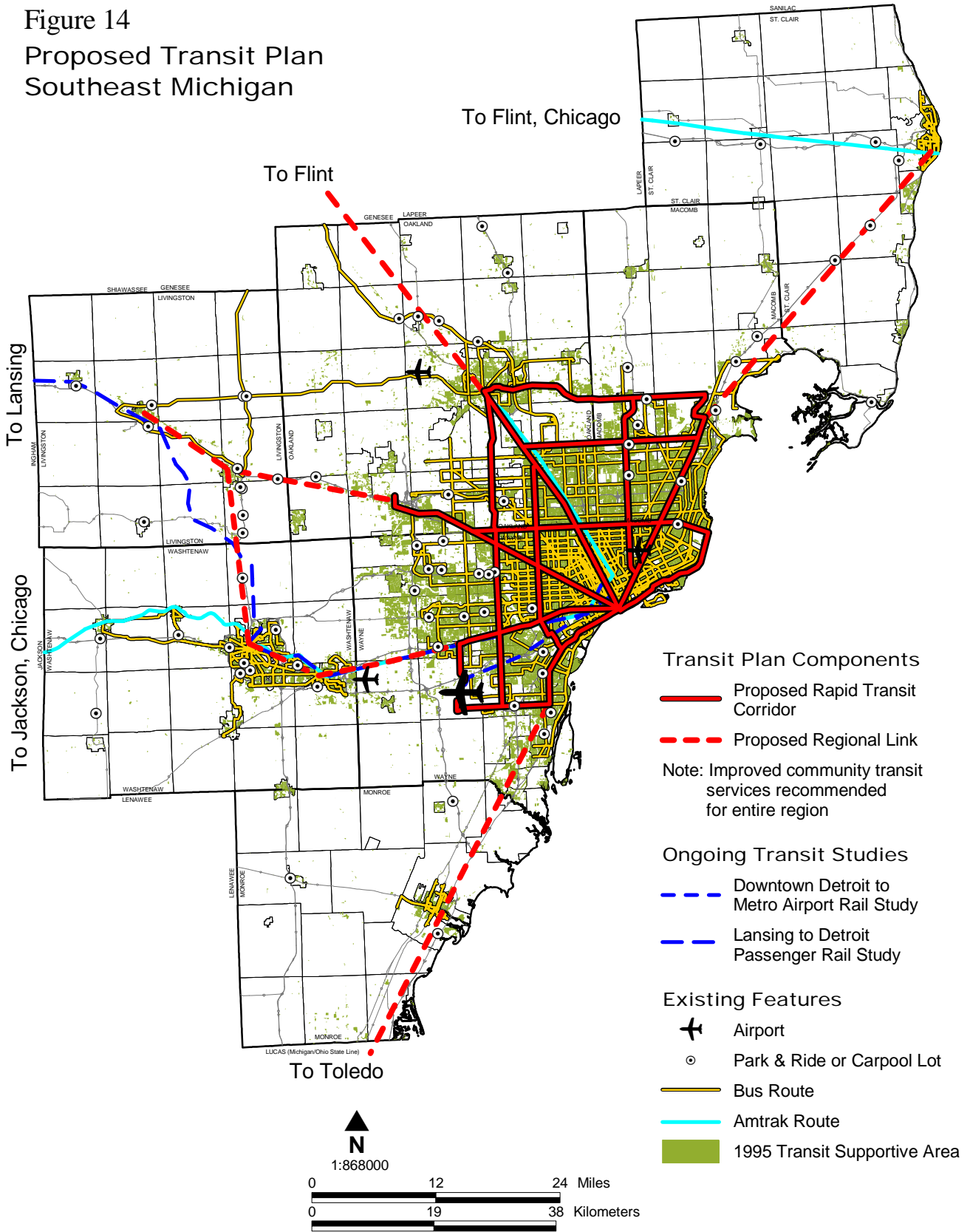
Additional transit funding is needed in all areas of the seven-county region. This funding is essential to the plan's goal of providing effective mobility options in Southeast Michigan. While additional funds should be sought at the state and federal level, there must be a significant increase in local funding in order to move forward with any transit improvements. Whatever local funding mechanism is used, it must be applied equitably and not put an unfair burden on any one segment of the population.

#### **Create a regional transit authority to coordinate transit operations and oversee the allocation of transit funds**

There needs to be a regional decision on an entity to govern transit in Southeast Michigan. A regional transit authority could be constructed in several different ways. However, regardless of its final form, it must provide a mechanism for coordinating transit service throughout the entire seven-county region. A coalition of the Detroit Regional Chamber and local and state government leaders is currently shaping a proposal for a regional transit authority.



Figure 14  
 Proposed Transit Plan  
 Southeast Michigan



Source: SEMCOG

State Plane NAD83  
 June 2001

### **Develop a plan for creating a region-wide transportation information system to coordinate the services of numerous public, private, and nonprofit transportation operators in the region**

This would provide a one-stop shop for people in need of transportation, thus making it much easier to identify their transportation options and make transfers between systems. It would also lead to more efficient transportation services by increasing the number of passengers carried on existing transit vehicles. It might also eliminate the need for some human-service organizations (e.g., job training agencies) and businesses to provide their own transportation services, thus allowing them to concentrate on their primary mission.

### **Recognize the role of private transportation providers in the overall transit system**

Private transportation services, including taxis, limousines, vans and buses, fill specific needs and are an important component of the region's transportation system. While some of these services have been integrated with public transit operations, further coordination should be pursued in order to maximize the efficiency of the overall transportation system.

## **Tier 1: Rapid transit recommendations**

### **Pursue development of the proposed 12-corridor rapid transit system**

Further analysis of each rapid transit corridor must be conducted to determine more precise ridership projections, right-of-way needs, and costs associated with the service.

- Move forward with detailed alternatives analysis in the Michigan Avenue corridor. As discussed earlier, a recently completed study — the Downtown to Metro Airport Rail study — has already provided a preliminary analysis of the corridor. In addition, funding for the alternatives analysis has been approved. For these reasons, it is recommended that the corridor be advanced to the next phase immediately.
- Identify and pursue funding for detailed alternatives analysis in the Woodward Avenue corridor. This corridor currently has the highest transit ridership in the region. In addition, the recently completed Woodward Corridor Transit Alternatives study has already laid the ground work for more detailed examination. For these reasons, securing funding for alternatives analysis should be a high priority. A key issue for both this analysis and that of the Detroit to Metro Airport corridor will be the identification of a multi-modal station in downtown Detroit.
- Identify and pursue funding for detailed alternatives analysis of a priority suburb-to-suburb rapid transit corridor, such as 16 Mile, 8 Mile, or Telegraph Road. Implementation of a crosstown route will begin the development of a connected rapid-transit network.
- Develop detailed ridership forecasts for each of the proposed rapid transit corridors using SEMCOG's new transit forecasting model. These data will be used to help prioritize construction of the remaining corridors.

## **Tier 2: Fixed-route bus recommendations**

### **Improve frequency and hours of service**

Improving the frequency and hours of service on existing bus routes will make service more convenient and accessible. To that end, the following steps should be taken:

- Work with SMART and others to obtain funding for its New Service Initiative. This initiative would significantly increase the frequency and duration of service on 17 existing routes, add four new bus routes, and 12 new park-and-ride lots, and add weekend service to 14 existing routes. It will particularly improve crosstown bus routes which currently have the lowest level of service.

- Move forward with fixed-route improvements identified by other transit operators, prepare more detailed service and cost data, and explore options for funding these improvements.
- Work with transit operators to perform detailed transit operations analyses, in order to identify where more specific fixed-route improvements are necessary and the resources necessary for implementation. This should include use of the Transportation Research Board's national guidelines for fixed-route levels-of-service (LOS). The desired LOS for each existing transit route should be determined, and necessary improvements identified and prioritized to meet this LOS. Current route alignments should also be reviewed to ensure that they best serve the transportation needs of residents and employers. SEMCOG's upcoming on-board transit survey will provide useful information for this analysis. The analysis should also review current operating and maintenance practices and procedures compared to "best practices" in the industry to identify any potential improvements that could make operations more efficient and cost-effective.

### **Improve the reliability of fixed-route bus service**

- Work with transit operators to conduct the detailed operations/maintenance analyses called for in the previous recommendation. These may identify ways to improve service reliability.
- Address current driver shortage problem by identifying fundamental causes (e.g., salary issues, recruitment practices, training programs). Develop and implement a plan to overcome these issues, thus enabling operators to attract and retain bus drivers. This will help improve service reliability as well as reduce costs associated with current driver overtime.
- Explore the use of signal prioritization for buses on major thoroughfares. This would reduce delays caused by traffic signals, allowing buses to move faster and arrive more predictably at their stops.
- Increase capital funding to expand vehicle fleet and reduce wear and tear on individual vehicles. Capital funding is also needed to upgrade or replace some transit facilities, particularly DDOT's maintenance facilities.

### **Identify options for providing service to locations not currently served**

As noted earlier in this plan, there are some transit supportive areas (TSAs) in the region that either don't have fixed-route service or the service does not meet their needs. During public meetings, the areas of western Wayne County and southwest Detroit were particularly noted. In addition, many areas that do not currently have transit supportive densities (e.g. Canton, Novi, Rochester and Shelby Township) are experiencing rapid growth and will require service in the near future.

Transit options for all of these areas need to be explored. This service could be provided in a number of different ways. Transit operators must work closely with each community to determine which solution, or set of solutions, will best meet their needs. Possible actions include:

- Adding or extending fixed-route service to these areas;
- Providing park-and-ride lots along existing transit routes or at future rapid transit stations that are within a reasonable driving distance (2-3 miles) if the TSA is residential and car ownership is relatively high; or
- Providing employer or community shuttle service to and from existing transit routes. This might be the most effective solution if the TSA contains a high number of jobs rather than residents and thus is more a trip destination than origin. SMART's Job Express program currently operates this type of service in four tri-county locations.

- In western Wayne County, exploring the potential of an additional rapid transit line to serve this area.

Transit operators should meet with local communities that have or will have TSAs but lack current service, to discuss their needs and develop a service plan that best meets those needs.

### **Tier 3: Community transit recommendations**

#### **Expand service**

In areas where land-use densities are too low to support fixed-route transit, expand community transit services to handle all trip purposes, including those of the general public as well as the elderly and disabled. This will provide all individuals with transportation options.

The first step in implementing this recommendation would be the development of a plan for expanding general public paratransit service to areas that are currently unserved by any form of public transit. This service could be provided in several different ways. It could be operated by one of the existing public transit agencies in the region. It could include the use of shared-ride taxi service, which would be publicly sponsored by privately operated. It might also involve the expansion of SMART's Community Partnership Program (CPP) to communities that are currently without general public dial-a-ride service. The CPP allows local communities to identify their specific transportation needs and tailor a service to meet those needs. It could take the form of traditional dial-a-ride service or be operated as a fixed or flexed-route shuttle service, depending on the needs of the area. SMART's program also provides resources to help with both capital and operating expenses associated with the service.

#### **Improve existing service**

Improve existing paratransit service by providing longer service hours and more weekend service. Toward this end, the following steps should be taken:

- Work with SMART and others to obtain funding for the proposed expansion of its Community Partnership Program (CPP), under its New Service Initiative. This expansion would provide an additional \$2 million and 75 vehicles for the CPP. SMART's plan would also provide additional service for individuals with disabilities, and would create a new vanpool program to provide additional transportation options for small groups of individuals making trips to common destinations that are not currently accessible by transit.
- Prepare detailed data on the need for increased service and associated costs for each area of the region. Some preliminary costs have been prepared by transit operators as part of the development of this plan. However, more detailed analysis is needed to determine the full demand for this service, the various community transit service options that exist, and funding that will be required to implement improvements.

#### **Reduce advance reservation time**

Reduce the amount of advance reservation time required for trips to allow for more spontaneous travel. Implementing this action is largely an issue of resources. Scheduling software exists to accommodate a shorter reservation period. What is needed is the funding to purchase and operate the additional vehicles that would be needed to operate a same-day, dial-a-ride service.

#### **Improve coordination of community-based transportation services**

As noted earlier in this document, community-based transit services have traditionally been very fragmented, with many small providers operating specialized transportation services. More must be done to coordinate these services so that they can be used to their maximum potential. However, rather than address this problem in isolation,

SEMCOG feels it would be better to examine this in the broader context of coordinated transportation information system for all modes. This is discussed further under the General recommendations for transit.

#### **Tier 4: Regional link recommendations**

##### **Move forward with detailed alternatives analysis in the Lansing to Detroit corridor**

Move forward with detailed alternatives analysis in the Lansing to Detroit corridor, as funding for this phase is expected to be approved in 2001. Service in this corridor would provide connections between the Cities of Lansing, Howell, Ann Arbor, Metro Airport, Dearborn, and Detroit.

##### **Explore the feasibility of transit service between the Ann Arbor urbanized area and Metropolitan Detroit, including service to Metro Airport**

Several steps should be involved in this process:

- Support AATA's initiative to introduce express bus service between Ann Arbor and Metro Airport.
- Explore the feasibility of providing commuter rail service between Ann Arbor and Detroit. As passenger rail service already exists in this corridor and Amtrak's planned improvements and the Lansing to Detroit rail initiative would provide additional service, this corridor appears to have potential for this mode. By piggybacking on these existing and proposed services, it may be possible to provide cost-effective commuter rail service.

##### **Explore the feasibility of adding or improving bus service between Metro Detroit and Livingston, Monroe, and St. Clair Counties**

This includes working with both private providers and public-transit operators to determine need for this service and the best way for it to be provided. In particular, the feasibility of an express bus route between Port Huron and the intersection of 23 Mile Road and Gratiot in Macomb County, as called for in St. Clair County's transportation plan, should be explored.

##### **Explore the feasibility of adding bus service between Brighton and Ann Arbor**

Current and anticipated future traffic volumes in this corridor, as well as congestion problems on U.S. 23, warrant the exploration of express bus service in this corridor.

##### **Increase coordination of transit service between our region and the Windsor, Flint, Jackson, and Toledo Urbanized Areas**

Transit operators in all of these areas are interested in working together to improve interregional mobility and, in fact, some service connections already exist. For example, Lake Erie Transit's service in Bedford Township currently connects with bus service in Toledo, and the Metropolitan Transit Authority in Flint (MTA) links with SMART service in Oakland County. The MTA is also working with Livingston Essential Transportation Services to improve transit service between Flint and the Brighton/Howell area. As our region continues to expand, these connections will become even more vital.

#### **Recommendations for features and amenities**

##### **Improve transit safety, both on vehicles and at transit stops**

This should be done through a mix of methods including increased use of video cameras; deployment of a transit police force, as currently done by DDOT; improved lighting at transit stops; emergency call boxes; and other measures.

### **Construct transit stations and shelters**

Construct rapid transit stations that are well designed for safety, aesthetics, and protection from the elements. They should be attractive and well lit. Efforts should be made to encourage private businesses to locate stores, day-care facilities, restaurants, and services near the stations and stops. Furthermore, the station must present an attractive addition to its neighborhood. In addition to rapid transit stations, additional shelters and benches are needed at many fixed-route bus stops to increase the comfort of passengers.

### **Improve physical accessibility to transit**

Creating a pedestrian and bicycle friendly environment in and around transit corridors is essential. Sidewalks need to be added or improved in many corridors. Crosswalks and crossing signals also need to be increased and upgraded. Provisions should also be made for bicyclists (e.g., bike lockers and transit vehicle racks).

The timely removal of snow and ice on rapid transit routes, platforms, sidewalks and station parking lots will need to be addressed, as well as snow removal in and around fixed-route transit stops. Transit facilities and vehicles need to be easily accessible in all types of weather.

Additional parking lots will also be needed, particularly at rapid transit and regional link stations. As is the case with most rapid transit systems across the country, many riders who do not live within walking distance of the rapid transit system will wish to drive and park at the closest station. Facilities must be provided to accommodate this demand. The potential of joint-use parking facilities (with communities or local businesses) should be explored to make such lots cost effective.

### **Improve accessibility for people with special needs**

While ADA has improved transit's accessibility for people with disabilities, more should be done to make it user friendly to special populations. Transit operators should meet with representatives of the elderly and disabled communities, as well as other special populations, to identify their particular needs and find ways to address them.

### **Provide easily understood information**

Provide easy-to-understand information on transit service, available through a variety of mediums. Several steps should be taken in this area:

- Increase the availability of transit schedule information. This should be done through a variety of means including increased distribution of printed schedules, availability of transit-system maps, developing Web sites that offer this information via the Internet, and enhanced phone systems that provide real-time transit information. Some of these measures are already being offered by local transit operators but others do not have this information available. Regardless of the methods used, all information must be up-to-date, readily available, and easy-to-use for all current and potential transit riders.
- Explore the use of personal trip planning services, audio announcement systems, and real-time Internet, cell phone, and pager information systems.
- Develop the region-wide transportation information system, called for under General recommendations, to coordinate the services of numerous public, private, and nonprofit transportation operators in the region, thus providing a one-stop shop for transit information.

### **Increase the use of ITS to enhance transit service**

Intelligent Transportation Systems (ITS) has many applications for transit. Transit operators are already using some ITS technologies in the region. This use should continue and expand. Some specific recommendations are:

- Continue to move forward with implementation of automatic vehicle location systems to provide real-time information on transit operations.
- Explore the use of traffic-signal prioritization systems to improve transit-vehicle travel time. Use of such measures will be essential in rapid-transit corridors. It may also be appropriate in some corridors served by fixed-route buses.
- Explore the feasibility of stored-value fare cards that could be used on multiple transit systems. This would facilitate current passenger transfers between the DDOT and SMART systems. It will also be essential in the future as the proposed four-tiered system is implemented and movement between different transit modes becomes more commonplace.
- Include a full examination of transit ITS applications in the detailed transit operations analysis called for under Tier 2 recommendations.

## How Will the Four-Tiered System Address Needs?

Thus far, the proposed transit system and its relationship to criteria such as transit supportive areas, population and employment, and major activity centers has been shown. In addition to these criteria, it is important to look at how well the plan addresses service for the elderly and the transit dependent. It is also important to ensure that the transportation needs of all segments of the region's population, including minority and low-income populations are being met. The plan's impact on traffic congestion and future mobility needs should also be considered. A brief analysis of these issues is presented below.

### Elderly population

Elderly people use the transit system (e.g., for errands, visiting relatives, social events, medical appointments etc.) for many of the same reasons as the rest of the population. An improved transit system will give older members of our region a viable option if they no longer wish or are able to drive. This will become increasingly important as the region's older population increases.

Figure 15 shows the relationship of the proposed transit system with the density and dispersal of the older members of our region. Not surprisingly, a large portion of the older population lives within the more dense Metro Detroit area. Elderly people will benefit from improved regional mobility that better access to fixed-route and community transit systems will provide. Older persons in the less-dense, outlying areas will benefit from improved community transit services and access to larger population centers via the regional links.

### Households without a personal vehicle

Figure 16 shows the relationship of the proposed transit system to density and dispersal of households without access to a car. A large portion of this population lives within the denser Metro Detroit area. Individuals without cars, whether by choice or not, will gain tremendous improvements in mobility with this plan. These residents will benefit from the improved regional mobility that better access to fixed-route and community transit systems will provide. Persons without access to an automobile in the less-dense, outlying areas will benefit from improved community transit services and access to larger population centers via the regional links.

### Minority and low-income households

Recognizing the racial, ethnic, and economic diversity of Southeast Michigan, SEMCOG strives to meet the transportation needs of all segments of the region's population, including minority and low-income populations. Environmental justice, which supports these efforts, is a planning consideration based on Title VI of the 1964 Civil

Rights Act and Executive Order 12898 of 1994, titled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Its goal is to ensure balance in the impacts of the transportation system and equal access and participation in the decision-making process. Although this is not a new concept in transportation planning, the formal analyses and documentation needs are relatively new.

SEMCOG considers an area to be significant for environmental justice purposes if, based on 1990 U.S. Census data, more than 25 percent of residents in a block are from a minority (racial or ethnic group) or more than 12.6 percent of households in a census block group have incomes below the poverty level. These thresholds are equal to the regional percentages for Southeast Michigan. The 1990 U.S. Census indicated 25 percent of persons living in Southeast Michigan were either African-American, Asian-American, Hispanic, or Native American, and 12.6 percent of all households in the region had incomes below the poverty level.

Significant pockets of minority and low-income households in Macomb, Oakland, and Wayne Counties would benefit from direct pedestrian access to improved transit service. As illustrated in Figure 17, 40 percent of significant poverty areas and 57 percent of significant minority areas would be within easy walking distance from fixed-transit routes. Low-income and minority populations in the less-dense, outlying areas will benefit from improved community transit services and access to larger population centers via the regional links.

## Congestion

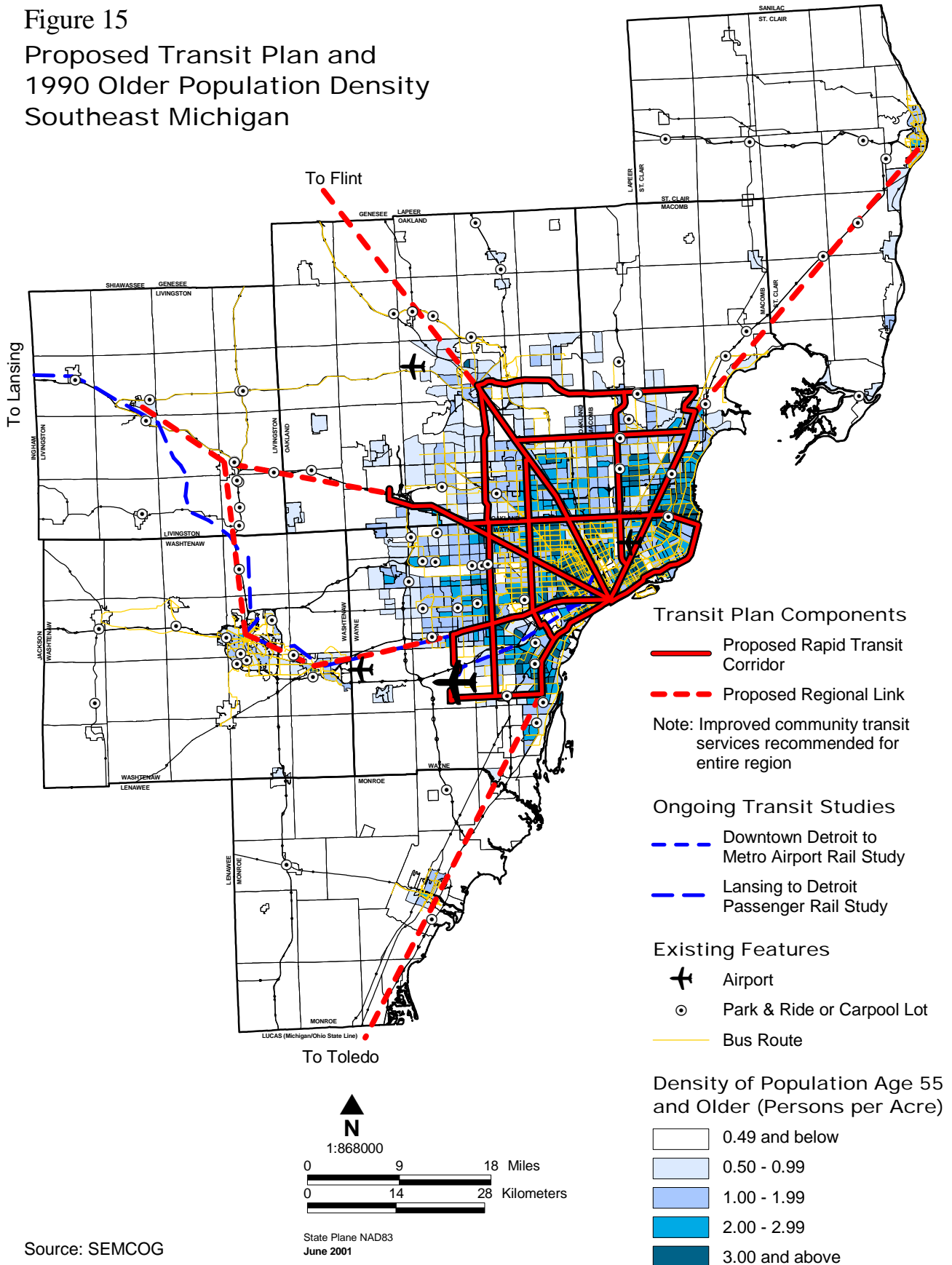
Figure 18 shows the region's currently congested roads as well as those that will be congested by 2025 if no improvements are made. Most congestion is, and will continue to be, in suburban Metro Detroit. Crosstown rapid transit routes such as M-59, 16 Mile, 8 Mile, Telegraph, and Greenfield will improve mobility in these congested areas. By providing a viable transit alternative for some of the millions of daily automobile trips now congesting our region's roads, people will be able to travel more quickly throughout the region.

## Regional mobility to 2025 and beyond (long-term investment)

While providing fixed-route transit service in current TSAs is a priority of this plan, future population and employment patterns should also be considered. Figure 19 shows current and forecasted future TSAs, along with the proposed transit system. Demographic changes should be continuously monitored to ensure that the transit system continues to meet the needs of our changing region.

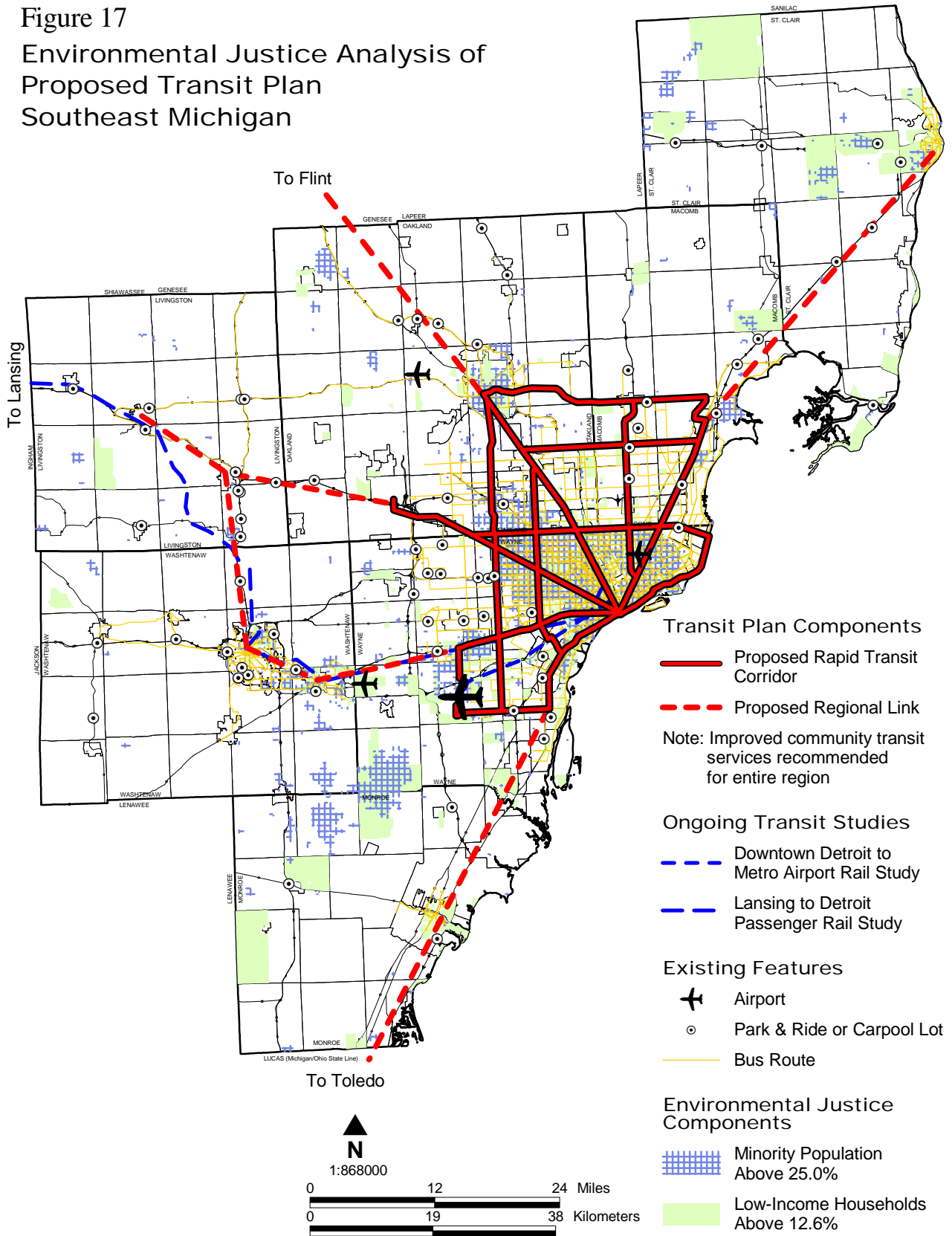


Figure 15  
 Proposed Transit Plan and  
 1990 Older Population Density  
 Southeast Michigan



Source: SEMCOG

Figure 17  
 Environmental Justice Analysis of  
 Proposed Transit Plan  
 Southeast Michigan



**Transit Plan Components**

- Proposed Rapid Transit Corridor
- - - Proposed Regional Link

Note: Improved community transit services recommended for entire region

**Ongoing Transit Studies**

- - - Downtown Detroit to Metro Airport Rail Study
- Lansing to Detroit Passenger Rail Study

**Existing Features**

- Airport
- Park & Ride or Carpool Lot
- Bus Route

**Environmental Justice Components**

- Minority Population Above 25.0%
- Low-Income Households Above 12.6%

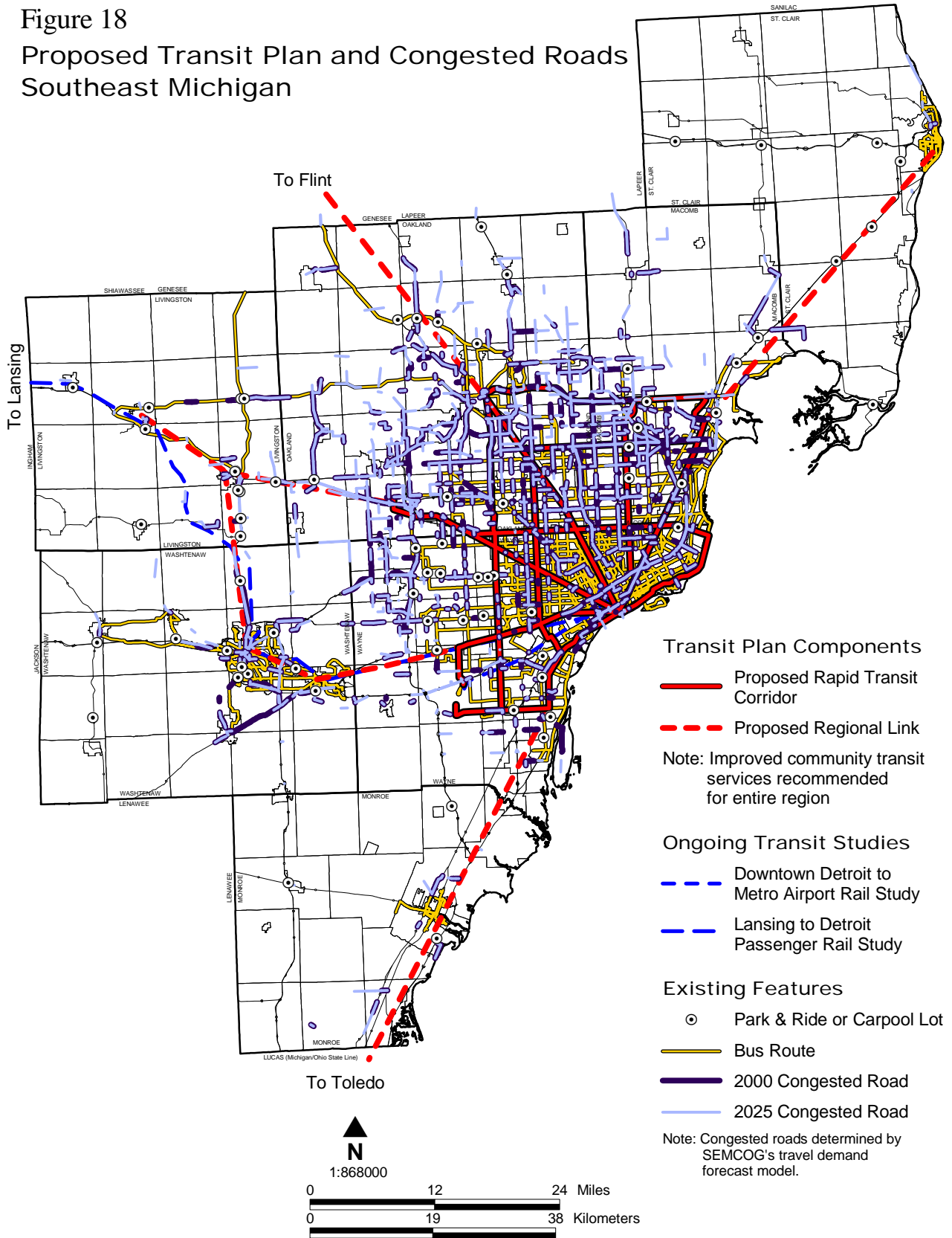
Source: 1990 Census Data, Minority Data by Census Block, Low-Income Data by Census Block Group

Note: Minority persons comprise 25.0% of the total population in Southeast Michigan. Low-income households comprise 12.6% of households in Southeast Michigan.

Source: SEMCOG

State Plane NAD83  
 June 2001

Figure 18  
 Proposed Transit Plan and Congested Roads  
 Southeast Michigan



Source: SEMCOG

State Plane NAD83  
 June 2001



## How Much Will the Plan Cost?

The estimated total capital cost for implementing the improvements called for in this plan, assuming use of bus rapid transit (BRT), is \$2 billion. These costs will be spread over the next 25 years as the system develops. An additional \$200 million in operating funds will be required annually. These figures represent additional costs and do not include the capital and operating dollars currently spent to provide existing services (roughly \$24 million for capital costs and \$237 million for operating costs in 1998).

Costs are estimated for Tiers 1 through 3 only. Estimates of "Tier 4: Regional Link" costs are not included, but are not expected to significantly alter overall cost estimates. Tier 4 costs cannot be estimated until the mode and service provider for each link are determined. As the plan indicates, regional link service can take many forms, ranging from commuter rail or express bus in heavily traveled corridors to community transit in low-density rural areas. Regional link service could be provided by public or private sector operators. Regional trip making is a market that is typically served by intercity bus and/or train operators (e.g., Greyhound or Amtrak). The extent to which the private and public sector provide these services will be determined as the plan is implemented.

### Tier 1: Rapid transit cost estimates

Table 12 provides cost estimates associated with the recommended rapid transit system. These are based on the development of 259 miles of rapid transit service in 12 corridors, with a total of 265 stations. The capital costs for light-rail transit (LRT) are provided as a range due to site-specific factors that can arise during excavation for light-rail track installation. BRT is not subject to the same variations because it operates on standard road surfaces.

Table 12  
Estimated Capital and Operating Costs for Tier 1

Service	Capital Cost	Annual Operating Cost
Bus Rapid Transit (BRT)	\$1.8 billion	\$114 million
Light-Rail Transit (LRT)	\$8 - \$14 billion	\$183 million

Source: SEMCOG and *Woodward Corridor Transit Alternatives Study*, Detroit Transit Corporation, May 2000.

All rapid-transit costs provided in this section were developed by SEMCOG. The methodology is consistent with that used in MAC's SpeedLink feasibility study. Actual figures differ due to slight variations in the recommended amount and location of BRT service between the two plans. The underlying assumptions used to develop the BRT costs include the following (and will increase or decrease if there are changes in any of these assumptions):

#### Right-of-way

- C Exclusive lane in arterial right-of way
- C Signal priority at all intersections
- C No new grade separations or roadbed reconstruction

#### Station characteristics

- C Joint-use park-and-ride lots
- C Ticket vending machines
- C Lighted and heated stations
- C Real-time passenger information systems

**Vehicle characteristics**

- C Low-floor, single-articulated vehicles
- C Hybrid vehicle power
- C No automated vehicle guidance
- C Construction of new maintenance facility also included

**Service-operation assumptions**

- C Service performance based on exclusive-lane arterial operation
- C Use of low-floor articulated vehicles

**Operating-cost assumptions**

- C Operating cost per service hour of \$100
- C Includes additional facility and articulated fleet maintenance

**Tier 2 and 3: Fixed-route bus and community-transit cost estimates**

One of the recommendations of this plan is performing a detailed transit operations analysis to identify more specific fixed-route and community transit improvements. Until this analysis is complete, precise costs for improvements in these two tiers of service cannot be determined. However, in developing this transit plan, each of the public transit operators identified a preliminary set of improvements for fixed-route and community-transit service, based on their knowledge of currently unfunded needs. The most detailed service improvements were submitted by SMART, which recently completed its "New Service Initiative," a four-phase proposal to improve and expand service in its area. A summary of this report is found in Appendix B.

Table 13 summarizes the estimated cost of improved fixed-route and community-transit service in the region. The majority of regional fixed-route improvements included in the cost estimates involve enhancing existing routes rather than creating new ones. Increases in evening and weekend service are included as well as more frequent service in both peak and off-peak travel times. This is consistent with the recommendations for Tier 2 service improvements.

Community-transit improvements include enhancements to existing services as well as a major expansion of service to provide general public paratransit in many areas currently unserved. These improvements represent a significant step forward in these two tiers of service. However, as the region moves ahead in establishing specific level-of-service goals for fixed-route and community transit service, additional improvements will be identified and funding requirements are likely to increase. The costs also include enhancements that would be necessary to provide feeder bus service for the proposed rapid transit system.

Table 13  
Estimated Cost of Fixed-Route and Community-Transit Improvements

Service	Capital Cost	Annual Operating Cost
Fixed-Route Bus Improvements	\$127,731,700	\$43,105,600
Additional Fixed-Route Enhancements to Feed Rapid Transit System	\$40,500,000	\$28,500,000
Community Transit Improvements	\$30,416,300	\$13,540,500
Total	\$198,648,000	\$85,146,100

Sources: Public transit operators: AATA, BWAT, DDOT, LET, LETS, SMART; SMART, *New Service Initiative*, 2001  
Transportation Management and Design, Inc.

## Funding

A major challenge to implementing the transit improvements presented in this plan is funding. Implementing any new service, major or not, requires additional capital and operating funds. All areas of the region, large and small, urban and rural, are in need of additional transit funds. As noted earlier, our region already lags far behind other major metropolitan areas in the amount of local funding provided for transit.

While our senators and congressional representatives are eager to bring federal capital dollars to the region, receipt of these funds is dependent upon the availability of adequate local dollars to match these funds and provide the long-term operating assistance that is required. A significant increase in local transit funding will be necessary to make the system laid out in this framework a reality. Securing this increased funding needs to be a top priority for all stakeholders in the region, including political and business leaders, as well as civic and grassroots organizations.

In determining the best mechanism for funding transit, a number of factors should be considered including:

- Will it raise sufficient revenue, both now and in the future?
- Will it be equitable, not putting an unfair burden on any one segment of the population?
- Will it be easy to administer?
- Are there legal barriers to enacting a tax and, if so, can they be overcome?
- Will the public support a tax?
- What will be the reaction of the business community?

Possible taxing mechanisms include income tax, payroll tax, excise tax on services, sales tax, property tax, gas tax, and vehicle registration fee. The Citizens Research Council is currently studying this issue and will be releasing its report on transit funding options in the near future.

## Governance

Another major challenge to implementing this transit plan is governance. Agreement must be reached on an entity to govern the new transit system. A regional transit authority could be constructed in several different ways. However, regardless of its final form, it must provide a mechanism for coordinating transit service throughout the entire seven-county region. It is SEMCOG's hope that the adoption of this transit framework will be a driving force in resolving the issue of governance by providing a vision to rally around. A coalition of the Detroit Regional Chamber and local and state government leaders is currently shaping a proposal for a regional transit authority. A legislative bill authorizing the creation of such an authority is expected to be introduced in late 2001.

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# Appendix A

## Existing Public Transit Services

### An Overview of Existing Services

A variety of public transit services are currently operating in the seven-county region of Southeast Michigan. These services range from traditional, fixed-route bus operations in urban areas to specialized van transportation in more rural communities. At present, there are seven primary public transit operators in the region:

- C **Ann Arbor Transportation Authority (AATA)** provides fixed-route and paratransit services in the Ann Arbor/Ypsilanti urbanized areas as well as surrounding communities in Washtenaw County;
- C **Blue Water Area Transit (BWAT)** provides fixed-route and paratransit service in and around the Port Huron area in St. Clair County;
- C **Detroit Department of Transportation (DDOT)** provides the largest fixed-route bus system in the region, serving passengers in the City of Detroit; it also provides paratransit service for persons with disabilities;
- C **Detroit Transportation Corporation (DTC)** operates the "People Mover," a fully automated, elevated guideway system in Detroit's Central Business District (CBD);
- C **Lake Erie Transit (LET)** provides fixed-route and paratransit service in and around the City of Monroe and Frenchtown Township, in Monroe County. It also provides paratransit service in Bedford Township with a connection to the Toledo transit system;
- C **Livingston Essential Transportation Service (LETS)**, provides paratransit service within Livingston County, as well as transportation to medical appointments in neighboring counties; and,
- C **Suburban Mobility Authority for Regional Transportation (SMART)** provides fixed-route and paratransit services in Macomb, Oakland, and Wayne Counties, including trips to and from the City of Detroit which cross city boundaries.

Together, these operators, provide over 219,500 fixed-route and paratransit trips per day in the region. Roughly 90 percent of these trips occur in the tri-county area (Macomb, Oakland, and Wayne Counties).

### Profiles of the Region's Public Transportation Providers

Following are detailed descriptions of each transit operator listed above. The information was gathered through interviews with each operator, as well as a review of printed materials published by each organization.

#### Ann Arbor Transportation Authority

##### **General and fixed-route information**

AATA provides public transportation services for the Ann Arbor/Ypsilanti urbanized area. It operates 25 bus routes as well as various types of paratransit service. The system provides over 15,500 rides per day. Since 1990, AATA has increased its transit service hours 16 percent and seen its ridership grow by 24 percent.

Local funding for service within the City of Ann Arbor is provided by a 2½-mill property tax that was passed in 1973. This dedicated funding has allowed AATA to provide a high level of service within the city limits. Ninety-five percent of the residences in Ann Arbor are within a ¼-mile of an AATA bus route. Furthermore, on most routes a bus arrives every 15 to 30 minutes and service is provided from 6 a.m. to 11 p.m. weekdays, and 8 a.m. to 6 p.m. Saturdays and Sundays.

### **Paratransit service**

In addition to its fixed-route service, AATA also provides a number of specialized transportation services. In accordance with the Americans with Disabilities Act of 1990 (ADA), dial-a-ride provides door-to-door transportation to elderly and disabled persons whose trip origin and destination are within  $\frac{3}{4}$  of a mile of any AATA bus route. The service is available during the same hours as fixed-route operation and uses a combination of small buses, accessible vans and taxicabs to deliver the service. No advance reservation is necessary for trips within the City of Ann Arbor.

Within the City of Ann Arbor, AATA also provides several programs, using shared ride taxi service. Good as Gold transports senior citizens anywhere within the city limits and part of Pittsfield Township, and operates between the hours of 6 a.m. and 11 p.m. roughly the same as the fixed-route service. Night Ride and Holiday Ride offer shared-ride taxi service anywhere within the City of Ann Arbor, anytime AATA's fixed-route service is not in operation (11 p.m.-6 a.m. weekdays, 7 p.m.-7:30 a.m. weekends, and major holidays). AATA contracts with the Yellow Cab Company to provide these services. In total, AATA provides more than 250,000 paratransit trips per year (more than 800 per weekday).

### **Partnerships**

Two major universities, the University of Michigan (U-M) in Ann Arbor and Eastern Michigan University (EMU) in Ypsilanti, lie within AATA's service area. AATA has worked with both institutions to develop special programs that promote transit use among their students and staff. U-M purchases bus passes for faculty and staff that opt not to buy a university parking permit. U-M also pays half the local cost for AATA's State Street bus route, which shuttles students to campus. In addition, both U-M and EMU pay the fares for students and staff who use one of AATA's four park-and-ride lots as opposed to driving onto campus. All of these programs help reduce traffic congestion on the university campuses.

Another partnership initiative is AATA's get Downtown program. In an effort to relieve traffic congestion and reduce the need for additional parking in downtown Ann Arbor, the AATA has teamed with the Ann Arbor Area Chamber of Commerce, the City of Ann Arbor, and the Downtown Development Authority to create the Get Downtown program. Under this program, employers distribute free bus passes to all of their employees to encourage them to ride transit rather than drive to work. The program is partially funded through a grant from the federal Congestion Mitigation Air Quality (CMAQ) program. As a result of the above programs, 21 percent of AATA's transit fares are now paid by third parties: employers, universities, or grantor agencies.

### **Other transportation services**

In addition to directly operating transit service, AATA helps people identify other transportation options. Through its RideShare program, it helps connect those who would like to carpool or vanpool with other interested individuals who are making similar trips.

AATA also manages the RideSource program, a transportation brokerage service that helps people identify other transportation providers for Washtenaw County trips that are outside AATA's service area. Using a computerized information database, RideSource identifies potential transportation providers and either passes this information on to the customer or directly books a trip for him/her on the other service.

## Blue Water Area Transit

### **General and fixed-route information**

BWAT is the primary public transit operator in St. Clair County. It operates eight fixed bus routes, servicing the City of Port Huron and a portion of neighboring Fort Gratiot Township. The weekday fixed-route service operates between 6:15 a.m. and 6 p.m., with extended service to 10 p.m. on Thursdays and Fridays. Saturday service operates between 8:15 a.m. and 6 p.m.. There is no fixed-route service on Sundays. The frequency of service is the same Monday through Saturday, with a bus arriving at each stop every 40 minutes.

Most of BWAT's fixed-route buses are powered by compressed natural gas (CNG), which emits fewer pollutants into the air than diesel fuel, when burned. Much of its paratransit fleet is also powered by CNG. Those vehicles that are not, will be replaced with the cleaner-fuel vehicles in the near future. All buses are equipped with easy-to-use bicycle racks.

Local funding for the service comes from a dedicated ¾-mill property tax in Fort Gratiot and the City of Port Huron, which was approved in 1977.

### **Paratransit services**

In compliance with ADA requirements, Blue Water provides dial-a-ride transportation services to passengers within three-quarters of a mile radius of existing fixed-route service who are unable to ride the regular bus. Users of the ADA dial-a-ride service must be pre-certified and must call at least one day in advance to reserve their trip.

For citizens of Burtchville, and Port Huron townships, as well as areas of Fort Gratiot Township that do not have fixed-route service, BWAT operates general public dial-a-ride transportation service. This service will transport passengers anywhere within these geographic areas. It will also connect them with BWAT's bus system if the rider's destination is within the fixed-route service area. The dial-a-ride service requires only one-hour advance notice to request a trip.

### **Partnerships**

BWAT's paratransit service has recently undergone a major expansion. For a number of years, various St. Clair County human service organizations had been providing their own transportation to service their clients. This was becoming increasingly expensive and also forced the organizations to be in the transportation business, which was not their primary mission. In an effort to coordinate and consolidate these services, BWAT established contractual agreements with four organizations, including the YMCA and Community Mental Health Services, to provide their client's transportation. In addition, two other entities, the Council on Aging and the City of St. Clair, have begun coordinating their transportation services with BWAT. Combining these services under one provider has allowed transit vehicles to be used for multiple trip purposes, thus creating much more efficient and cost effective service.

The effect of merging the above services under the BWAT umbrella has been a near four-fold increase in the size of BWAT's fleet; from 24 to 85 vehicles. This increase has necessitated the search for a new vehicle storage and maintenance facility that can accommodate the larger fleet. BWAT's growing fleet and new coordinated services have also raised other issues including the number and size of vehicles that will be needed in the future to meet growing service demand, and the software and technology that will be needed for the service to operate most effectively. BWAT recently received a \$35,000 grant, under the federal government's 5313b program, to develop a St. Clair County transit coordination and consolidation plan, which will address these issues.

## Detroit Department of Transportation

### **General and fixed-route information**

The largest public transit operator in the State of Michigan, DDOT services the City of Detroit with 54 fixed bus routes that residents and visitors can access from roughly 9,000 bus stops throughout the city. It carries 81 percent of the region's bus riders, with an average weekday ridership is approximately 155,900.<sup>1</sup> Most of its bus routes operate seven days a week, with 20-24 hour service on weekdays.

In addition to its regular bus service, DDOT also operates an antique rail trolley line on Washington Boulevard and Jefferson Avenue. The electric-powered trolley runs between Grand Circus Park and the Renaissance Center, passing the Cobo Hall Convention Center en route. The trolley, which is mainly a tourist attraction, operates weekdays from 8 a.m. to 5 p.m., and on weekends from 10 a.m. to 5 p.m.

DDOT has no dedicated local funding for operations but instead relies on an annual contribution from the City of Detroit's general fund to provide its local dollars. The current general fund contribution is \$48.7 million<sup>1</sup> but this number can change annually as DDOT is forced to compete with all other city departments for its share of the total city budget. This lack of a stable local funding source is a major problem for DDOT.

### **Paratransit service**

Under federal ADA regulations, public transit operators must provide curb-to-curb transit service to persons who, because of a disability, are prevented from using regular fixed-route service. Passengers must be pre-certified, and their trip origin and destination must be within ¼-of-a-mile of fixed-route service. The trip must also take place during fixed-route operating hours. DDOT's MetroLift service provides this function. Passengers must be pre-certified to use MetroLift and must call at least one day in advance to reserve a trip. Passengers may call as much as eight days in advance if they wish. All reservations are handled on a first-call-first-served basis, regardless of the trip purpose. MetroLift operates the same hours as DDOT's fixed-route service and currently carries over 400 passengers daily.

### **Partnerships/initiatives**

In partnership with the State of Michigan's Temporary Assistance to Needy Families (TANF) Program, DDOT began operating a six-month demonstration of Flexed-to-Fixed bus service on Detroit's east side. Demographic data had indicated that this area contained a high population of potential TANF clients and low car ownership. The route employs a small bus that travels a general route with some fixed bus stops, but will deviate from the route to pickup and drop-off TANF clients. While the main purpose of the transportation is to help TANF clients get to work, it provides transportation for any need.

Improving transit safety is a continuous goal of the Detroit Department of Transportation. Under a three-year grant from the Federal Justice Department, DDOT has recently deployed its own transit police force. A division of 30 plain-clothes officers are assigned to bus stops and/or transit vehicles to ensure both passenger and driver safety. The officers are trained and certified by the Detroit Police Department. DDOT also plans to install video cameras on buses to help improve bus safety.

## Detroit Transportation Corporation (DTC)

### **General information**

The Detroit Transportation Corporation owns and operates the Detroit People Mover (DPM), which is a fully automated, elevated rail system that services the City of Detroit's central business district (CBD). Operating a 2.9-mile, one-way loop, the DPM provides transportation between the City's courts, administrative offices, sports arenas,

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<sup>1</sup>Federal Transit Administration. National Transit Database, 1998.

convention center and major office buildings. It also provides access to Greektown, which is a major downtown entertainment area with many shops and restaurants, and home to the new Greektown Casino. The DPM also shuttles CBD employees from satellite parking facilities to their work sites.

The system, which includes 13 stations, operates from 7 a.m. to 11 p.m. on weekdays, with trains running every three to five minutes during peak periods. Weekend service operates until midnight and Sunday service runs from noon to 8 p.m.. Extended hours of service are provided during special events such as the annual Detroit International Auto Show.

DPM's average weekday ridership is approximately 5,600, but this number increases significantly during special downtown events.

The system, which began operation in 1987, is funded almost entirely by the City of Detroit. It receives no State funds and only a small federal subsidy for capital and operating expenses.

### **Paratransit service**

ADA paratransit service associated with DPM operations is provided by MetroLift. This service is outlined under DDOT's paratransit description.

## Lake Erie Transit

### **General and fixed-route information**

LET provides fixed-route and dial-a-ride services for the residents of the City of Monroe and Frenchtown Township. Local funding for these services is provided through a 1/3-mill property tax in these communities, which was passed in 1980.

Lake Erie Transit's fixed-route service operates primarily in the City of Monroe. There are seven fixed bus routes, which operate every 30 minutes between the hours of 7 a.m. and 5:45 p.m., Monday through Friday. The routes also operate on Saturdays between 10 a.m. and 4:15 p.m. No Sunday service is provided.

### **Paratransit service**

In compliance with ADA requirements, LET also provides paratransit service within a 3/4-mile radius of its fixed routes to serve anyone unable to use the fixed-route system. LET's dial-a-ride service provides curb-to-curb transportation within Frenchtown Township, as well as connections to the fixed-route service in Monroe. It offers same-day service, often arriving within 15 minutes of the passenger's call for a ride. Its hours of operation are basically the same as the fixed-route system.

In addition to the above service, LET provides general public dial-a-ride service in Bedford Township, which is located at the south end of Monroe County. The Bedford service operates Monday through Friday, eight hours a day, and provides transportation within the Township as well as a connection to the Toledo, Ohio bus system. Local funding for the Bedford service is provided through a 1/10-mill property tax in the Township.

### **Partnerships**

LET also operates Essential Transportation Services, which provides contracted small-bus service for Community Mental Health (CMH) patients and senior citizens throughout Monroe County. The same vehicles are used to transport both populations, with the CMH trips occurring at the beginning and end of each weekday and the senior trips occurring mid-day.

## Livingston Essential Transportation Services

### **General information/paratransit service**

LETS provides dial-a-ride transportation for persons living in Livingston County. While the service is available to anyone in the county, it is primarily used by the elderly and disabled. LETS provides roughly 60,000 trips annually, using a fleet of 11 small buses and four vans. Reservations are taken on a first call, first serve basis, with priority given to medical trips. Typically, service for any given day is fully booked by mid-morning the day before the travel day. Thus, advance reservations are necessary in order to ensure a ride.

LETS began operating in 1977 and was originally affiliated with SMART(then known as SEMTA) in a similar manner as Lake Erie Transit. In 1982, after a proposed Livingston County transit millage failed, LETS briefly closed its doors. It restarted several months later strictly as a transportation service for CMH patients. Service has since expanded to include mid-day transportation for the general public. In 1992, LETS opted out of the SMART system and has been operating on its own ever since. LETS has no dedicated local source of funding. Approximately 44 percent of the organization's funding is provided by the Michigan Department of Transportation (MDOT), 11% is provided by the federal government and 20% comes from passenger fares. The remaining 25 percent comes from Livingston County's general fund.

LETS currently provides service Monday through Friday, from 7 a.m. to 5:30 p.m. The beginning and end of each day (7-9:15 a.m. and 2:30-5:30 p.m.) are primarily reserved for CMH transportation. In addition to its general dial-a-ride service, LETS provides transportation to county dialysis centers and other medical facilities in the neighboring counties of Ingham, Genesee, Oakland, and Washtenaw.

### **Partnerships**

LETS recently piloted a welfare-to-work transportation service to transport workers between Fowlerville and Howell. The service provided point-to-point van transportation, with the vehicle shuttling workers from several designated locations in Fowlerville to specific destinations in Howell and vice versa. The vehicle made one trip in the morning and a return trip in the evening. The service was initiated at the request of Michigan's Work First Program but was discontinued after just two weeks when no riders made use of the service. The program originally provided no funding to LETS other than the passenger fares. When passengers failed to appear for their scheduled trips, LETS found itself operating empty buses at its own expense. The program has since been reorganized and will restart in the near future. Under the new program, Work First will guarantee a certain number of passenger fares, on a weekly basis, regardless of whether the worker takes the trip. In addition, a grant from Michigan's Project Zero Program will cover any cost for the service that is not recouped through fares.

LETS Project Zero grant will also assist with welfare-to-work transportation between Flint and Livingston County. The Flint Metropolitan Transit Authority (MTA) currently operates a bus route from Flint to the Brighton and Howell areas. The primary purpose for the route is to transport Flint-area welfare-to-work clients to jobs in Brighton and Howell. Demand for the service has been high. However, because of the scattered job locations in Livingston County, travel time for the passengers has been exceeding one hour, as the bus must follow a circuitous route to reach all the various employers. LETS and MTA have been working together to devise an alternative service that would keep passenger travel times under 60 minutes. The new service would establish a transfer center in Hartland Township where bus passengers would transfer to a fleet of three vans that would shuttle them to their final destination. This would provide shorter and more direct trips for passengers. LETS hopes to begin the shuttle service this summer.



## Suburban Mobility Authority for Regional Transportation

### **General and fixed-route information**

SMART provides public transportation services in Macomb, Oakland, and Wayne counties, including trips to and from the City of Detroit that cross city boundaries. It operates 47 bus routes, which provide approximately 32,000 rides per day. Local funding for the system is provided through a 1/3-mill property tax that was enacted in 1995 and renewed by voters in 1998. The tax currently raises \$21 million a year. This represents roughly 24 percent of SMART's annual operating budget. The property tax is not paid by all communities in the tri-county area. A number of communities in Oakland and Wayne Counties elected to "opt out" of the tax. These municipalities are not served by SMART.

### **Paratransit service**

In addition to its fixed-route bus service SMART operates a variety of small bus services, providing approximately 2,000 rides per weekday, in every community within the SMART system. These services are:

- **Community Transit service.** This service is both directly and indirectly operated by SMART. It is designed for older adults and people with disabilities, but is available to the general public as well. While most of this service is available by reservation two to six days in advance, same day service is available in Beverly Hills, Birmingham, Harper Woods, Mt. Clemens, Redford Township, Riverview, Trenton, and Troy.
- **Job Express service.** This service is designed to transport people between their job site and designated fixed-route bus stops. Current locations are Fairlane Town Center, Lakeside Mall, Big Beaver Corridor, and Auburn Hills. This service is available to the general public.
- **Groesbeck Flexible Route service.** This service provides a point-to-point flexible bus route, operating in the Groesbeck industrial corridor. This service has fixed time points on Groesbeck. However, between time points it deviates as necessary to board or deboard passengers within a defined service area. Boardings at locations other than a time point are scheduled by same day advance reservation. This service is available to the general public, and can be used for any type of trip including work, shopping, and connections to SMART fixed-route service.
- **Oakland Mall Job Shuttle.** The shuttle operates between two time points in Troy, one at Oakland Mall and the other at Meadowbrook Plaza. Between these time points, passengers can board and deboard within a defined service area. Boardings at locations other than a time point are scheduled by same day advance reservation. This service is available to the general public, and can be used for any type of trip including work, shopping, and connections to SMART fixed-route service.
- **Pontiac Rainbow Service.** This service is a combination time-point and advanced-reservation service operating in Pontiac, Auburn Hills, and part of Bloomfield Township. Some same day service is available. This service is available to the general public, and can be used for any type of trip including work, shopping, and connections to SMART fixed-route service.

Like all other fixed-route operators, SMART provides ADA Paratransit service within 3/4-of-a-mile of its fixed-route service. This service is limited to pre-certified persons who, because of a disability, are prevented from using regular bus service. Reservations can be made one to fourteen days in advance.

### **Partnerships**

In addition to the service it directly operates, SMART also administers the Community Credit Program, which returns a portion of the funds generated by its property tax to each community that participates in the millage. The funds are

used to provide local transit service that is tailored to the needs of each individual community. The community, rather than SMART, determines the type of service that will be provided. Funds can be used for either operating or capital expenditures. Although the services provided through this program are frequently used by older adults and people with disabilities, they are available to the general public.

SMART also works closely with area employers and human service organizations to provide transportation to work for those who are transit dependent. The Get a Job, Get a Ride Program provides new employees of participating businesses with a free bus pass for the first month of employment.

SMART's TransitCheck Program provides a means for employers to subsidize their employees' bus commuting costs by up to \$65 per month per employee, through the use of vouchers.

**Appendix B** (Note: Only includes Executive Summary)



*Suburban Mobility Authority for Regional Transportation*

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# **NEW SERVICE INITIATIVE**

**May 2001**

## **Executive Summary**

### **SMART's New Service Initiative includes improvements to:**

#### **SMART Fixed Route Service**

- 17 Full service routes throughout the SMART service area
- 4 new bus routes to underserved or never before served areas
- 12 new park and ride lots
- Reduced waiting time between buses on 18 routes
- New Sunday service to 14 routes
- Longer service hours on nights and weekends
- Increased access to over 1.3 million jobs
- Improved bus service to over 56,000 businesses
- Better transfer times to/from major routes
- Increase service to meet demand to major job centers
- Improved suburb to suburb travel
- Estimated Increased Annual Ridership: 4.3 million

#### **SMART Community Transit Service**

- Additional service hours to accommodate growing demand of ADA trips
- 25 new buses and 29 new coach operators

#### **Community Partnership Program**

- Expansion of program for senior/disabled and to encourage communities to provide feeder service to/from SMART fixed routes
- Increase Community Credits by \$2.0 million annually
- 75 additional vehicles

#### **Subsidized Vanpool Program**

- New program to accommodate the needs of residents or employment locations not easily accessible to other transit services, work shifts outside transit operating hours
- 100 new vanpool vehicles will be available for public
- Estimated cost: \$1 million annually



## Executive Cost Summary

<b>SMART Linehaul Service Expansion</b>		
	<b>Annual Operating Cost</b>	<b>Capital Cost</b>
<b>TOTAL</b>	<b>\$28,701,680</b>	<b>\$117,591,675</b>

<b>SMART Community Transit (ADA) Expansion</b>		
	<b>Annual Operating Cost</b>	<b>Capital Cost</b>
<b>TOTAL</b>	<b>\$2,438,184</b>	<b>\$1,509,475</b>

<b>SMART Community Partnership Program Improvements</b>		
	<b>Annual Operating Cost</b>	<b>Capital Cost</b>
<b>TOTAL</b>	<b>\$2,000,000</b>	<b>\$4,260,450</b>

<b>SMART Subsidized Vanpool Program</b>		
	<b>Annual Operating Cost</b>	<b>Capital Cost</b>
<b>TOTAL</b>	<b>\$1,000,000</b>	<b>\$3,656,400</b>

<b>SMART Service Expansion- All Elements</b>		
	<b>Annual Operating Cost</b>	<b>Capital Cost</b>
<b>TOTAL</b>	<b>\$34,139,864</b>	<b>\$127,018,000</b>