

2030 Regional Transportation Plan for Southeast Michigan

November 2004



SEMCOG... Local Governments Advancing Southeast Michigan

Mission

SEMCOG's mission is solving regional planning problems — improving the efficiency and effectiveness of the region's local governments as well as the quality of life in Southeast Michigan. Essential functions are:

- providing a forum for addressing issues which extend beyond individual governmental boundaries by fostering collaborative regional planning, and
- facilitating intergovernmental relations among local governments and state and federal agencies.

As a regional planning partnership in Southeast Michigan, SEMCOG is accountable to local governments who join as members. Membership is open to all counties, cities, villages, townships, intermediate school districts, and community colleges in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties.

Responsibilities

SEMCOG's principle activities support local planning through use of SEMCOG's technical, data, and intergovernmental resources. In collaboration with local governments, SEMCOG has responsibility for adopting regionwide plans and policies for community and economic development, water and air quality, land use, and transportation, including approval of state and federal transportation projects. Funding for SEMCOG is provided by federal and state grants, contracts, and membership fees.

Policy decision making

All SEMCOG policy decisions are made by local elected officials, ensuring that regional policies reflect the interests of member communities. Participants serve on one or both of the policymaking bodies — the General Assembly and the Executive Committee.

Prior to policy adoption, technical advisory councils provide the structure for gaining input on transportation, environment, community and economic development, data analysis, and education. This deliberative process includes broad-based representation from local governments, the business community, environmental organizations, and other special interest citizen groups.

2030 Regional Transportation Plan for Southeast Michigan

November 2004

© SEMCOG 2004

Abstract

The 2030 Regional Transportation Plan for Southeast Michigan (RTP) is the “blueprint” for transportation in the seven-county Southeast Michigan region. It serves as a guide for developing a transportation system (including roads, bridges, transit, airports, border crossings, sidewalks, and bicycle paths) that is accessible, safe, and reliable and contributes to a higher quality of life. It is also a requirement allowing federal transportation dollars to flow to the region. The 2030 RTP is a technically sound plan sensitive to the changing transportation needs of the seven-county region. It assesses current conditions and needs, estimates the system’s future funding expectations, and identifies and analyzes solutions for those needs. The 2030 RTP includes companion documents available from SEMCOG’s Information Services or online at www.semcog.org/TranPlan/RTP.

Preparation of this document may be financed in part through grants from and in cooperation with the Michigan Department of Transportation with the assistance of the U.S. Department of Transportation’s Federal Highway Administration and Federal Transit Administration; the Michigan Department of Natural Resources with the assistance of the U.S. Environmental Protection Agency; the Michigan State Police Office of Highway Safety Planning; and local membership contributions.

Permission is granted to cite portions of this publication, with proper attribution. The first source attribution must be “SEMCOG, the Southeast Michigan Council of Governments.” Subsequently, “SEMCOG” is sufficient. Reprinting in any form must include the publication’s full title page.

SEMCOG

Southeast Michigan Council of Governments
Information Services
535 Griswold Street, Suite 300
Detroit, MI 48226-3602
313-961-4266 • fax 313-961-4869
www.semcog.org • infoservices@semcog.org

\$40.00

Acknowledgements

This report was written by SEMCOG staff in collaboration with representatives from various transportation agencies, including the Federal Highway Administration (FHWA), U.S. Environmental Protection Agency (USEPA), Michigan Department of Transportation (MDOT), Michigan Department of Environmental Quality (MDEQ), Detroit Department of Public Works, Livingston County Road Commission, Road Commission of Macomb County, Monroe County Road Commission, Road Commission for Oakland County, Wayne County Department of Public Services, St. Clair County Transportation Study (SCCOTS), Washtenaw Area Transportation Study (WATS), Ann Arbor Transportation Authority (AATA), Blue Water Area Transit (BWAT), Detroit Department of Transportation (DDOT), Lake Erie Transit (LET), Livingston Essential Transportation Services (LETS), and Suburban Mobility Authority for Regional Transportation (SMART).

Table of Contents

List of Data Displays	v
List of Tables	v
List of Figures.....	vi
Executive Summary	vii
2030 RTP Guiding Principles	1
Goals and Objectives	1
Federal Planning Factors	2
Transportation Financing.....	2
Air Quality Conformity	2
Environmental Justice.....	3
Public Priorities	3
Regional Approach	3
Assessment of Demographic, Economic, and Land Development Influences	5
Population and Households	5
Employment.....	9
2030 Regional Needs	11
Qualitative Analysis of Transportation Needs.....	11
Quantitative Analysis of Transportation Needs	13
Summary of Transportation Needs	26
2030 Regional Investment	29
Goals and Objectives	29
Transportation Scenarios	32
Regional Priorities	33
2030 Preferred Alternative.....	36
2030 Policies and Initiatives	45
Conclusion	51
Appendix A: 2030 RTP Evaluation	53
Goals and Objectives.....	53
Federal Planning Factors	54
Transportation Financing	57
Air Quality Conformity	59
Environmental Justice	61
Public Priorities	64
Public Comment on the Draft 2030 RTP	67

Appendix B: St. Clair County 2030 Long Range Transportation Plan	79
Background	79
Methodology	79
Appendix C: 2030 Long Range Transportation Plan for Washtenaw County	81
Background	81
Policies	81
Current Plan	81
Acronyms	83
Glossary	85

List of Data Displays

Tables

Table 1	2030 Regional Transportation Plan Goals and Objectives	1
Table 2	Population Change by County, Southeast Michigan, 2000-2030	6
Table 3	Employment Change by County, Southeast Michigan, 2000-2030	9
Table 4	Projected Bottlenecks and Congested Corridors by County, 2030, Southeast Michigan	14
Table 5	Implementation Costs for Mitigation Strategies, Southeast Michigan	16
Table 6	Structurally Deficient/Functionally Obsolete Bridges by County, 2002 and 2030	17
Table 7	Long-Term Costs of Maintaining Roads, Southeast Michigan, 2005-2030	18
Table 8	Estimated Cost of Transit Plan, Southeast Michigan, 2005-2030	22
Table 9	Border Crossing Capacity, Southeast Michigan	24
Table 10	Estimated Costs of Transportation Needs by Transportation Components, FY 2005-2030	27
Table 11	Costs to Eliminate Revenue Shortfall, Southeast Michigan, 2005-2030	28
Table 12	2030 RTP Goals and Objectives	31
Table 13	2030 RTP Measures of Performance in Relation to Goals	31
Table 14	Regional Prioritization Factors	34
Table 15	Regional Priority Levels	34
Table 16	2030 RTP Capital Projects Programmed by Type	37
Table 17	2030 RTP Investment within 2000 Federal-aid Urban Boundary	39
Table 18	Transportation Scenario Evaluation	40
Table 19	Emissions from Ozone Precursors and Carbon Monoxide, Southeast Michigan	42
Table 20	2030 RTP Environmental Justice Project Analysis, Southeast Michigan	43
Table 21	2030 RTP Initiatives in Relation to Goals	49
Table 22	Summary of Available Revenue for the 2030 RTP, FY 2005-2030	58
Table 23	Summary of Expenditures for the 2030 RTP, FY 2005-2030	59
Table 24	Emissions from Ozone Precursors and Carbon Monoxide, Southeast Michigan	61

Table 25	Environmental Justice Project Analysis	62
Table 26	Public Prioritization of Needs Compared to 2030 RTP Spending	67
Table 27	Draft 2030 RTP Comments and Responses	68
Table 28	Funded Improvements by Type of Improvement, Washtenaw County	82

Figures

Figure 1	Population Change by Community, 2000-2030, Southeast Michigan.....	7
Figure 2	Employment Change by Community, 2000-2030, Southeast Michigan	8
Figure 3	2030 Congested Corridors, Southeast Michigan	15
Figure 4	Proposed Transit Plan, Southeast Michigan	21
Figure 5	Freight System, Southeast Michigan	23
Figure 6	Regional Needs, Forecast, and Shortfall.....	27
Figure 7	Transportation Scenarios	32
Figure 8	Corridor Priorities, Southeast Michigan	35
Figure 9	2030 RTP Investment	37
Figure 10	2030 RTP Projects, FY 2005-2030, Southeast Michigan.....	38
Figure 11	Environmental Justice Populations, Southeast Michigan	63

Executive Summary

The 2030 Regional Transportation Plan for Southeast Michigan (RTP) is the “blueprint” for transportation in the seven-county Southeast Michigan region. It serves as a guide for developing a transportation system that is accessible, safe, and reliable and contributes to a higher quality of life for the region’s citizens. It also fulfills requirements allowing federal transportation dollars to flow to the region, enabling over \$1.5 billion to be spent annually on transportation operations and improvements.

The regional transportation system in Southeast Michigan is very complex and impacts those who live, work, visit, and pass through our region — both positively and negatively. The system consists of:

- four million registered vehicles;
- 22,800 miles of public road;
- 3,560 bridges;
- seven public transit agencies and other transportation providers, such as taxi cab companies and social service agencies;
- 718 miles of pedestrian and bicycle pathways;
- 4,884 miles of state and county truck routes;
- 915 miles of active rail;
- 30 airports;
- seven international border crossings;
- six marine ports; and
- eight rail/truck terminals.

An effective transportation system contributes to a strong economy, a healthy environment, and a high quality of living. But, such a complex system is also difficult to maintain. While we can’t predict exactly what the future of transportation will be in our region, we do know the transportation infrastructure will continue aging. We know that growth — a 12 percent increase in population, 21 percent increase in households, and 16 percent increase in jobs by 2030 — will continue stressing the system. And we know we need to continue improving our regional transit system.

SEMCOG is responsible for building consensus about how best to maintain and enhance the transportation system for the future. This requires a two-pronged approach. Qualitatively, SEMCOG partners with local elected officials and state and local transportation agencies to seek input from regional stakeholders, including the public, business and industry representatives, and special interest groups, to develop a comprehensive understanding of transportation concerns. Quantitatively, SEMCOG develops and maintains the data and technical tools required to identify needs, analyze alternatives, and evaluate the impact of proposed transportation improvements on the region. Combined, the results provide the foundation upon which the 2030 RTP is built.

SEMCOG estimates it will take more than \$70 billion to address all transportation needs between now and 2030 — repaving every road, fixing every bridge, alleviating congestion, correcting safety problems, developing a more comprehensive nonmotorized system, implementing the regional transit plan, and operating the current road and transit systems. At the same time, the region is estimated to receive only \$40 billion for road and transit projects from federal, state, and local resources — leaving a \$30 billion shortfall.

Clearly, we cannot afford to fix everything, but must make difficult choices in an effort to spend our limited tax dollars wisely. That is accomplished by choosing the investments that will have the greatest benefit for the greatest number of people. This is a complicated process that begins with adopting goals and objectives, considering various funding scenarios, and setting priorities, and ends with selecting and evaluating a preferred alternative for implementation through 2030.

The funding scenarios considered range from doing nothing to fixing everything. Clearly, we must do something. Ideally, we would implement the scenario that keeps all roads and bridges in good condition, that eliminates all congestion, and that builds a rapid transit system everyone would love to ride. Unfortunately, this scenario far outweighs available resources. Somewhere in the middle is a balanced approach to addressing road and transit needs, regional and local priorities. Over the course of many months, SEMCOG partnered with local elected officials and state and local road and transit agencies to reach out to their own constituents, giving residents, business owners, community officials, and special interest groups the opportunity to voice their opinions about how their tax dollars should be spent.

In the end, \$41 billion in transportation projects were proposed for inclusion in the 2030 RTP. These projects — referred to as the 2030 Preferred Alternative — were reviewed against revenue constraints; compared to identified needs, regional priorities, and congestion mitigation recommendations; evaluated to determine their cumulative impact on regional travel, air quality, and accessibility; considered with respect to their effect on all segments of the population; and scrutinized against regional goals and objectives, federal planning factors, and priorities as expressed by the public.

The 2030 Preferred Alternative allows for a mix of capital and operating investments. It focuses heavily on operating and maintaining the existing road and transit systems, while providing for safety and nonmotorized improvements, and, where necessary, for some capacity expansion. In fact, considering both operating and capital dollars, 90 percent of funding is dedicated to road and transit preservation.

- \$22.7 billion will be spent operating the existing road and transit systems, representing 55 percent of total expenditures.
- \$18.2 billion, or 45 percent, will be spent on capital projects, including:
 - \$7.1 billion for pavement resurfacing, rehabilitation, and reconstruction;
 - \$4.0 billion for capacity congestion mitigation strategies (i.e., road widening projects);
 - \$2.6 billion for bridge repairs and replacements;
 - \$1.9 billion for transit;
 - \$1.5 billion for road and transit studies (such as the Ann Arbor to Detroit Alternatives Analysis/Environmental Impact Statement Study and Detroit Intermodal Freight Terminal project) that will eventually result in recommendations for implementation, and other miscellaneous road expenditures (such as maintenance facilities);
 - \$772 million for non-capacity congestion mitigation strategies, such as traffic signal retiming, Freeway Courtesy Patrol, and access management projects;
 - \$223 million for safety improvements, such as intersection turn lanes and pedestrian signals; and
 - \$189 million for nonmotorized improvements, such as bicycle/pedestrian paths and streetscaping projects.

Given the range of needs in the region and available funding, the 2030 Preferred Alternative is the best solution. It represents a significant investment and will result in significant benefits for drivers, pedestrians, transit riders, freight shippers, and local business owners. Delay will be reduced. Current road conditions will be maintained. Safety will be improved. And transportation users will experience

better, safer, and more efficient travel options. But, the 2030 RTP represents much more than a simple list of projects to be funded and implemented. It also consists of distinct transportation policies and implementable transportation initiatives designed to guide further progress toward achieving stated goals and objectives and to provide support for activities that enhance our regional transportation planning process.

For example, we call for developing a regional traffic operations committee to oversee all the activities designed to increase the efficiency of the road network. We will continue supporting the regional transit authority and will develop a more comprehensive analysis of demand-response transit service. The regional freight task force will continue seeking additional federal funding to improve various freight modes in place in the region. We will develop recommendations for addressing new air quality standards. These are but a few examples. All combined, the policies, initiatives, and projects outlined in the 2030 RTP comprise an aggressive long-range vision for the region.

No single agency can be responsible for implementing this vision. It requires coordination among many agencies, governmental units, special interest groups, and the general public. SEMCOG is responsible for bringing the appropriate parties together to ensure the blueprint for transportation in Southeast Michigan becomes reality. Project implementation is coordinated via the Transportation Improvement Program process. The policies and initiatives will be carried out collaboratively — by standing committees, road and transit agencies, and various regional task forces convened by SEMCOG and others. SEMCOG's committee structure will be used to keep local elected officials aware of the progress made over the next several years, and the public involvement process will be used to maintain an open dialogue with all interested parties. We are all part of the same region, and we all share the responsibility for continually crafting and implementing this shared vision for the future.

2030 RTP Guiding Principles

Developing the 2030 Regional Transportation Plan for Southeast Michigan (RTP) involves a complex process designed to meet federal requirements and — even more importantly — sound planning principles. The following sections identify the guiding principles SEMCOG used and summarize how they helped shape the 2030 RTP.

Goals and Objectives

Succinct goals and objectives form a solid foundation upon which the 2030 RTP is envisioned and implemented. Recognizing that regional issues require regional input, SEMCOG worked with state and local officials, special interest groups, and the public to establish goals and objectives for the 2030 RTP as outlined in Table 1. (For details on how the 2030 RTP addresses goals and objectives, see Appendix A, page 53.)

Table 1
2030 Regional Transportation Plan Goals and Objectives

Goal 1 — Enhance accessibility and mobility for all people. <ul style="list-style-type: none">• Reduce time spent traveling.• Increase access to public transportation, consistent with the regional transit plan.• Increase coordinated development and use of nonmotorized facilities.• Increase connectivity of transportation service across the region, and provide multimodal access to major land uses.
Goal 2 — Enhance accessibility and mobility for freight while maintaining community integrity. <ul style="list-style-type: none">• Improve freight movement.• Improve intermodal operations and facilities.
Goal 3 — Strategically improve the transportation infrastructure to enhance community and economic vitality. <ul style="list-style-type: none">• Preserve the existing transportation system, prioritizing highway maintenance before highway expansion.• Focus transportation investment in areas with high concentrations of people and jobs.• Improve the efficiency and effectiveness of the transportation system.• Increase public involvement and ensure equal access to participation in transportation decision making.• Preserve transportation rights of way.
Goal 4 — Promote a safe and secure transportation system. <ul style="list-style-type: none">• Reduce traffic crashes, particularly between modes.• Increase transit safety and security for riders and employees.• Improve identification and clearance of roadway incidents.• Develop pedestrian-friendly communities and roadways.• Encourage local communities to define safety needs and strategies.
Goal 5 — Protect the environment, both natural and built. <ul style="list-style-type: none">• Minimize air and water pollution.• Reduce per capita energy consumption.• Minimize disruption of or damage to environmental resources (both natural and built).• Ensure balance among all populations in the impacts of the transportation system.• Link transportation decisions with land use decisions.

Source: SEMCOG.

Federal Planning Factors

The Transportation Equity Act for the 21st Century (TEA-21) requires the planning process take into account seven planning factors reflecting sound planning principles. These factors are associated with other important concepts, including social, economic, environmental, and land use impacts. During development of the 2030 RTP, SEMCOG referenced these factors and used them to guide the planning process. (For details on how the 2030 RTP addresses federal planning factors, see Appendix A, page 54.)

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety and security of the transportation system for motorized and nonmotorized users.
- Increase the accessibility and mobility options available to people and for freight.
- Protect and enhance the environment, promote energy conservation, and improve quality of life.
- Enhance the integration and connectivity of the transportation system across and between modes for people and freight.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.

Transportation Financing

Federal law requires the 2030 RTP be financially constrained. The sum of the costs of the planned projects cannot exceed reasonably available financial resources. Simply put, the region cannot plan for or commit to projects it cannot reasonably afford and doing so would be fruitless. Choosing between competing needs is never easy; however, making choices within the constraint of likely available funds forces the region to make the best use of scarce resources. To meet this fiscal mandate, SEMCOG estimates future revenues for both road and transit investments, and uses those estimates to constrain the list of projects included in the 2030 RTP. (For details on how the 2030 RTP meets fiscal constraint requirements, see Appendix A, page 57.)

Air Quality Conformity

SEMCOG is committed to maintaining and improving air quality in the region. A healthy environment improves the attractiveness of the region and enhances quality of life for the region's citizens. SEMCOG takes this responsibility very seriously and actively coordinates with the U.S. Environmental Protection Agency (USEPA), Michigan Department of Environmental Quality (MDEQ), and other agencies to monitor air quality standards and regulations and to apply the most current practices regionally. With respect to transportation planning, SEMCOG supports those projects and programs that enhance air quality by:

- reducing the amount of time vehicles idle in traffic;
- encouraging van/carpooling, transit, and nonmotorized transportation options;
- educating the public about environmental resources and conservation; and
- strategically expanding the road system to alleviate the most persistent congestion problems.

The 2030 RTP must undergo a quantitative analysis demonstrating emissions levels associated with implementing planned projects are below designated emissions level limits (budgets) set forth in the State Implementation Plan (SIP). As the lead local air quality planning agency in the region, SEMCOG is

responsible for managing and facilitating the transportation air quality conformity process in Southeast Michigan. Conformity is a federal regulation contained in the Clean Air Act Amendments of 1990 requiring transportation plans, programs, and projects in designated areas conform to the SIP.

(For details on how the 2030 RTP meets air quality conformity requirements, see Appendix A, page 59.)

Environmental Justice

SEMCOG routinely seeks to understand the needs of the public and consider the impact of proposed transportation projects on the region's citizens. Extra effort is made to ensure transportation projects do not have disproportionately negative impacts on any one segment of society and that all segments of the population fully participate in the transportation planning process.

Title VI of the 1964 Civil Rights Act, Presidential Executive Order 12898, and U.S. Department of Transportation and Federal Highway Administration orders combine to establish the principle and intent of environmental justice (EJ) regulations and specifically identify the populations to be considered in any EJ analysis. SEMCOG's approach to the EJ regulations is two-fold — analyzing the impact of planned transportation projects on EJ populations and proactively including EJ populations in all aspects of the transportation planning process. (For details on how the 2030 RTP addresses EJ regulations, see Appendix A, page 61.)

Public Priorities

SEMCOG values the input of regional residents, business owners, and special interest groups and actively seeks their opinions during all aspects of 2030 RTP development. SEMCOG conducts a comprehensive public involvement program, the results of which provide a fundamental understanding of transportation issues to balance and supplement the results of SEMCOG's technical work. In turn, this understanding serves as a building block of the 2030 RTP. (For details on how the 2030 RTP addresses public priorities, see Appendix A, page 64.)

Regional Approach

The Southeast Michigan region consists of seven counties, 233 local units of government, seven public transit agencies, and a myriad of private and nonprofit transportation providers. The region is home to 4.9 million people and a comprehensive network of business and industry employing 2.2 million workers. Beyond our immediate borders, the region collaborates with MDEQ, the Michigan Department of Transportation, U.S. Department of Transportation, USEPA, and Canadian officials to develop and maintain a transportation system that meets the needs of those who live, work, visit, and pass through our region.

Developing the 2030 RTP requires a comprehensive regional approach. It requires SEMCOG to work with local elected officials and state and local road and transit agencies to seek input from key stakeholders, including agency officials, business owners, special interest groups, and the general public, in the early stages of RTP development. It requires open communication so all interested parties are aware of critical milestones and opportunities to comment on interim products. It requires an open process whereby key decisions are made by local elected officials through SEMCOG's committee structure, again with input from interested parties. It requires working with state and federal agencies to meet legislative requirements. And, finally, it requires ongoing education regarding the importance of the 2030 RTP to the regional transportation system.

SEMCOG is the metropolitan planning organization for Southeast Michigan, designated by the governor as the agency responsible for coordinating regional transportation planning activities, culminating in development of the 2030 RTP. Southeast Michigan is also home to two transportation studies — the St. Clair County Transportation Study (SCCOTS) and Washtenaw Area Transportation Study (WATS). SCCOTS and WATS are organizations charged by state law to conduct comprehensive transportation planning at the county level. SCCOTS and WATS are responsible for developing countywide long-range transportation plans for St. Clair County and Washtenaw County, respectively. Their plans are adopted by their own committees and submitted to SEMCOG for inclusion in the 2030 RTP. The *St. Clair County 2030 Long Range Transportation Plan* and the *2030 Long Range Transportation Plan for Washtenaw County* are companion documents to the 2030 RTP. (Appendix B contains a summary of the St. Clair County plan. Appendix C is a summary of the Washtenaw County plan. Copies of the full plans can be obtained by contacting SEMCOG, SCCOTS, or WATS, or online at www.semcog.org/TranPlan/RTP, www.stclaircounty.org, or www.miwats.org.)

Assessment of Demographic, Economic, and Land Development Influences

Thorough knowledge of the region's demographics is an essential component of the 2030 Regional Transportation Plan for Southeast Michigan (RTP). We need to understand where people live and work now, where they will be living and working in the future, and where the goods and services people need are located relative to where they live, work, and recreate. Metropolitan planning organizations, such as SEMCOG, need a tool to examine their regions as they exist today and spot trends that may be important in the future. The transportation system can then be tailored to meet existing needs and minimize any mismatch between the transportation system and future land uses. This tool is known as the long-range regional development forecast (RDF). It should be emphasized that the RDF is but one tool for assessing future transportation needs. Many other factors also drive our transportation decisions.

The RDF starts with a national model that forecasts Southeast Michigan's share of the national economy. This is supplemented with a set of data collected from various sources, such as the most recent data from the 2000 U.S. Census, data on jobs from the state employment agency, updates of land availability and planned uses, and local officials' expectations about near-term development and future sewer needs. Statistical methods are applied to these data to derive reasonable trends for the region in the future, based upon what we presently know about it. This information is then split into districts and then traffic analysis zones (TAZ), which are the basic geographic building blocks of transportation modeling and forecasting. Currently, the Southeast Michigan region is divided into 247 districts and 1,442 TAZs for analysis.

In October 2001, SEMCOG completed an update of its long-range forecast of population, households, and employment for the Southeast Michigan region for the next 30 years. The 2030 RDF provides data at five-year intervals from 2000 to 2030, which are critical to a number of regional planning functions, including transportation. A summary of the results of the forecast and its implications for transportation are discussed below.

Population and Households

Southeast Michigan's population is forecast to grow to 5.4 million by 2030, a 12 percent increase over 2000 (Table 2). The region's growth rate has been similar to the overall rate for the State of Michigan and about one-half the national growth rate. Several factors will keep the region's growth rate modest — moderate natural increase (due to more births than deaths), lower rates of international immigration, and continued net domestic out-migration to the balance of the United States.

From 2000 to 2030, households will increase at nearly twice the rate of population, growing 21 percent over 30 years, to reach 2.2 million. Households are growing at a faster rate than population because, over time, there are fewer people in each household. This is due to increases in ages of marriage and childbearing, longer life spans, healthier older people who are able to live alone, and higher incomes so that more single people can afford to live alone.

As the region's population grows, it will continue to disperse in several ways. First, most population growth will be on the edges of the urbanized areas of the region, where land for new housing is more available, although a substantial portion will occur farther out in more rural areas. Next, the higher rate of household growth will require housing units to be constructed at twice the rate of population growth. Finally, housing development on larger lots will accelerate land consumption, with each new housing unit

now occupying almost one acre of land on average. (Figure 1 shows population changes by community for 2000 to 2030.)

Table 2
Population Change by County, Southeast Michigan, 2000-2030

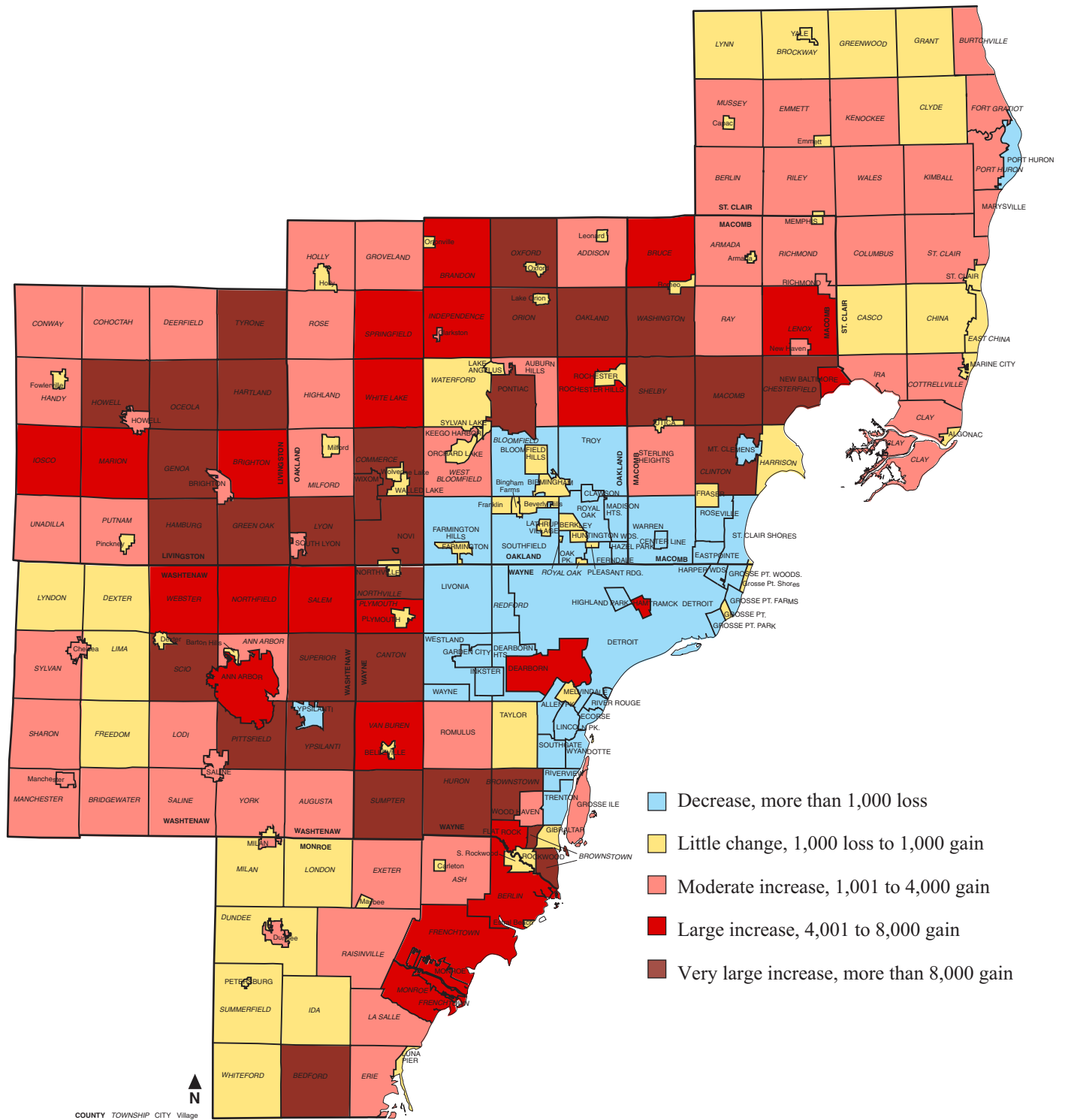
Area	Year		Change	
	2000	2030	Number	Percent
Livingston County	156,951	282,552	125,601	80.0
Macomb County	788,149	930,420	142,271	18.1
Monroe County	145,945	196,554	50,609	34.7
Oakland County	1,194,156	1,333,573	139,417	11.7
St. Clair County	164,235	203,255	39,020	23.8
Washtenaw County	322,895	448,020	125,125	38.8
Wayne County (excluding City of Detroit)	1,109,892	1,148,352	38,460	3.5
City of Detroit	951,270	865,623	-85,647	-9.0
Region	4,833,493	5,408,349	574,856	11.9

Source: SEMCOG 2030 Regional Development Forecast (RDF) Community Detail Report.

Several other important factors are changing the region's demographic makeup. During the forecast time period, the age mix of the population will change dramatically. Because of the aging of the large baby boom population (persons born between 1946 and 1965) and longer life spans, the region will be substantially older in 2030. There will be 800,000 more people over age 55 in 2030 than there were in 2000. Elderly households will jump from 22 to 37 percent of all households by 2030.

The region's development patterns and changing demographic characteristics will have a profound effect on the way transportation resources are allocated in the region over the life of the 2030 RTP. The slow population growth in the region as a whole means that, in most places, an emphasis on preserving existing infrastructure will be more important than building new roads. However, in certain areas around the edges of our region, rapid growth will require strategies to increase capacity on those corridors connecting high-growth areas to high-employment areas. Such strategies will include Intelligent Transportation Systems (ITS) technologies to manage traffic flow, van/carpooling, and transit, in addition to traditional strategies for adding travel lanes. The continued distribution of population will be a challenge to the transportation system as the old hub-and-spoke system of Southeast Michigan's road network becomes increasingly mismatched to commuting patterns (already seen in the change of commuting traffic flow from the traditional suburb-to-central-city pattern to an increasingly pronounced suburb-to-suburb pattern). The aging of the population in the region will also require creative strategies to assist those elderly persons experiencing a decreasing ability to operate motor vehicles, such as on-demand transit, more regularly scheduled transit options, and improvements to the visibility of traffic signals and highway signage.

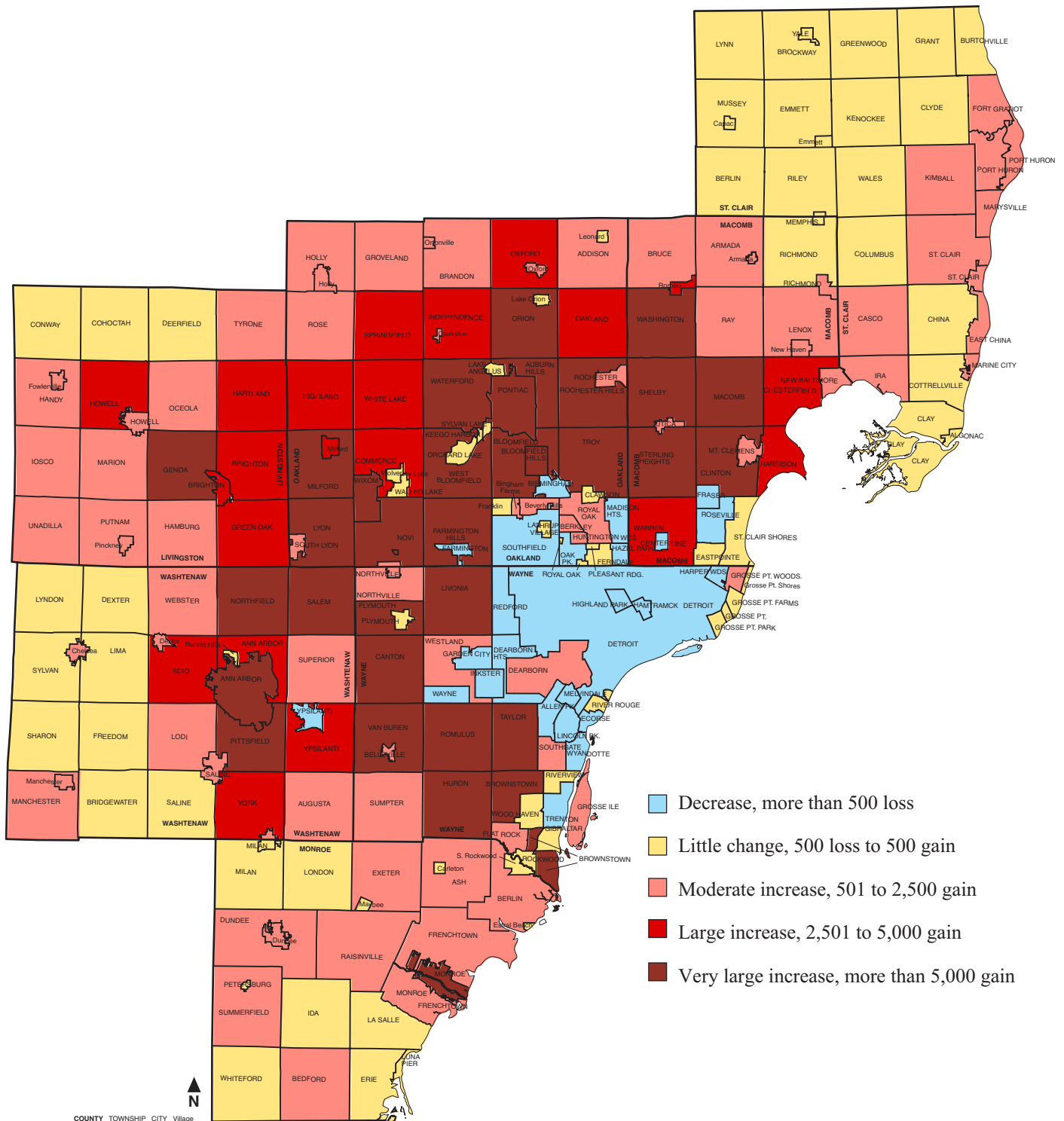
Figure 1
Population Change by Community, 2000-2030
Southeast Michigan



Source: SEMCOG

Figure 2

Employment Change by Community, 2000-2030 **Southeast Michigan**



Source: SEMCOG.

Employment

The next 30 years are predicted to show a 16 percent increase in employment to 3.1 million jobs. From now to 2030, job growth will be constrained by the lack of growth in the working age population. The actual number of people aged 20 to 64 will drop by 38,000 over this time period. Our economy will still add jobs, but more workers of traditional retirement age will stay employed, with more likely taking part-time jobs. (Table 3 illustrates employment for 2000 and 2030 for Southeast Michigan counties.)

Table 3
Employment Change by County, Southeast Michigan, 2000-2030

Area	Year		Change	
	2000	2030	Number	Percent
Livingston County	59,159	103,869	44,710	75.6
Macomb County	381,864	433,303	51,439	13.5
Monroe County	54,444	77,748	23,304	42.8
Oakland County	910,363	1,087,399	177,036	19.4
St. Clair County	64,516	81,278	16,762	26.0
Washtenaw County	232,175	289,969	57,794	24.9
Wayne County (excluding City of Detroit)	625,107	731,120	106,013	17.0
City of Detroit	345,424	304,795	-40,629	-11.8
Region	2,673,052	3,109,481	436,429	16.3

Source: SEMCOG 2030 Regional Development Forecast (RDF) Community Detail Report.

Figure 2 shows employment change from 2000 to 2030 by community. The pattern is generally similar to the population map. However, with jobs, the biggest gains will be concentrated in fewer communities and not as spread out to the west and north, as is the case with population. This reflects the stronger role of transportation access and the need for more centrally located jobs. Areas with the strongest job growth will be the Metro Airport, Brownstown Township, and Canton Township areas in Wayne County, the Ann Arbor area in Washtenaw County, southwest and central Oakland County, and west and central Macomb County. Some communities in Wayne County will continue to experience job losses. The City of Detroit's historically high rate of job loss will, however, slow greatly in future years.

Once again, the transportation system's dual roles of providing access and moving people and goods will be affected by these changes. With fewer working-age people to take available jobs in the future, those jobs will be filled by persons beyond traditional retirement age. Options for those older persons still desiring to work but not comfortable with driving a personal vehicle will have to be addressed through increased transit options. The increasing distance between jobs and workers will also require additional commuting options, especially for those working in lower-wage service sector jobs, such as retail trade.

In those areas experiencing high residential and commercial growth, the transportation system will come under increasing strain as more vehicles use roads designed for lower traffic volumes. While some widening will occur, more economical uses of scarce transportation resources might be transportation demand management strategies, such as staggered business hours, as well as ITS improvements, such as coordinated signal timing along heavily traveled corridors. More infrastructure funding could then be available for rebuilding and repairing existing roadways.

2030 Regional Needs

The regional transportation system in Southeast Michigan is very complex and has both positive and negative impacts on all regional travelers. The system consists of:

- four million registered vehicles and 3.4 million licensed drivers;
- 22,800 miles of public road (nearly 8,000 miles of which are major, higher-function roads eligible to receive federal aid);
- 3,560 bridges (3,096 of which carry vehicle traffic);
- seven public transit agencies operating fixed-route transit service and myriad other transportation providers, such as taxi cab companies and social service agencies (providing approximately 60 million rides per year all combined);
- 718 miles of pedestrian and bicycle pathways, 15,000 miles of local roads potentially used by pedestrians and bicyclists, and thousands of miles of sidewalks;
- 4,884 miles of state and county truck routes;
- 915 miles of active rail lines;
- 30 airports;
- seven international border crossings (the three major ones carrying nearly 28 million cars and trucks each year);
- six marine ports; and
- eight rail/truck terminals.

An effective transportation system contributes to a strong economy, a healthy environment, and a high quality of living. But, such a large and complex system is also difficult to maintain. All told, the region travels 48 billion miles annually (much of them on the 800 miles of major roads that are currently congested). Pavement on many roads is in poor condition and in need of resurfacing or more substantial reconstruction. Nearly 1,400 bridges are currently deficient and many more are approaching their average service life and will need attention in the coming years. There were nearly 175,000 traffic crashes in the region in 2002 and, while this represents a downward trend from previous years, it is still too many. And the region's transit providers continue struggling to adequately serve an ever-growing, diverse, and diffuse population.

One of SEMCOG's primary responsibilities is continually assessing current and future transportation trends and needs and building consensus about how best to maintain and enhance the transportation system for the future. This is a two-pronged approach, addressing both qualitative and quantitative issues. Qualitatively, SEMCOG partners with local elected officials and state and local transportation agencies to seek input from the public, special interest groups, and business and industry representatives, and incorporates that information into the decision-making process. Quantitatively, SEMCOG develops and maintains the data and technical tools required to identify needs, analyze alternatives, and evaluate the impact of transportation improvements on the region. Combined, the results provide the foundation upon which the 2030 Regional Transportation Plan for Southeast Michigan (RTP) is built.

Qualitative Analysis of Transportation Needs

The transportation system serving Southeast Michigan is as complicated and complex as the residents and businesses that use it. It is not easy to collect such diverse information and combine various ideas, desires, and perceptions into a comprehensive summary of regional needs. But this is precisely what is required

and SEMCOG has developed a public involvement program designed to do just that — learn from the public.

The first step is developing opportunities to keep the public informed of the 2030 RTP process. A variety of techniques were used, including:

- *SEMscope*, SEMCOG's quarterly magazine covering topics relevant to regional concerns;
- *Regional Update*, SEMCOG's biweekly information bulletin;
- public forums, such as those conducted during development of the regional transit plan;
- media releases sent to national, regional, and local media outlets, and public notices mailed to residents, libraries, advocacy groups, and businesses announcing specific events and milestones, as well as times when public review and comment is appropriate and needed;
- the Speakers Bureau, a component of SEMCOG's public outreach program where SEMCOG staff make presentations on specific topics; and
- media events, such as appearances on cable and network news and public affairs programs, meetings with editorial boards, and public service announcements.

SEMCOG also collaborates with the Michigan Department of Transportation (MDOT), Federal-aid Committees,¹ transportation studies,² transit providers, and civic groups to host public meetings and make joint presentations customized to maintain open dialogue about the region's transportation system.

The next step is collecting information from the public. SEMCOG commissioned a regional public opinion survey, focusing on identifying and prioritizing regional transportation concerns. Less formal methods of information collection were also used. SEMCOG staff routinely analyze e-mails, letters, and telephone messages to identify concerns and quantify the relative importance of the comments. Content analysis of newspaper articles, editorials, and letters to the editor is also used.

Finally, the pieces are brought together to form a regional perspective of public concerns as follows (in order of priority):

- maintaining pavement in good condition;
- improving road safety, including improved road maintenance;
- providing public transit for people with special needs;
- providing public transit for all people;
- adding lanes to existing roads;
- fixing closed and restricted bridges;
- using more high-tech monitoring devices for transportation;
- encouraging alternative commute practices;

¹ Each county, except St. Clair and Washtenaw Counties, has a Federal-aid Committee charged with managing transportation planning at the county level. Committee members include transit officials; county highway engineers; city engineers; and city, township, and village officials. The City of Detroit has its own Federal-aid Committee. St. Clair County and Washtenaw County each have a transportation study organization.

² A transportation study is an organization established under state law allowing counties with smaller populations to carry out comprehensive transportation planning. For purposes of the 2030 RTP, transportation studies have the same function as Federal-aid Committees. The SEMCOG region contains two transportation studies — the St. Clair County Transportation Study and Washtenaw Area Transportation Study.

- providing walking and bicycling paths; and
- dedicating lanes for high-occupancy vehicles.

Concerns of the business community were also prioritized as follows:

- roadway congestion, particularly on airport access roads;
- roadway (pavement) conditions;
- lack of designated truck-only lanes;
- border-crossing delays, particularly due to security checks;
- land-use conflicts and lack of sufficient land for expansion of intermodal facilities;
- environmental concerns; and
- marine access to upper and lower Rouge River ports.

Quantitative Analysis of Transportation Needs

SEMCOG is responsible for regional transportation planning activities in the Southeast Michigan region, including administration of the long-range RTP and short-range Transportation Improvement Program (TIP), both of which must be fiscally constrained, meet air quality conformity requirements, adhere to federal planning factors, and be open to public scrutiny and input. By law, SEMCOG must maintain an operational congestion management system (CMS) plan and a regional Intelligent Transportation Systems (ITS) Architecture. SEMCOG also maintains a regional approach to managing other aspects of the transportation infrastructure — pavement, bridges, safety, nonmotorized, and transit.

Even more importantly, however, SEMCOG uses these tools to plan for and implement a transportation system that makes sense for the region. The regional transportation planning process is a continuous one. Since adopting the 2025 RTP in June 2000, SEMCOG has been collecting data, developing new technical tools and processes, and analyzing current and future transportation needs and trends. The results of these analyses are documented in *2030 Regional Transportation Plan for Southeast Michigan: Regional Transportation Needs* — a companion piece to the 2030 RTP — and are summarized here. This companion document and supplemental maps are available from SEMCOG Information Services or online at www.semcog.org/TranPlan/RTP.

Congestion needs

Congestion affects everyone in the Southeast Michigan region. It impacts regional travel and economic growth and development, as well as air quality. Excess congestion represents increased travel time, lost productivity, and decreased safety and quality of life. Traffic congestion occurs when vehicular travel drops to an unacceptable speed. In general, there are two types of congestion — recurring and non-recurring. Recurring congestion is usually experienced during peak travel periods on a daily basis. Non-recurring congestion is experienced when vehicular travel slows at unpredictable times and places due to traffic incidents, construction, weather, special events, etc.

SEMCOG, in conjunction with local governments and planning agencies, has the primary responsibility for developing and maintaining an operational CMS plan. SEMCOG's role includes identifying where vehicular travelers are experiencing congestion and determining which mitigation strategies may be helpful in alleviating that congestion.

There are currently 800 miles of congested roads in Southeast Michigan. If no steps are taken to reduce vehicular travel demand or improve roadway operations, there will be approximately 97 miles of bottleneck congestion (less than one-half mile in length) and 1,409 miles of congested corridors (greater than one-half mile in length) by 2030 (Table 4 and Figure 3). The majority of congested corridors will

occur in Oakland County (34 percent), followed by Wayne County (23 percent), Macomb County (19 percent), Washtenaw County (15 percent), Livingston County (seven percent), and Monroe and St. Clair Counties (one percent each).

Table 4
Projected Bottlenecks and Congested Corridors by County, 2030
Southeast Michigan

County	Bottlenecks			Congested Corridors	
	Number of Locations	Roadway Miles	Percent of Roadway Miles	Roadway Miles	Percent of Roadway Miles
Livingston	15	4	4	94	7
Macomb	63	14	14	267	19
Monroe	17	4	4	8	1
Oakland	176	42	43	485	34
St. Clair	5	1	1	10	1
Washtenaw	34	6	6	214	15
Wayne	118	26	26	331	23
Total	428	97	100	1,409	100

Source: SEMCOG.

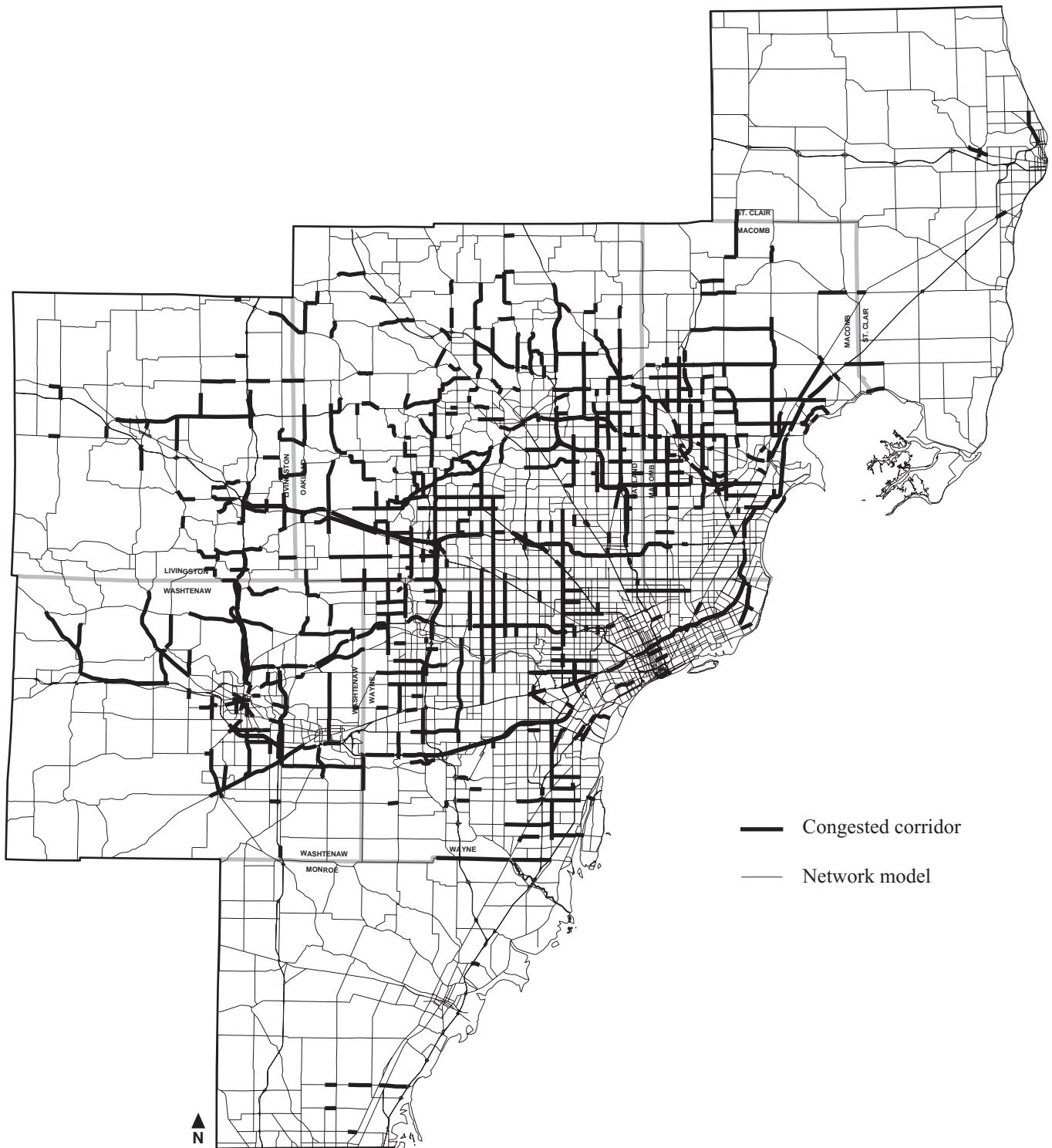
Note: Totals may not match sum of individual numbers due to rounding.

Once current and future congestion is identified, possible mitigation strategies designed to alleviate the congestion can be considered. The following mitigation strategies are currently used in Southeast Michigan:

- transportation systems management, such as ITS technologies, Freeway Courtesy Patrol, and traffic signal retiming;
- transportation demand management, such as van/carpooling, flextime, and telecommuting;
- access management, such as restricting curb cuts and direct access driveways;
- transit to provide an additional travel option during peak commute periods; and
- road widening to increase capacity when other strategies are not applicable or do not reduce congestion to an acceptable level.

SEMCOG has made recommendations for where these various strategies should be applied and has estimated a total implementation cost of \$4 billion between now and 2030 (Table 5).

Figure 3
2030 Congested Corridors
Southeast Michigan



Source: SEMCOG.

Table 5
Implementation Costs for Mitigation Strategies, Southeast Michigan

Improvement	Cost
Study project implementation*	\$1.7 billion
Traffic signal retiming	\$158 million
Freeway Courtesy Patrol	\$39 million
Bottleneck elimination program	\$54 million
Intelligent Transportation Systems	\$232 million
Transportation demand management	\$12 million
Access management	\$13 million
Widening	\$1.8 billion
Total	\$4.0 billion

Source: SEMCOG.

* Several congested corridors are currently under study or are within one-quarter mile of a roadway under study. It is assumed these studies will result in appropriate recommendations for congestion mitigation.

Note: Transit costs are accounted for elsewhere in the total transportation needs analysis.

Bridge needs

When bridges are in poor condition, their use may be restricted so emergency vehicles, garbage trucks, school buses, and other heavy vehicles cannot cross. Some bridges may even need to be closed. As a result, the smooth flow of people and goods is interrupted.

As of April 2002, 1,387 of the region's 3,096 bridges carrying motor vehicles were structurally deficient or functionally obsolete (SDFO) according to federal standards. (If the bridge's structure is in poor shape and unable to carry the weight it was designed for, it is structurally deficient. If a bridge is in good physical condition but does not support the current or future demands placed on it by the transportation system, it is functionally obsolete.) Currently, there are 42 bridges in the region that are closed to all traffic and approximately 320 that are weight restricted. If nothing is done to fix the bridges that are in need of repair or replacement, many more may need to be closed or restricted. Most of the closed bridges are in rural areas, but if deterioration is allowed to continue, bridges in more urban areas that carry higher volumes of traffic could be added to the list. This would have a noticeable impact on Southeast Michigan's transportation system. It would affect not only individuals as they go about their daily travel, but also businesses that rely on the highway system to transport goods.

In addition to the bridges currently in need of repair or replacement, another 1,493 bridges will be 50 years old before 2030. Since 50 years is typically considered to be a bridge's average service life, most of these 1,493 bridges will also need attention. In total, 2,880 bridges will need to be fixed between now and 2030 (Table 6). The cost of any individual bridge project can range from several hundred thousand dollars to several million dollars. Using \$2.5 million as an estimate for a typical bridge project (including engineering, design, and construction), the total cost for bridge needs through 2030 is \$7.2 billion.

Table 6
Structurally Deficient/Functionally Obsolete Bridges by County
2002 and 2030

County	Structurally Deficient	Functionally Obsolete	SDFO Total	Bridges Reaching Age 50 by 2030	All Highway Bridges
Livingston	29	25	54	129	166
Macomb	120	27	147	307	429
Monroe	77	47	124	260	338
Oakland	107	91	198	313	479
St. Clair	57	66	123	226	359
Washtenaw	57	65	122	215	275
Wayne	293	326	619	1,124	1,050
Regional Total	740	647	1,387	2,574	3,096

Source: MDOT Michigan Structure Inventory & Appraisal Database, 2002.

Note: Of the 2,574 bridges reaching age 50 by 2030, 1,081 are already SDFO.

Safety needs

In 2002, there were a total of 174,770 traffic crashes in Southeast Michigan, down 3.3 percent from 180,739 in 2001. This is the second consecutive year of decline in traffic crashes in the region, even as miles driven increases. However, it is important to remember that these crashes resulted in nearly 55,000 injuries and 445 deaths. Safety belt use has been steadily increasing, although some areas in Southeast Michigan remain below the state average for belt use. Crashes involving alcohol have also continued a steady decline. Continuing to increase safety belt use and decrease drunk driving could have a significant impact on injuries and fatalities. (Over 30 percent of fatal crashes in Southeast Michigan in 2002 involved alcohol.) SEMCOG is an active partner with many organizations that educate the public about these issues and continues to make overall traffic safety a high priority.

In order to quantify regional traffic safety needs, the *SEMCOG Traffic Safety Manual, Second Edition* was used to compare crash characteristics at intersections to others that are similar in traffic volume, number of lanes, and other attributes. Through this process, intersections having a higher number, higher rate, or higher severity of crashes than similar intersections are identified. These intersections can then be analyzed to determine appropriate countermeasures that may reduce traffic crashes in the future.

SEMCOG identified 1,777 intersections as having a high number of crashes, a high crash rate, or more severe crashes than other similar intersections. Recent safety and signal projects in the TIP have an average cost of \$875,000 (including engineering, design, and construction). Using this average cost as an estimate to improve each of the 1,777 intersections, the cost for addressing them all would be nearly \$1.6 billion through 2030.

Pavement needs

The regional road system is a significant infrastructure investment. There are 22,820 miles of public road in the SEMCOG region. Aging infrastructure, increasing traffic, and competing budget priorities affect the overall quality of roads in the region. MDOT, counties, and cities continue to do more with already constrained transportation funding. Traditionally, agencies have used a 'worst-first' approach to

maintaining roads, whereby road agencies select road projects based on those in the worst condition. Unfortunately, fixing roads that are in poor condition is extremely expensive. With the advent of pavement management systems, it is now easier to collect and maintain comprehensive pavement data and select and apply preventive treatments. These treatments are typically less expensive and less intrusive, but will extend the life of a road segment significantly if applied correctly. SEMCOG continues working with state and local officials via the Transportation Asset Management Council to develop a suitable pavement management system for the region and, in the future, will be better able to estimate total pavement needs and make more specific recommendations for improvements.

It is currently estimated that long-term costs associated with maintaining roads in good condition through 2030 is \$27.8 billion (Table 7). The cost estimates were determined by factoring the number of lane-miles of road in the region and the typical cost associated with reconstructing, rehabilitating, and resurfacing each functional classification of road. The costs were broken out by functional classification because construction and maintenance costs of freeways and arterials are significantly higher than for collector roads. (The cost estimates include engineering, design, and construction costs.)

Table 7
Long-Term Cost of Maintaining Roads, Southeast Michigan, 2005-2030

Functional Classification	State		Counties		Cities		Total	
	Lane-miles	Cost (1,000s)	Lane-miles	Cost (1,000s)	Lane-miles	Cost (1,000s)	Lane-miles	Cost (1,000s)
Freeway	3,535.8	\$7,734,486	0.1	\$158	7.3	\$16,070	3,543.2	\$7,750,714
Arterial	2,793.0	\$5,236,876	4,949.1	\$9,279,614	2,645.2	\$4,959,780	10,387.3	\$19,476,270
Collector	168.5	\$21,063	3,782.3	\$472,788	1,021.0	\$127,629	4,971.8	\$621,479
Total	6,497.3	\$12,992,425	8,731.5	\$9,752,560	3,673.5	\$5,103,479	18,902.3	\$27,848,463

Source: SEMCOG.

Note: Only roads eligible for federal aid are included. Southeast Michigan has approximately 7,800 federal-aid-eligible roads.

Nonmotorized needs

The SEMCOG region has made many improvements to its nonmotorized transportation system in the last several years. At the regional level, these improvements include working with bicycle advocacy groups and transportation operators to develop a comprehensive nonmotorized database, a set of bicycle travel information maps, and improved planning analyses for both on- and off-road facilities. At the county and local levels, governments and advocates have worked together to identify policy changes, nonmotorized trail plans, and projects. As a result, the region now has 718 miles of nonmotorized paths with many more miles planned.

Still, problems remain, including a lack of continuity and accessibility, areas where there appear to be safety deficiencies, and lapses in comprehensive planning and databases. A summary of nonmotorized issues to be addressed is outlined below.

- Eliminate frequent gaps in the nonmotorized transportation system (e.g., sidewalks or bicycle routes that end abruptly).
- Improve safety through more careful design of facilities adjacent to roadways (paying special attention to intersections and driveways) and improved pavement conditions.

- Enhance maintenance of the nonmotorized system (e.g., debris removal and surface maintenance) that can cause safety concerns and reduce utility and appeal.
- Encourage pedestrian and bicycle considerations with all road and transit improvements.
- Promote the combined use of nonmotorized transportation with public transit and van/carpooling. Define and promote practical examples of employer incentives supporting the use of nonmotorized transportation modes for commuting.
- Encourage employers to provide secure, on-site storage facilities for bicycles. Provide secure storage facilities at appropriate activity centers (e.g., civic centers, educational institutions, and shopping centers).
- Increase accessibility and safety for children traveling to and from school through awareness programs and more sensitive engineering and planning.
- Increase signal duration at pedestrian crosswalks so all pedestrians can cross safely. Ensure all automatic and manual signal activation devices are appropriate for nonmotorized traffic.
- Consider nonmotorized needs at intersections, such as limiting legal right turns on red at hazardous intersections.
- Increase safety for pedestrians and bicyclists at railroad crossings.
- Increase the public's understanding of the rights of nonmotorized modes to "share the road." Teach bicyclists and pedestrians to abide by the "rules of the road."
- Design and locate bicycle and pedestrian signs in a manner consistent throughout the region and state. Use signs that are highly visible by color and location and conform to Americans with Disabilities Act (ADA) requirements.
- Increase policy makers' understanding of the importance of nonmotorized travel.
- Encourage communities to develop policies (e.g., local zoning regulations and master plans) corresponding to nonmotorized transportation needs, to conduct walkability/bikeability audits, and to develop nonmotorized transportation plans. Encourage local communities and counties to work together for consistency in these matters.
- Develop tools for communities to become more pedestrian and bicycle friendly, including standardized procedures for nonmotorized project scoping and engineering.
- Maintain regional bicycle travel maps and databases. Maps should include transfer points to other modes of transportation.
- Work with county road commissions and other road operators to collect data relevant to nonmotorized transportation.
- Increase funding at the federal, state, county, and local levels for nonmotorized infrastructure improvements. Track funding for regional nonmotorized transportation improvements.

In addition to these issues, SEMCOG has identified physical infrastructure improvements needed to maintain and improve the nonmotorized system. SEMCOG's analysis focused on providing on-road bicycle facilities along roadways scoring high in an analysis of road segments, road segments with the potential for serving as connectors between existing bicycle facilities, and roads already used and preferred by bicyclists. Recommended off-road nonmotorized improvements include completing several cross-county and cross-region trails to move toward a regional network of off-road, shared-use trails for both recreational uses and as major transportation corridors for bicyclists and other nonmotorized travelers. The cost to implement the recommended on- and off-road facility improvements is estimated to be \$361 million. This includes paving 6,000 miles of shoulders along high-priority road segments, maintaining 718 miles of existing off-road trails, and constructing 195 miles of new trails between now and 2030.

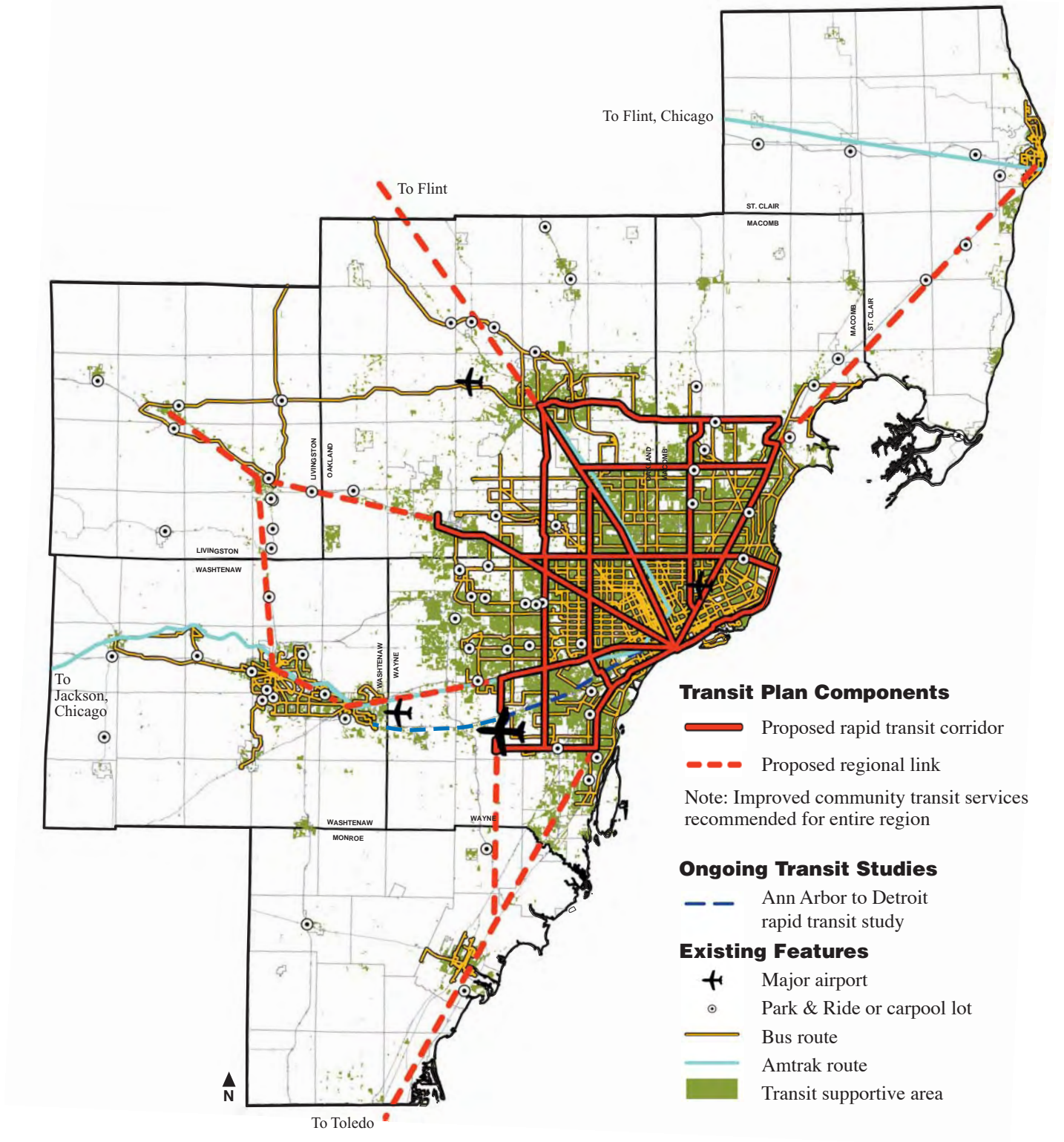
Transit needs

In 2001, SEMCOG conducted an intensive transit planning process resulting in adoption of a regional transit plan as summarized here. (For more information, refer to the SEMCOG publication *Improving Transit in Southeast Michigan: A Framework for Action*.)

- Implement rapid transit/higher level transit service for the region by developing the proposed rapid-transit system (259 miles, on 12 regional corridors); continuing detailed alternatives analysis in the corridor between Downtown Detroit and Ann Arbor; seeking additional funding for alternatives analysis in the Woodward corridor; pursuing funding for an alternatives analysis in a priority cross-town transit corridor; and developing detailed transit ridership forecasts. Included in this recommendation is development of a feeder network to support rapid transit service in the region.
- Improve frequency and reliability of fixed-route transit service by increasing route frequency and hours of service. Improvements in reliability may be addressed by working with operators to conduct detailed operation/maintenance analyses, exploring the use of signal prioritization for buses, and increasing capital funding to expand fleet size and upgrade and replace facilities.
- Implement additional fixed-route service. Areas that should be considered for new fixed-route service include portions of Southwest Detroit and the east side of Detroit. Additionally, communities on the region's urbanized area periphery (Canton Township, Novi, Rochester Hills, and Woodhaven), as well as Marysville in St. Clair County, have a combination of factors making them strong candidates for planning and implementing fixed-route service.
- Increase regional community transit service, as well as its availability and coordination with other services, by increasing community/paratransit service coverage. Most of the urbanized areas in the region have some form of general public, specialized, or ADA paratransit service available. However, the majority of the service provided is specialized, restricted use, and has limited hours. It does not provide for general service trips to work, shopping, or social activities.
- Increase mobility options by linking the region's urbanized areas. Improved access between major urbanized areas in the region can be addressed initially by exploring the feasibility of adding or improving bus service between Metro Detroit and Livingston, Monroe, and St. Clair Counties. Other activities include moving forward with the alternatives analysis study for the Downtown Detroit to Ann Arbor corridor; examining bus service between Brighton and Ann Arbor; and increasing coordination of transit service between Southeast Michigan and the Windsor, Flint, Jackson, and Toledo urbanized areas.
- Increase funding for public transit in the region. Work with regional leaders to address the availability of local funding sources for system maintenance and improvement.
- Improve the level of public information available about transit service by providing easy-to-understand printed information, developing a public education campaign for transit, and utilizing signs and shelter displays in an efficient manner.
- Address issues surrounding safety, convenience, and comfort on public transit. Develop an overall plan to improve features and amenities on the vehicle and at transit stops, including construction of transit stops, stations, and shelters; to improve physical accessibility (especially for those with special needs); and to use current technology.

In all, the transit plan recommends a four-tier system, including rapid transit (preliminary analysis suggests bus rapid transit would be the most cost effective choice), fixed-route bus, community transit, and regional links (Figure 4). The total capital cost to implement the transit plan is estimated to be \$2.2 billion; another \$224 million would be needed annually to operate the system for a total cost of \$8.1 billion (Table 8). Adding the funding needed to maintain and operate the services already in existence today brings the total investment required through 2030 to \$16.8 billion.

Figure 4
Proposed Transit Plan
Southeast Michigan



Source: SEMCOG.

Table 8
Estimated Cost of Transit Plan, Southeast Michigan, 2005-2030
(thousands)

Service	Capital Cost	Annual Operating Cost
Bus rapid transit	\$2,025,916	\$128,308
Fixed-route bus	\$143,762	\$48,515
Feeder route	\$45,583	\$32,077
Community transit	\$34,233	\$15,239
Total	\$2,249,494	\$224,139

Source: Public transit operators and the Suburban Mobility Authority for Regional Transportation's New Service Initiative, 2001 Transportation Management and Design.

Freight needs

Regional freight needs are identified using a two-pronged approach — a quantitative analysis of truck network deficiencies based on safety, bridge, congestion, pavement, and border crossing data, and a qualitative analysis of truck, aviation, marine, and rail system networks based on input from industry representatives and experts.

Freight network

Southeast Michigan's freight system is made up of a variety of components (Figure 5), including:

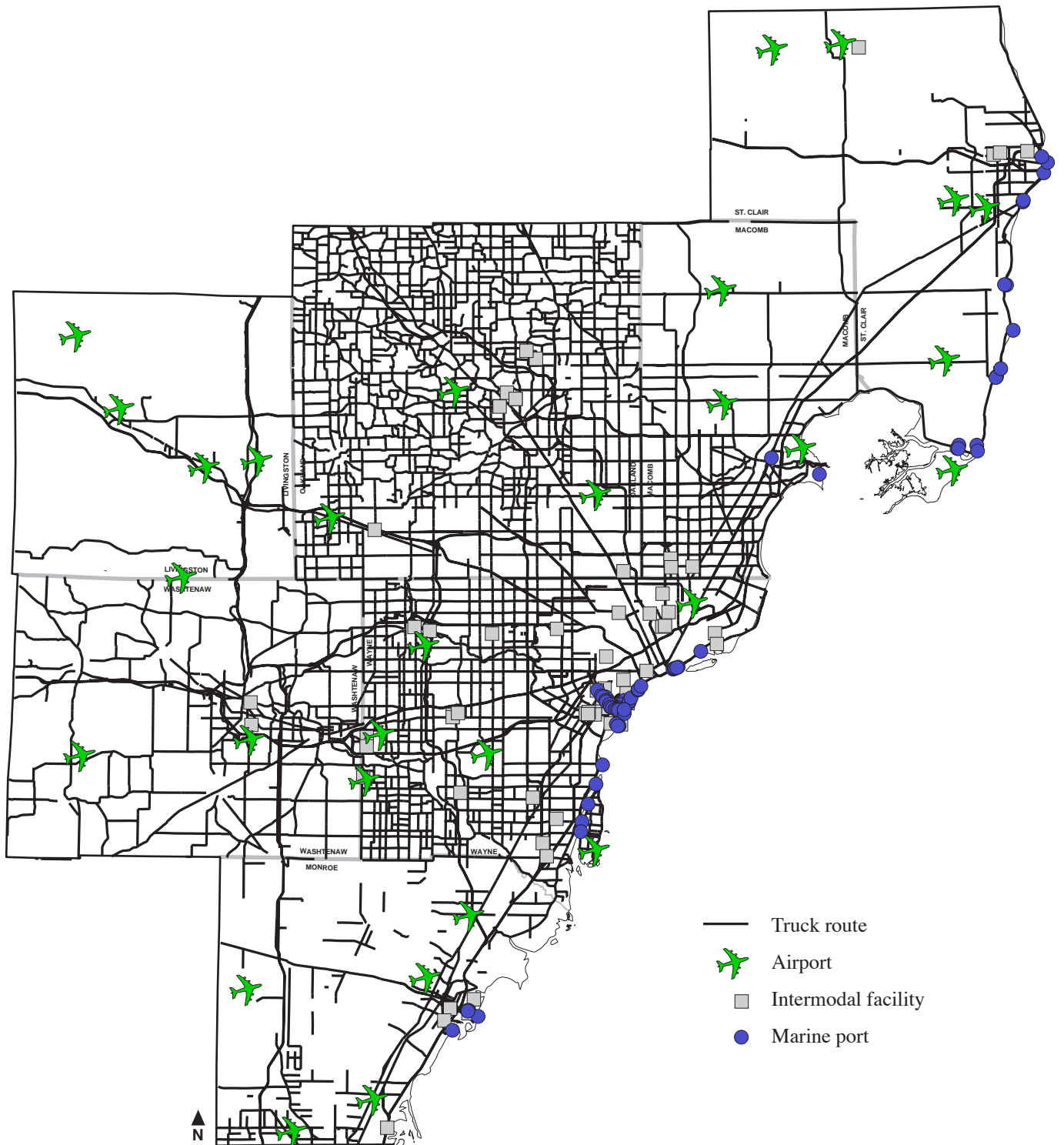
- 4,884 miles of state and county truck routes;
- an 87-mile border between Southeast Michigan and Southwest Ontario, with seven crossings at two primary crossing locations — Detroit/Windsor and Port Huron/Sarnia;
- 30 airports (18 of which are considered system airports because their level of activity most directly influences aviation travel in the region);
- seven ports linked to the world market via the Great Lakes/St. Lawrence Seaway; and
- over 900 miles of active rail line.

Truck network analysis

Trucking industry representatives and Southeast Michigan communities have identified the following issues:

- poor condition of freeways and major roadways;
- lack of designated truck-only lanes in appropriate areas;
- lack of coordination between counties regarding designation of truck routes;
- Michigan's truck-weight limits; and
- the potential impact of the Federal Motor Carrier Safety Administration's revised hours of service regulations.

Figure 5
Freight System
Southeast Michigan



Source: SEMCOG.

A technical evaluation of truck route deficiencies in Southeast Michigan results in the following findings.

- There were 77,597 traffic crashes on truck routes in 2001.
- Approximately 47 percent of bridges located on truck routes are deficient. Of those, 531 are in Wayne County and 159 are in Oakland County.
- Approximately 500 miles (10 percent) of state and county truck routes are currently congested. Congested truck routes are expected to double by 2030, increasing to 1,034 miles (21 percent).

Of the 1,818 miles of state truck routes for which pavement data are available, 430 miles (18 percent) are in poor condition.

Border crossing analysis

The Detroit River International Border Crossing Study is developing a long-term strategy that will ensure safe and efficient movement of people, goods, and services between Southeast Michigan and Southwest Ontario, including a new border-crossing facility for the region. In addition, SEMCOG's Southeast Michigan/Southwest Ontario Binational Transportation Planning Project (Binational Partnership) is aimed at expediting cross-border vehicle and cargo movements through binational coordination of planning and project implementation. Following are highlights of the findings of these projects (Table 9).

- **Border crossing capacity** — Despite recent declines in border crossing volumes due to the combination of the events of 9/11 and the economic downturn, the Binational Partnership estimates commercial vehicle volumes will increase by 120 percent by 2030. As a result, significant infrastructure improvements to the border-crossing system in Southeast Michigan/Southwest Ontario will be needed.
- **Physical capacity** — Access-road capacity will become a major limitation within five years, particularly at the Detroit-Windsor crossings. On the U.S. side, the Ambassador Bridge Gateway Project will address long-term congestion mitigation issues and provide direct access improvements between the bridge, I-75, and I-96. The ongoing Blue Water Bridge Plaza Study focuses on operational problems and capacity deficiencies and is considering alternatives to address current and future traffic capacity needs, while maintaining and enhancing security and safety.
- **Border processing** — In order to address security procedures and processing, the U.S. and Canadian governments have created the Fast and Secure Trade (FAST) and Nexus Programs, which are the result of a shared objective to enhance security and efficient flow of commercial and passenger vehicles between the two countries.

Table 9
Border Crossing Capacity, Southeast Michigan

Crossing	U.S. Road Access Capacity	U.S. Border Processing	Bridge/Tunnel Capacity	Canada Border Processing	Canada Road Access Capacity
Ambassador Bridge	Beyond 30 years*	Within 5 years	10 to 15 years	Within 5 years	Within 5 years
Detroit-Windsor Tunnel	Within 5 years	Within 5 years	10 to 15 years	Within 5 years	Within 5 years
Blue Water Bridge	Beyond 30 years	5 to 10 years	Beyond 30 years	15 to 20 years	Beyond 30 years

Source: Detroit River International Border Crossing Study.

* Assumes Ambassador Bridge Gateway project is completed.

Aviation system analysis

Aviation industry representatives and Southeast Michigan communities identify the following issues:

- over-reliance on privately owned airports to meet the increasing demand of general aviation;
- lack of appropriate zoning and planning allowing incompatible land uses around airports;
- loss in profits for privately owned airports leading to increased pressures to sell; and
- traffic congestion on roads leading to the region's airports.

Marine facility analysis

Marine industry representatives and Southeast Michigan communities cite the following deficiencies limiting the effectiveness of waterborne commerce in the region:

- immediate and long-term infrastructure needs;
- uniform data for commercial flows;
- cargo security needs at management level for shippers and carriers;
- land use conflicts;
- operations of marine facilities;
- environmental concerns;
- pavement conditions;
- access to upper and lower Rouge River ports; and
- accessibility for trucks (e.g., tight turning movements and poor pavement conditions).

Rail network analysis

Rail industry representatives and Southeast Michigan communities identify the following deficiencies:

- at-grade crossing safety;
- high operation/retention costs for private rail companies, due to heavy private capital investment and operating dollars for ongoing maintenance of rail infrastructure;
- lack of understanding on the part of government agencies toward private railroads and their proprietary rights;
- insufficient land for expansion/growth of existing freight terminals; and
- lack of passenger rail for inter-regional travel.

Management and operations

The efficient movement of people and goods on the region's transportation system depends on how effectively that system is managed and operated. Well-planned and cost-effective transportation management and operations (M&O) can improve mobility, safety, and productivity of the system.

System M&O activities address the regional transportation system as an interconnected set of services and improves system performance through better management and use of the transportation network. One of the fundamental purposes of regional M&O activities is producing a shared set of agreed-upon outcomes for how systems of regional significance are expected to function, how they will be operated, and how agencies will work together to accomplish these expectations. In identifying possible system M&O improvements, it is important to understand what system users want in terms of performance. Some examples of user-oriented performance measures are average trip travel time, length of delay, and

reliability of trip making. These are important indicators of how well the transportation system is operating.

Numerous jurisdictions, agencies, and service providers are responsible for operating the various aspects of the transportation system safely and efficiently. SEMCOG's role is coordinating M&O activities by building key relationships among agencies and jurisdictions responsible for delivering transportation and public safety services in the region. This results in shared expectations of how functions of regional significance need to be managed over time to solve operational problems and improve system performance. Those involved in regional transportation system M&O include planners, traffic operations engineers and managers, transit operations managers, police and fire officials, emergency management officials, port authority managers, and private sector representatives, most of which already reside on or are in close contact with one or many of SEMCOG's committees.

SEMCOG provides regional leadership in establishing a decision making framework by bringing parties together, helping determine how M&O decisions will be made in the area, and asking for input on M&O issues as part of the planning process. This allows agencies to develop common M&O strategies.

Following are some examples of current system M&O activities in Southeast Michigan.

- The Michigan Intelligent Transportation Systems (MITS) Center, MDOT Freeway Courtesy Patrol, and Michigan State Police 911 Dispatch coordinate during incidents and emergencies to improve response times and traveler decision-making.
- The Michigan Signal Summit coordinates traffic signal retiming programs across multiple jurisdictions to better manage mobility and demand.
- The MITS Center, Michigan State Police 911 Dispatch, Road Commission for Oakland County (RCOC), SEMCOG, SMART, and other information service providers share real-time information about regional transportation system conditions and performance to enable better management of resources.
- MDOT's Changeable Message Signs and Web site and RCOC's Real Time Traffic Map deliver regional traveler information seamlessly across jurisdictions, agencies, and modes allowing road users to obtain reliable, timely, and relevant news about weather conditions and traffic situations.

The Southeastern Michigan Snow and Ice Management System (SEMSIM) is a partnership of road and transit agencies designed to improve winter road maintenance and public safety. Winter maintenance vehicles operated by RCOC, the Road Commission of Macomb County, Wayne County Department of Public Services, and Detroit Department of Public Works are equipped with global positioning system technologies, road condition sensors, and equipment monitors (e.g., to indicate whether the plows are up or down). The Suburban Mobility Authority for Regional Transportation (SMART) conveys the data via its radio system, both to the road agency monitoring centers and to buses. These technologies enable real-time monitoring of road conditions and vehicle location, allowing the road agencies to carry out maintenance activities and SMART to operate its fleet more effectively, efficiently, and safely.

Summary of Transportation Needs

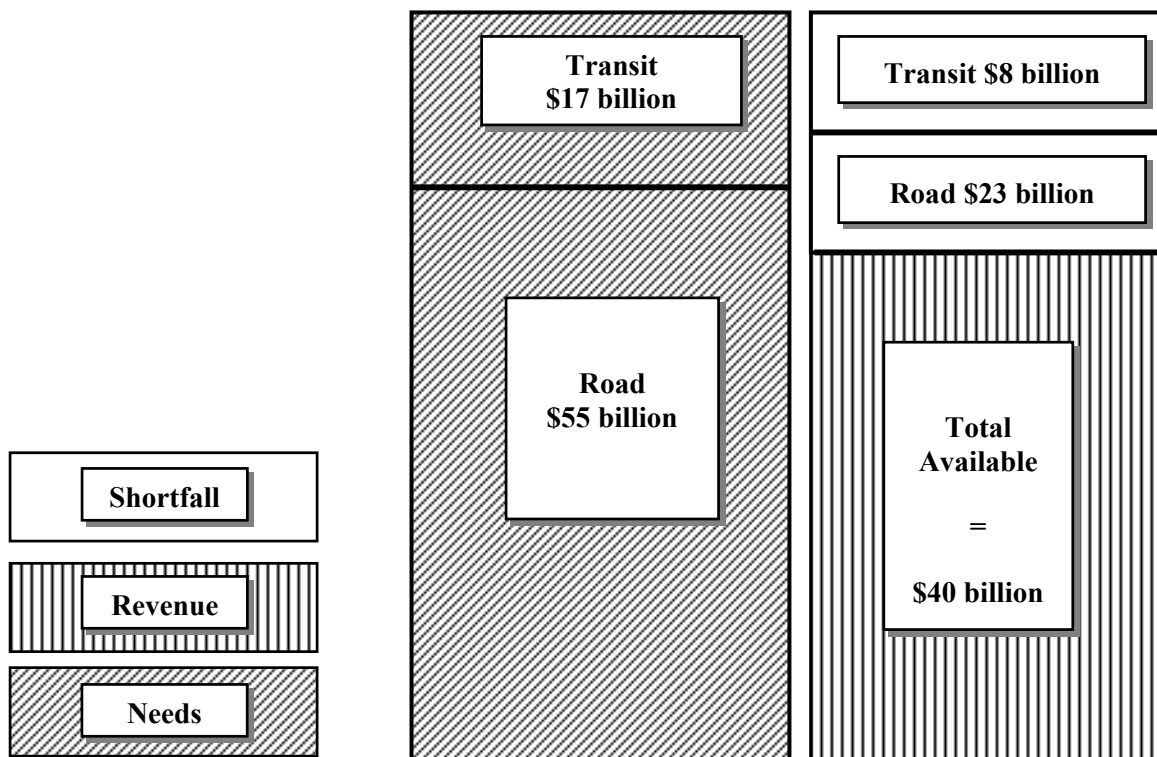
The needs described in the above sections are substantial. SEMCOG estimates it will take more than \$70 billion to alleviate congestion, fix every bridge, correct safety problems, repave every road, develop a more comprehensive nonmotorized system, implement the regional transit plan, and operate and maintain both the road and transit systems through 2030 (Table 10). At the same time, the region is estimated to receive only \$40 billion in transportation revenues from federal, state, and local sources, leaving a \$30 billion financial shortfall (Figure 6).

Table 10
Estimated Costs of Transportation Needs by Transportation Components
FY 2005-2030
(billions)

System Component	Cost Estimate
Congestion	\$4.0
Bridge	\$7.2
Safety	\$1.6
Pavement	\$27.8
Nonmotorized	\$0.4
Road operating	\$14.2
Transit	\$16.8
Total	\$72.0

Source: SEMCOG.

Figure 6
Regional Needs, Forecast, and Shortfall



Source: SEMCOG.

(For additional information regarding the forecast of available revenues through FY 2030, See Appendix A, page 57.)

There is no disagreement that the \$30 billion shortfall in revenue is overwhelming. Attempting to provide an understandable perspective of the magnitude of the shortfall, SEMCOG has estimated how much the average user of the transportation system would have to provide in order to alleviate it (Table 11).

The total shortfall equates to about \$300 per year for every licensed driver in the region. The current state gas tax used to fund transportation improvements is 19 cents per gallon. If drivers bore the entire shortfall through a regional transportation tax on gasoline, they would pay an additional 29 to 60 cents per gallon. If they bore just the road portion of the shortfall, drivers would pay an additional tax in the range of 24 to 50 cents per gallon. This is based on driving between 12,000 and 25,000 miles annually. The additional tax required of drivers would be lower if commercial vehicles shared a portion of the burden. The transit shortfall would cost each weekday transit rider an additional \$4 per ride. Fares do not provide sufficient funding now and are difficult to raise while still maintaining ridership, so additional sources of revenue for transit would be needed to meet this burden. SEMCOG's Transportation Improvement Program Development Committee has been charged with researching the total shortfall and various revenue options. The results of this research will be considered in future RTP decision making.

Table 11
Costs to Eliminate Revenue Shortfall, Southeast Michigan, 2005-2030

Revenue Shortfall	Per Gallon Tax Increase	Fare Increase
\$30 billion — road and transit	29 - 60 cents/gallon	N/A
\$25 billion — road only	24 - 50 cents/gallon	N/A
\$5 billion — transit only	N/A	\$4/ride

Source: SEMCOG.

2030 Regional Investment

With a \$70 billion price tag for addressing all needs and only \$40 billion in available revenues, it is clear we cannot fix everything, but must make difficult choices in an effort to spend our limited tax dollars wisely. That is accomplished by choosing the investments that will have the greatest benefit for the greatest number of people. This is a complicated process that begins with adopting regional goals and objectives, assigning quantitative measures of performance, defining and evaluating various funding scenarios for consideration, and setting priorities, and ends with selecting and evaluating a preferred alternative for implementation through 2030.

Goals and Objectives

By its nature, Southeast Michigan's transportation system is a complex network encompassing multiple modes of transportation and multiple jurisdictions. Priorities must be established that ensure the greatest impact for each transportation dollar spent and the maximum possible benefit for all individuals in our region. These priorities must also be matched with objective measures of performance so resources are put to their most productive use.

Goals and objectives form a solid qualitative foundation upon which the 2030 Regional Transportation Plan for Southeast Michigan (RTP) is envisioned and implemented. Equally important are quantitative measures of performance, which are used to evaluate various RTP scenarios, select the best one, and continually gauge the impact of selected actions on the region. (The goals and objectives are explained in detail below and outlined in Table 12. Table 13 outlines the measures of performance in relation to the goals. For details on how the 2030 RTP addresses goals and objectives, see Appendix A, page 53.)

Enhance accessibility and mobility for all people and freight while maintaining community integrity

The first two goals can be discussed together. Accessibility and mobility for people and freight are the two reasons for the existence of any transportation system. A transportation system should balance regional growth and economic prosperity with an improved quality of life for residents. A number of objectives to measure this balance have been developed. Many projects in the 2030 RTP are designed to reduce the amount of time people need to spend traveling from one point to another in our region, provide alternative ways for people to travel between those points, increase efficiency of freight shipping, and provide more recreational opportunities through development and linkage of nonmotorized facilities.

Strategically improve the transportation infrastructure to enhance community and economic vitality

Southeast Michigan is a mature region that experienced its booming period of growth a number of decades ago. The region's overall population is growing slowly, although some areas continue to experience high growth. Because much of our transportation system is old, it is important to place the highest priority on projects that preserve and enhance our existing infrastructure. An emphasis on preservation is also particularly important in a region such as ours that experiences extremes of weather, causing added wear on roads and bridges not experienced in many other parts of the country. The 2030 RTP, therefore, places priority on projects maintaining roadways over those expanding roadways. It also prioritizes projects in areas with the highest concentrations of people and commerce to increase the efficiency and usefulness of the entire transportation network.

The transportation system as envisioned in the 2030 RTP is not intended to simply move people from one point to another more quickly. It should also enhance the vitality of our regional neighborhoods and communities. Such a transportation system cannot be planned without input from those who know these neighborhoods and communities best — their residents. The 2030 RTP seeks to increase public

involvement in the process of transportation planning and decision making, making it easier for those most impacted by a project to participate in its planning and implementation.

Promote a safe and secure transportation system

Our region's success in maximizing the mobility of people and goods depends upon making the transportation system as safe as possible. Traffic crashes produce not only personal tragedy, but increased burdens on the region due to medical and insurance costs, lost production potential, and delay of passengers and freight. The overall security of the system also helps lower costs to users by allowing them to choose freely between available modes of travel and selecting the mode most economically efficient for their purposes. This benefits the entire region by allocating the movement of people and freight to the most appropriate mode(s) of transportation. The greater our region's efficiency, the greater its competitiveness relative to other regions throughout the nation, if not the world.

With these principles in mind, safety projects in the 2030 RTP are intended to reduce traffic crashes, particularly between modes, such as rail-automobile, automobile-pedestrian, and automobile-bicycle, by promoting pedestrian friendly communities and highway-rail grade separation or improved signaling when such separation is not possible. When crashes do occur, the 2030 RTP advocates improved identification and clearance of incidents to reduce delay and spot potential safety improvements to reduce or eliminate incidents in the future. Projects to enhance the safety and security of transit riders and employees are also emphasized to increase the viability of transit as a travel option in our region. Finally, regional security is emphasized with respect to border crossings, regional facilities (e.g., major industrial centers), and major activities (e.g., sporting and social events). As international and homeland security continues to be enhanced, coordination among various entities is required to ensure the transportation infrastructure is used to its fullest potential for security purposes (e.g., using advanced technologies to monitor travel and inform motorists of emergencies) and that security measures are compatible with the transportation infrastructure (e.g., emergency evacuation routes).

Protect the environment, both natural and built

The world around us contains the raw material from which our lives are built, and use of that material has a cost. Considerations of both economic efficiency and quality of life dictate that we use up only as much material as we need to produce maximum benefit for our region. In other words, we must protect the environment. Our regional transportation system should likewise provide maximum benefit at the minimum possible environmental cost. The 2030 RTP, therefore, emphasizes minimizing air and water pollution, as well as disruption or damage to both natural and built resources. This is accomplished through projects providing alternative transportation choices to the automobile, improvements to the highway infrastructure that reduce waste of resources (such as excessive vehicle idling due to traffic congestion), and intermodal improvements allowing businesses to choose the best transportation method for their goods, so that the most energy-efficient (and least expensive) mode can be utilized.

For the human environment, the 2030 RTP must ensure all the region's residents share in the benefits of the transportation system and do not suffer disproportionately negative impacts as a result of transportation-related projects. The 2030 RTP also encourages a close linkage between transportation and land use decisions so transportation choices are appropriate for the nature of the community.

Table 12
2030 RTP Goals and Objectives

Goal 1 — Enhance accessibility and mobility for all people. <ul style="list-style-type: none"> • Reduce time spent traveling. • Increase access to public transportation, consistent with the regional transit plan. • Increase coordinated development and use of nonmotorized facilities. • Increase connectivity of transportation service across the region, and provide multimodal access to major land uses.
Goal 2 — Enhance accessibility and mobility for freight while maintaining community integrity. <ul style="list-style-type: none"> • Improve freight movement. • Improve intermodal operations and facilities.
Goal 3 — Strategically improve the transportation infrastructure to enhance community and economic vitality. <ul style="list-style-type: none"> • Preserve the existing transportation system, prioritizing highway maintenance before highway expansion. • Focus transportation investment in areas with high concentrations of people and jobs. • Improve the efficiency and effectiveness of the transportation system. • Increase public involvement and ensure equal access to participation in transportation decision making. • Preserve transportation rights of way.
Goal 4 — Promote a safe and secure transportation system. <ul style="list-style-type: none"> • Reduce traffic crashes, particularly between modes. • Increase transit safety and security for riders and employees. • Improve identification and clearance of roadway incidents. • Develop pedestrian-friendly communities and roadways. • Encourage local communities to define safety needs and strategies.
Goal 5 — Protect the environment, both natural and built. <ul style="list-style-type: none"> • Minimize air and water pollution. • Reduce per capita energy consumption. • Minimize disruption of or damage to environmental resources (both natural and built). • Ensure balance among all populations in the impacts of the transportation system. • Link transportation decisions with land use decisions.

Source: SEMCOG.

Table 13
2030 RTP Measures of Performance in Relation to Goals

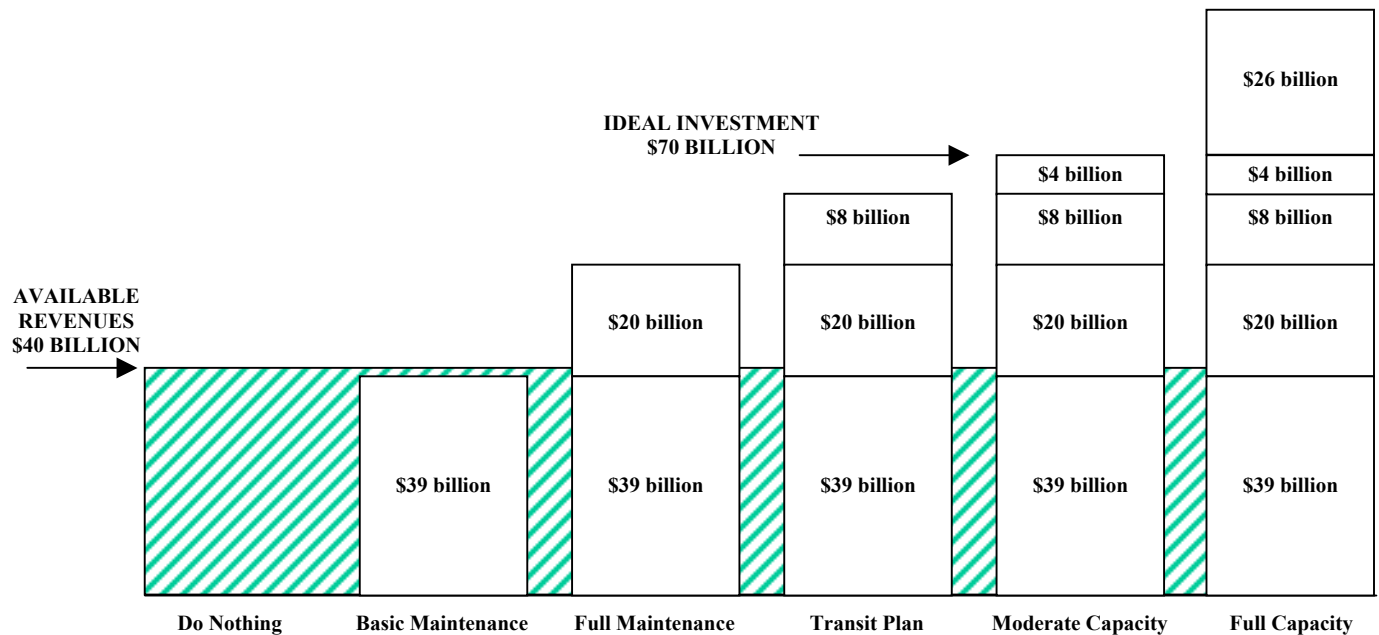
Measure of Performance	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5
Travel delay (auto and truck)	✓	✓	✓		✓
Congested miles traveled	✓	✓	✓	✓	✓
Transit level of service	✓		✓	✓	✓
Travel time (auto and transit) to major activity centers	✓		✓		✓
Truck travel time to freight centers		✓	✓		✓
Percent pavement in good condition	✓	✓	✓	✓	
Percent bridges in good condition	✓	✓	✓	✓	✓
RTP investment by project type	✓	✓	✓	✓	✓
Percent investment within urbanized area	✓	✓	✓	✓	✓

Source: SEMCOG.

Transportation Scenarios

The transportation planning process is very complex and must take into account physical infrastructure needs (now and into the future), citizen desires, and technical constraints, such as air quality and revenue budgets. Because there is more than one way to address these issues, several scenarios are considered as illustrated in Figure 7 and discussed in more detail below.

Figure 7
Transportation Scenarios



Source: SEMCOG.

We could do nothing; but that would not serve any of our goals. The region would become crippled by congestion and air quality would worsen. Roads and bridges would fall into complete disrepair. Buses would stop running. Traffic signals would malfunction, causing more crashes. The economy would decline. Clearly, this is not a feasible option.

At a minimum, we need to fund a basic level of maintenance — operating the existing transit system, fixing existing roads and bridges, plowing snow, improving safety, retiming traffic signals, maintaining pedestrian/bicycle trails, etc. This alternative would still not fix everything, but would allocate approximately \$39 billion between now and 2030 to maintain current conditions. Ideally, the region would spend the money necessary to fully maintain everything — repaving all roads, fixing all bridges, and replacing all buses on a regular schedule so nothing ever fell into disrepair. This would require another \$20 billion.

In addition to maintenance, there is a need to strategically expand both the road and transit systems to meet current and future demand. Another \$8 billion would allow for implementation and operation of the full transit plan, including rapid transit. Another \$4 billion would allow for widening roads after implementing other non-capacity congestion mitigation strategies. Finally, another \$26 billion would widen all congested roads.

The ideal choice is the scenario that keeps all roads and bridges in good condition, that eliminates all congestion, and that builds a rapid transit system everyone would love to ride; but this far outweighs available resources. If we can't fix everything, what can we do?

We can continue maintaining the existing system as best we can — identifying the most pressing problems and dealing with those first, while continuing to develop more efficient and effective methods for operating both the road and transit systems in the future. We can't implement the full transit plan right away, but can strategically expand and improve routes to better serve existing needs and continue to study and seek funding for select rapid transit routes. We can do without unfettered road access, but still try to relieve the worst congestion. This can be accomplished by using new technologies to monitor and adjust traffic flow, better managing the impact of development on the road system, encouraging people to use transit and van/carpooling, and, where necessary, widening roads where these other methods cannot reduce congestion to an acceptable level.

In other words, we must stay the course and adopt a balanced investment strategy that addresses both road and transit needs within existing funding constraints. But, there is also more than one way to approach this balanced solution. Although the region consists of seven counties, one state department of transportation, 233 local units of government, seven public transit agencies, and a myriad of private and nonprofit transportation providers, it is in everyone's best interest to plan for the future as a coordinated region. Improvements made in the City of Detroit, for example, benefit not only its residents, but those who work, visit, and pass through the city. Likewise, decisions made by the various transit agencies impact residents across the region who rely on transit and need to be able to transfer seamlessly from one system to another to get to work on time. Knowing this, we need to look at the transportation system in a regional context as we prioritize improvements.

Regional Priorities

From a regional perspective, investments should be made on the routes carrying the highest traffic volumes across multiple counties, having multiple needs, serving multiple modes, and located in the densest areas. In other words, we should focus on our highest regional priorities. SEMCOG has identified these priorities by ranking all road corridors according to the criteria outlined in Table 14 and categorizing them into one of the following priority levels.

- Regional priorities are those in the highest total point range. The typical regional priority corridor carries very high volumes across multiple counties, has multiple (and more severe) needs, carries multiple modes (particularly trucks), and accommodates higher level land uses and demographics.
- Sub-regional priorities are those in the second highest total point range. Like regional priority corridors, they have multiple and relatively severe needs, carry multiple modes (although less truck traffic), and accommodate higher level land uses and demographics. However, they are less likely, compared to regional priorities, to serve multiple counties.
- Local priorities are those in the lowest total point range and typically serve travel within one county or group of communities and carry primarily automobile traffic as opposed to truck, transit, and nonmotorized travel. The local priorities are broken down into two distinct categories. The higher local priorities carry higher volumes, have more needs, and tend to be in denser areas with more activity centers than other local priorities.

Table 15 and Figure 8 illustrate the priority level breakdown for the 576 roadway corridors included in the regional prioritization analysis.

While regional priorities are important, we must also recognize there are local priorities as well and, while a local-level priority may not register as a high regional priority, it is a priority nonetheless. Because many critical decisions regarding investment and development are made at the local level, we need to balance both regional and local perspectives. To facilitate this local process, SEMCOG provided regional road and transit agencies with the results of the necessary technical analyses (needs, priorities, and revenue estimates) and partnered with them to reach out to their own constituents, so that residents, business owners, agency representatives, and elected officials could make their opinions known and suggest how they thought their tax dollars should be spent.

Table 14
Regional Prioritization Factors

Factor	Weight	Description
Bridge	0-3	Deficient bridges per mile scaled to a maximum of 3
Safety	0-3	High-crash intersections per mile scaled to a maximum of 3
Congestion	0-3	Percent congestion scaled to a maximum of 3
Pavement	1-3	1 for collectors
		2 for non-trunkline arterials
		2 for trunklines (freeways and arterials)
		3 for trunklines currently in poor condition
Freight	0-3	1 for corridors designated as truck routes
		1 for corridors connecting to ports, airports, or intermodal facilities
		1 for corridors serving high-priority regional freight movements
Transit	0-3	Transit ridership by category (1: 1-4,999 riders per day; 2: 5,000-9,999 riders per day; 3: 10,000+ riders per day)
Nonmotorized	0-3	Nonmotorized weight scaled to a maximum of 3 (based on accessibility, volume, traffic crashes, connectivity, shoulder width, and bicyclist preference)
Volume	1-3	Volume by category (1: 0-9,999 vehicles per day; 2: 10,000-29,999 vehicles per day; 3: 30,000+ vehicles per day)
Density	0/3	3 for corridors intersecting traffic analysis zones with household density > 3.0 or job density > 4.0
Activity centers	0/3	3 for corridors intersecting one-half-mile buffer around identified activity centers
Special populations	0/3	3 for corridors intersecting block groups with significant environmental justice or elderly populations

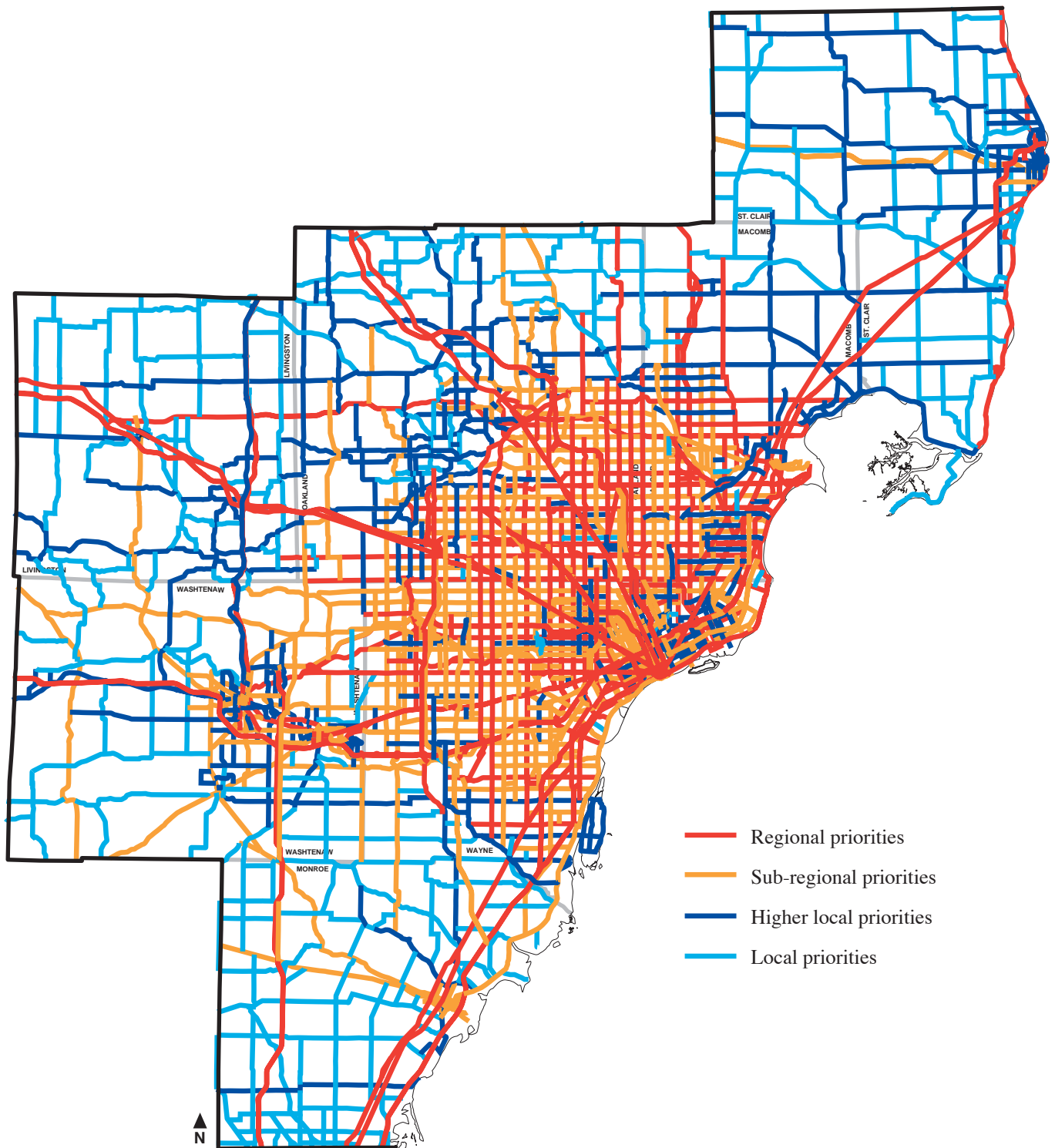
Source: SEMCOG.

Table 15
Regional Priority Levels

Priority Level	Point Range	Number of Corridors	Percent of Total Corridors
Regional priority	21.0+	65	11
Sub-regional priority	17.1-20.9	130	23
Higher local priority	10.1-17.0	196	34
Local priority	2.0-10.0	185	32
Total	2.0-25.2	576	100

Source: SEMCOG.

Figure 8
Corridor Priorities
Southeast Michigan



Source: SEMCOG

In the end, projects were proposed for inclusion in the 2030 RTP. These projects were evaluated according to the measures of performance and compared to the other regional scenarios. They were reviewed against revenue constraints, identified needs, regional priorities, congestion mitigation recommendations, and the regional Intelligent Transportation Systems (ITS) architecture. They were evaluated to determine their cumulative impact on travel, air quality, and accessibility. Their effects on all segments of the population were considered. Funding by project type and urbanized area was also scrutinized. All combined, these projects — referred to as the 2030 Preferred Alternative — represent a balanced approach between roads and transit, regional and local priorities.

2030 Preferred Alternative

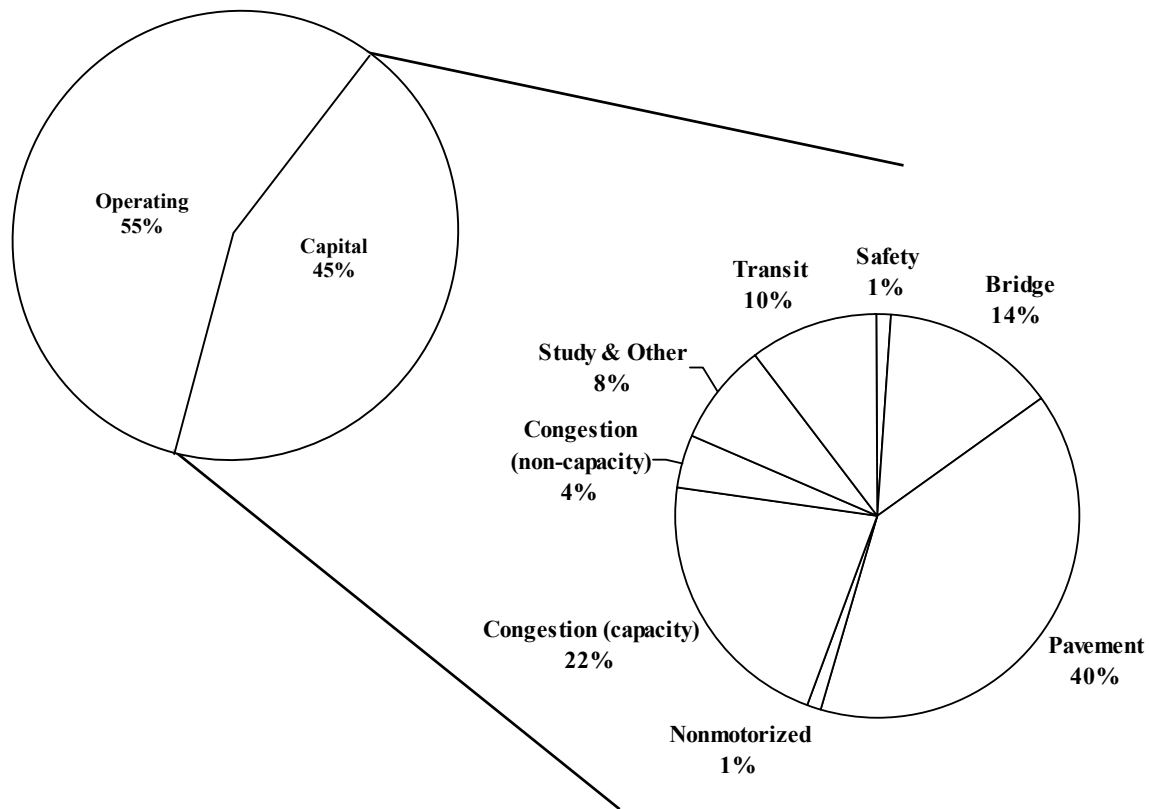
The 2030 Preferred Alternative is outlined here and illustrated in Figure 9.

- \$22.7 billion will be spent operating the existing road and transit systems. Of that:
 - \$15.8 billion is for road operating, and
 - \$6.9 billion is for transit operating.
- \$18.2 billion will be spent on capital projects, including:
 - \$7.1 billion for pavement resurfacing, rehabilitation, and reconstruction;
 - \$4.0 billion for capacity congestion mitigation strategies (i.e., road widening projects);
 - \$2.6 billion for bridge repairs and replacements;
 - \$1.9 billion for transit;
 - \$1.5 billion for road and transit studies (such as the Ann Arbor to Detroit Alternatives Analysis/Environmental Impact Statement Study and Detroit Intermodal Freight Terminal project) that will eventually result in recommendations for implementation and other miscellaneous road expenditures (such as maintenance facilities);
 - \$772 million for non-capacity congestion mitigation strategies, such as traffic signal retiming, Freeway Courtesy Patrol (FCP), and access management projects;
 - \$223 million for safety improvements, such as intersection turn lanes and pedestrian signals; and
 - \$189 million for nonmotorized improvements, such as bicycle/pedestrian paths and streetscaping projects.

The vast majority of proposed RTP spending is focused on operating and maintaining the existing road and transit systems. Approximately 55 percent of total funding is for road and transit operating. Of the capital funding, only 22 percent is for capital expansion. Considering both operating and capital dollars, 90 percent of funding is dedicated to road and transit preservation. Comparing road and transit funding, 79 percent of total funding (operating and capital) is for roads and 21 percent is for transit.

It should be noted that, while safety projects represent only a small percentage of total spending, they should not be construed as a lower priority. As illustrated in Table 16, of the 1,487 capital projects, 95 (or six percent of all projects) are specifically programmed for safety improvements, including modernizing traffic signals, installing pedestrian signals, and constructing rail grade separations. In addition, many other types of projects have safety components and benefits. For example, pavement projects often involve paving wider shoulders and constructing sidewalks, which improve safety for pedestrians and bicyclists; certain congestion mitigation projects, such as operating the Freeway Courtesy Patrol and adding center left turn lanes, also have safety benefits; and nonmotorized projects are clearly designed for the safety of pedestrians and bicyclists.

Figure 9
2030 RTP Investment



Source: SEMCOG.

Table 16
2030 RTP Capital Projects Programmed by Type

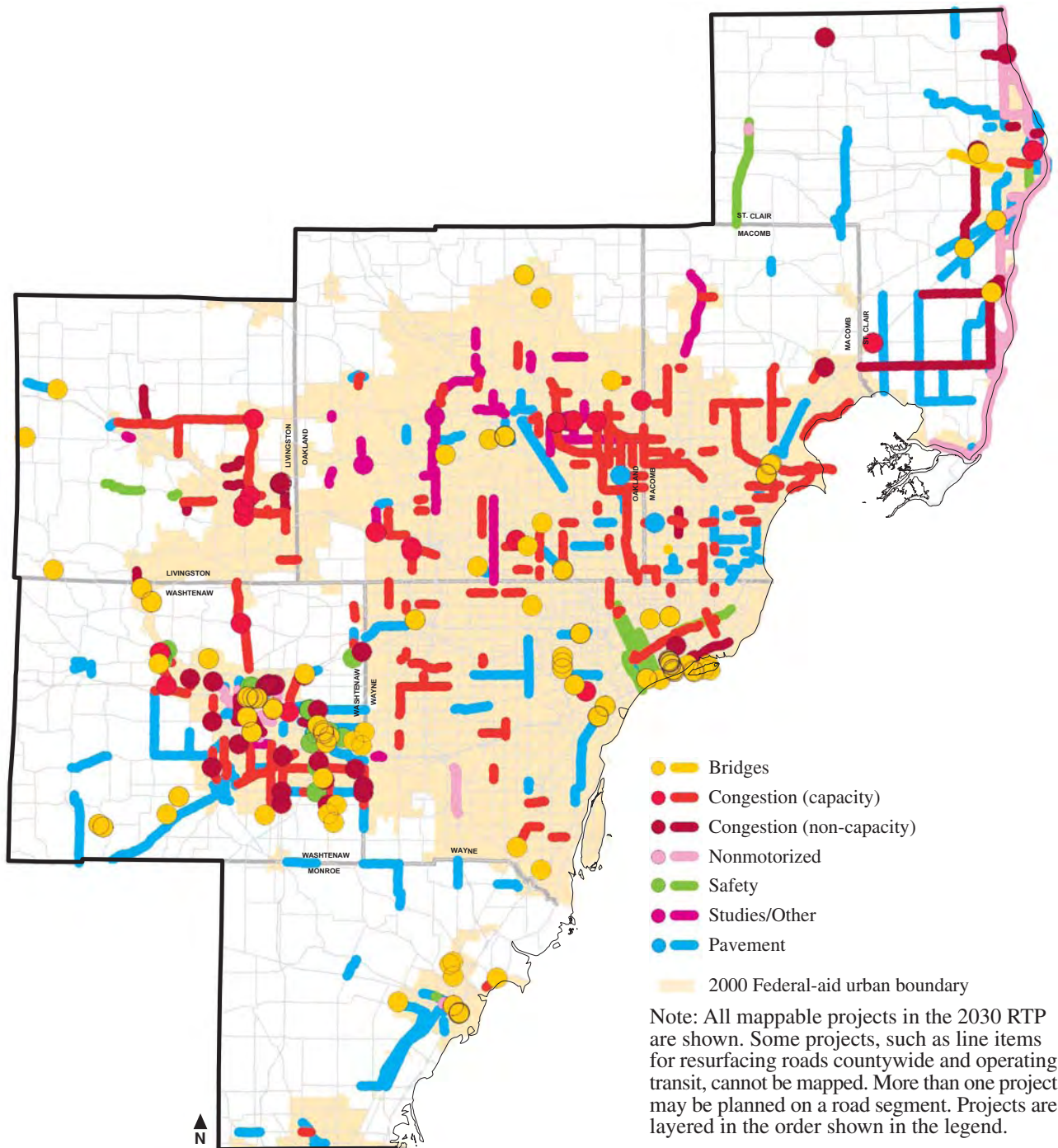
Project Type	Number of Projects Programmed	Percent of Total Projects Programmed
Safety	95	6.4
Bridge	124	8.3
Pavement	416	28.0
Nonmotorized	117	7.9
Congestion (capacity)	233	15.7
Congestion (non-capacity)	157	10.6
Study and other	82	5.5
Transit	263	17.7
Total	1,487	100.0

Source: SEMCOG.

Note: Totals may not match sum of individual numbers due to rounding.

Figure 10 illustrates mappable projects by type (i.e., projects with sufficient geographic data for mapping, such as facility name and limits). A complete list of 2030 RTP projects is contained in *2030 Regional Transportation Plan for Southeast Michigan: Project List* — a companion piece to the 2030 RTP. The project list is available from SEMCOG Information Services or online at www.semcog.org/TranPlan/RTP.

Figure 10
2030 RTP Projects, FY 2005-2030
Southeast Michigan



Source: SEMCOG

While improvements will be made throughout the region, 86 percent of total dollars will be invested within the 2000 Federal-aid Urban Boundary (FAUB). In other words, investments will be made where the majority of people live, work, shop, and socialize. (Table 17 outlines the percent investment within the FAUB by project type.)

Table 17
2030 RTP Investment within 2000 Federal-aid Urban Boundary

Investment Category	Percent Investment Within 2000 FAUB
Safety	96
Bridge	79
Pavement	80
Nonmotorized	90
Congestion (capacity)	99
Congestion (non-capacity)	79
Study	100
Other road capital	88
Road operating	82
Transit operating	96
Transit capital	93

Source: SEMCOG.

To understand how regional funding will be invested is important. It is even more important, however, to relate how the investments will impact the region's travelers. The performance measures defined earlier were applied and are documented in Table 18 for the following scenarios.

- The 2030 Do Nothing Scenario represents future conditions if no more investments are made in the transportation infrastructure between now and 2030, but the region continues to develop as currently expected. The evaluation compares conditions to the existing (2005) base scenario.
- The 2030 Basic/Full Maintenance Scenario represents the system if we focus all investment on maintenance of the existing system, but do not implement the transit plan or make any capacity improvements. The evaluation compares conditions to the 2030 Do Nothing Scenario. (The Basic Maintenance and Full Maintenance Scenarios are combined because they have the same impact on travel time and congestion.)
- The 2030 Transit Plan Scenario represents the system if we implement the transit plan, including rapid transit recommendations, and fully maintain the existing road system, but make no road capacity improvements. The evaluation compares conditions to the 2030 Do Nothing Scenario.
- The 2030 Full Capacity Scenario represents the system if we fully maintain the existing road system and widen all congested roads, and maintain the existing transit system, but do not implement any additional transit service. The evaluation compares conditions to the 2030 Do Nothing Scenario.
- The 2030 Ideal Investment Scenario represents the system if we address all \$70 billion worth of current and future needs by 2030 (full maintenance, full transit plan, and moderate capacity improvements). The evaluation compares conditions to the 2030 Do Nothing Scenario.
- The 2030 Preferred Alternative represents the system if the \$41 billion in transportation investments that have been submitted by the state and local road and transit agencies are implemented between now and 2030. The evaluation compares conditions to the 2030 Do Nothing Scenario.

Table 18
Transportation Scenario Evaluation

Measure of Performance	2030 Do Nothing Scenario	2030 Basic/Full Maintenance Scenario	2030 Transit Plan Scenario	2030 Full Capacity Scenario	2030 Ideal Investment Scenario	2030 Preferred Alternative
Auto delay	—	=	—	+	+	+
Truck delay	—	=	—	+	+	+
Congested vehicle miles traveled	—	=	=	+	+	+
Transit level of service	—	=	+	=	+	=
Average auto travel time to select activity centers*	=	=	=	—	—	=
Average auto travel time to jobs	—	=	=	+	+	=
Average transit travel time to select activity centers*	=	=	+	—	+	=
Average transit travel time to jobs	=	=	+	—	—	=
Average truck travel time to select freight centers*	=	=	=	—	—	=
Percent pavement in good condition	—	+	+	+	+	+
Percent bridges in good condition	—	+	+	+	+	+

Source: SEMCOG.

⊕ conditions improve; ⊖ conditions get worse; = conditions remain the same.

*Select activity centers include airports, entertainment centers, hospitals, and universities; select freight centers include regional rail terminals, ports, airports, and border crossings.

Note: Increases in travel time in the 2030 Full Capacity Scenario and 2030 Ideal Investment Scenario are primarily due to the continuing trend toward longer trips rather than an actual increase in congestion.

Clearly, doing nothing even as our region continues to grow and develop between now and 2030 (2030 Do Nothing Scenario) will cause conditions to worsen. Travel time and delay will increase, pavement and bridge conditions will deteriorate, and trucks will not be able to meet on-time delivery standards. While maintaining the existing road and transit systems (2030 Basic/Full Maintenance Scenario) will help us maintain or even improve current conditions, travel time and delay will increase for autos, trucks, and buses. Implementing the transit plan (2030 Transit Plan Scenario) will improve conditions for transit riders, and widening all roads (2030 Full Capacity Scenario) will improve conditions for cars and trucks, but neither will improve conditions for both road and transit users. In reality, the environmental and societal impacts of investing solely in one system (transit or roads) over the other would be to the detriment of both and would likely outweigh any anticipated travel benefits. Fixing everything (2030 Ideal Investment Scenario) will surely improve conditions more equitably, but we simply don't have the necessary revenues.

We really have no alternative but to implement a constrained list of both road and transit projects. Given the range of needs in the region and available funding, the 2030 Preferred Alternative is the best solution. Much will be left undone (on the part of both roads and transit), but there is benefit to implementing what we can.

The 2030 Preferred Alternative will decrease the amount of time we spend stuck in traffic by:

- retiming traffic signals so we spend less time sitting at red lights;
- expanding the FCP to better help stranded motorists so other drivers don't get backed up as the stranded motorists sit on the side of the freeway;
- using technology, such as changeable message signs on the freeways, to alert drivers to problems so they can change their routes and avoid traffic back-ups;
- encouraging people to van/carpool and telecommute, thereby putting fewer cars on the road during peak commute times; and
- adding additional traffic lanes where these other strategies won't work.

This alternative would invest nearly \$9 billion to maintain and operate the existing transit system as a more viable option for everyone. This is particularly important for those who need or choose to use transit to meet their daily needs, including the young, the elderly, persons with disabilities, and workers without cars.

This alternative would invest \$200 million on improving intersections and modernizing traffic signals, and another \$200 million on improving the nonmotorized system. This is particularly important for children as they ride, walk, and bike to school and other neighborhood centers.

This alternative would also repair or replace over 1,100 bridges, meaning school buses and ambulances won't have to make detours around closed or restricted structures. It would also repave or reconstruct over 6,000 miles of road, causing less wear and tear on our cars, trucks, and buses.

Transportation financing

Federal law requires the 2030 RTP be fiscally constrained, meaning the total cost of proposed projects cannot exceed available revenues. SEMCOG estimates \$40.3 billion will be available for road and transit projects from federal, state, and local sources from FY 2005-2030. The sum of costs for the projects contained in the 2030 Preferred Alternative is \$41 billion. While this figure is slightly more than the total revenue forecast, the small difference is actually due to the programming of funds not forecast by SEMCOG (e.g., from various discretionary federal road and transit programs). The projects submitted for inclusion in the 2030 RTP are, in fact, constrained to estimates of available resources. (For details on the forecast of available revenues through FY 2030 and a comparison to funding programmed for the 2030 RTP, see Appendix A, page 57.)

Air quality conformity

SEMCOG is currently required to conduct an air quality conformity analysis for two major pollutants — volatile organic compounds (VOCs) and nitrogen oxides (NO_x), which are the precursors to ozone and carbon monoxide (CO). In order for a conformity determination to be made, forecast emissions cannot exceed established budgets.

Table 19 shows the results of the 2030 RTP air quality conformity analysis. Forecast emissions for VOCs, NO_x, and CO are provided, as well as the VMT associated with each forecast. The analysis indicates future emissions of all three pollutants will be well below established mobile source emissions budgets. Additionally, emissions are expected to decrease substantially between 2005 and 2030, despite a significant increase in VMT during this period. The decrease in emissions is due to the phase-in of new federal requirements for cleaner vehicles as well as cleaner gasoline and diesel fuel. (For details on how the 2030 RTP meets air quality conformity requirements, see Appendix A, page 59.)

Table 19

Emissions from Ozone Precursors and Carbon Monoxide, Southeast Michigan

Scenario	Emissions (1,000's kg/day)			Daily VMT Summer* (in millions)	Daily VMT Winter* (in millions)
	VOCs	NO _x	CO		
Conformity Budget	156.8	374.6	3,486.3		
2005	121.3	321.0	2,098.0	145.7	106.3
2010	81.4	192.9	1,501.7	150.1	108.7
2020	50.4	65.2	1,230.0	158.0	112.8
2030	47.1	46.0	1,233.7	164.2	116.0

Source: SEMCOG.

*Emissions are calculated using the VMT associated with the U.S. Environmental Protection Agency-defined maintenance area for each pollutant, as well as the season in which that pollutant is most problematic. For VOCs and NO_x, this is the average summer weekday VMT for the entire seven-county Southeast Michigan region. For CO, it is the average winter weekday VMT for the tri-county area of Macomb, Oakland, and Wayne Counties.

Environmental justice

SEMCOG is also required to analyze the impact of proposed transportation investments on environmental justice (EJ) populations (African-American, Asian-American, Native American, and Hispanic persons and low-income households). First, the analysis evaluates the land area impacted by four types of proposed projects (bridge, enhancement, preservation, and safety) and also examines the dollar amounts spent on these types of projects. The objective is determining if EJ areas will receive an equitable share of these projects, which are considered beneficial. Next, the analysis considers the impact of proposed capacity projects on accessibility (defined in terms of travel time) to determine if decreases in accessibility are disproportionately borne by EJ areas. (A decrease in accessibility equates to an increase in travel time greater than 10 percent.) The results indicate 47 percent of land area impacted by the four project types considered is home to a significant EJ population and 52 percent of project funding is invested in EJ areas (Table 20). Considering 15.9 percent of all land area in the region is home to a significant EJ population, these results indicate EJ populations are receiving an equitable share of project benefits.

Table 20
2030 RTP Environmental Justice Project Analysis, Southeast Michigan

Project Type	Regional		Environmental Justice			
	Project Acres	Cost (\$1,000s)	Project Acres	Cost (\$1,000s)	Acres Ratio	Cost Ratio
Bridge	1,595	\$299,326	997	\$187,525	63	63
Enhancement	6,354	\$189,365	1,740	\$47,943	27	25
Preservation	18,327	\$2,413,209	7,518	\$1,299,040	41	54
Safety	5,537	\$398,144	3,948	\$190,778	71	48
Total	31,813	\$3,300,044	14,203	\$1,725,286	45	52

Source: SEMCOG.

Results also indicate that when proposed capacity projects are implemented, transit accessibility to jobs decreases in only four of the 1,442 traffic analysis zones (TAZ) in the region, and of those, only two are home to significant EJ populations. Transit accessibility to select activity centers (airports, entertainment centers, hospitals, and universities) decreases in only five TAZs, three of which are considered EJ TAZs. The analysis indicates no decreases in accessibility via auto, to either work or activity centers, between now and 2030.

The conclusion is that there are no disproportionately high and adverse impacts on EJ populations as a result of projects proposed in the 2030 RTP. (For details on how the 2030 RTP meets EJ regulations, see Appendix A, page 61.)

Consistency with regional CMS plan

SEMCOG has primary responsibility for maintaining a regional congestion management system (CMS) plan and using the results to recommend congestion mitigation strategies for inclusion in the 2030 RTP. SEMCOG identified current and future congestion in the region and determined which mitigation strategies might apply to those locations. Comparing the congestion mitigation recommendations from the CMS plan to the 2030 Preferred Alternative reveals a very close relationship. The 2030 Preferred Alternative contains \$4.8 billion to:

- implement a regional access management program and bottleneck elimination program;
- continue operating the FCP and expand operations as necessary;
- continue operating the ITS system currently in place and implement additional components as necessary;
- implement a regional traffic signal retiming program;
- continue operating existing transportation demand management (TDM) programs, such as van/carpooling, and Ozone Action, and develop additional TDM programs at the local level; and
- widen select roads where these other strategies do not reduce congestion to acceptable levels.

An additional \$8.8 billion is dedicated to maintaining and operating the existing regional transit system. While the main goal of transit is not congestion mitigation, it is considered a congestion mitigation strategy as it does reduce demand on the road network, particularly during peak commuting times.

The CMS plan represents a dynamic process. Each year, it is reviewed, updated, and enhanced. As projects are implemented, they are evaluated to determine the impact on congestion levels. Additional data will be collected and used to enhance the CMS technical process. New technical tools will be developed to better define congestion and identify appropriate mitigation strategies in the future.

Consistency with regional ITS architecture

SEMCOG is also responsible for maintaining a regional ITS architecture and ensuring the 2030 RTP is consistent with it. ITS refers to the application of transportation communications, control, and electronics technologies with the aim of improving the efficiency and safety of the transportation system. The architecture is a collaborative effort managed by SEMCOG to establish a framework for sharing information and integrating new ITS projects within existing systems in Southeast Michigan. The policies, initiatives, and projects included in the 2030 RTP have been reviewed against the regional ITS architecture for Southeast Michigan and found to be consistent.

Consistency with regional needs

In addition to congestion, projects proposed for inclusion in the 2030 RTP are also compared to bridge, safety, and pavement needs, again revealing a very close relationship. The 2030 Preferred Alternative contains \$2.6 billion for bridge repairs and replacements. Slightly more than \$318 million is specified for 111 particular bridge locations. Another \$2.2 billion is programmed for general bridge line items; assuming an average bridge cost of \$2.5 million results in another 888 bridges being repaired or replaced. Another 145 bridges are assumed to be repaired or replaced as part of larger road capacity projects. In all, the 2030 Preferred Alternative would result in over 1,100 bridge projects between now and 2030.

Approximately \$223 million is programmed for safety projects, such as intersection improvements, modernized traffic signals (including pedestrian signals), and rail crossing improvements. Nearly \$1 billion is programmed for intersection turn lanes and center left turn lanes, which can increase safety by providing protected signal phasing for motorists at intersections, removing turning vehicles from the main traffic flow, and providing pedestrian refuge areas.

The 2030 Preferred Alternative also contains \$7.1 billion in pavement projects. Most pavement funding is programmed as general line items, rather than for particular road segments. Assuming average pavement costs as outlined previously, over 6,000 miles of road will be repaved between now and 2030.

Consistency with regional priorities

As discussed previously, SEMCOG categorized all regional road corridors by priority level. This process took into account the nature of the corridors in terms of needs, function, land use, and demographics. When resources are limited, they should be focused on the highest priorities first. However, it must also be recognized that priority is often a matter of perspective. Regionally, high priority corridors are clearly those that carry the highest volumes across multiple counties, have multiple and more severe needs, and are in the most densely populated and developed areas. But the Southeast Michigan region is a complex network of local areas — each with their own local priorities. It is legitimate for local areas to want to focus at least some of the region's scarce resources on their own local priorities and, because regional resources are generated by the taxpayers, it must be expected that all taxpayers see some direct benefit from their contribution to the tax coffers. Comparing the 2030 Preferred Alternative to regional priorities does show the vast majority of regional resources are being spent on the higher priorities. In fact, considering all mappable projects (i.e., projects with sufficient geographic information to allow mapping to a particular location), approximately \$4 billion (92 percent) of investment is dedicated to regional and sub-regional priorities. Understandably, the remaining eight percent is spent on local priorities. These projects are primarily located in the more rural areas of the region, where there are fewer people and less dense development. This is not to say this investment is wasted. Where there are people and businesses, there will be transportation needs, which must be addressed for the sake of regional equity.

Consistency with regional transit plan

Approximately \$8.8 billion will be available from federal, state, and local sources for transit capital expenses (buses and facilities) and operating expenses (driver salaries, fuel, and administration) for FY 2005-2030. This money will be spent primarily on maintaining and operating existing services, with some minor expansion. In all, 20 percent of total RTP funding is dedicated to transit.

However, we need to do better. Better transit will help keep the region economically competitive, provide a higher quality of life, help alleviate road congestion, and serve those who cannot or choose not to drive. In 2001, SEMCOG adopted a regional transit vision, calling for 12 rapid transit lines, expanded fixed-route bus service, additional community transit, and regional links connecting the tri-county area with Livingston, Monroe, St. Clair, and Washtenaw Counties. Full implementation would cost \$7.2 billion between now and 2030 (in addition to the funding required to maintain current services).

A study of rapid transit between Ann Arbor and Detroit with connecting service to Metro Airport is currently underway. Unfortunately, other components of the transit vision cannot be programmed into the RTP at this time. No additional funds have been identified, and the RTP can only include projects the region can afford. It is possible to shift certain types of capital funds from road to transit projects, but they must be matched by funding from the transit agencies. In addition, such projects require operating dollars, which come almost exclusively from local resources. Eligible road funding is routinely shifted to transit operators to purchase buses, but no additional funding can be shifted until additional regional revenues are raised. Because funds do not currently exist to implement the transit plan doesn't mean it will never happen. The RTP is reviewed and updated every three years and is responsive to changing priorities.

In the meantime, the transit initiatives identified in the 2030 RTP will continue to be implemented. In particular, the Detroit Area Regional Transportation Authority (DARTA) was created to move transit forward in Southeast Michigan. If the region wants more transit, it must come together to make it happen. Transit proponents must work with DARTA to build consensus for raising additional revenues, make elected officials aware of the support for better transit, and ensure transit funding is spent efficiently.

2030 Policies and Initiatives

The 2030 Preferred Alternative represents a significant investment and will result in significant benefits for drivers, pedestrians, transit riders, freight shippers, and local business owners. Delay will be reduced. Current maintenance standards will be maintained. Safety will be improved. And transportation users will have better, safer, and more efficient travel options. But we are still funding just over half our total transportation needs. In addition to the projects contained in the 2030 Preferred Alternative, we must consider other ways to move the region forward, despite our financial shortfall.

The 2030 RTP represents much more than a simple list of projects to be funded and implemented. It also consists of distinct transportation policies and implementable transportation initiatives designed to guide further progress toward achieving stated goals and objectives and provide support for activities that enhance our regional transportation planning process.

For example, while we are making some headway in decreasing congestion, growth and development will continue stressing the system, making it difficult to get people to jobs, materials to plants, and finished products to market. So, we must increase public transit service by providing support to the newly formed regional transit authority, by refining the technical tools used to estimate transit demand and evaluate system performance, by completing the study of rapid transit options between Ann Arbor and Detroit and initiating such studies in other high-priority corridors, and by actively seeking the federal and local funding necessary to implement and operate the recommended services. We will also implement a regional traffic signal retiming program so we all spend less time sitting at red lights. And we will use the

newly developed travel demand forecasting model to evaluate and address the traffic impacts of construction and large-scale events such as the 2006 Super Bowl.

We also know we are falling short on preserving the existing transportation infrastructure. So, we need to continue collecting and analyzing pavement and bridge data via the Transportation Asset Management Council and use that data to develop a more effective preservation investment strategy. We need to convene a regional bridge committee to address the shortfall in regional bridge funding. We need to coordinate scheduling of construction projects and better track their implementation. And we need to take a closer look at our funding shortfall and present options for reducing it.

These are but a few examples. Following is a complete list of regional policies and initiatives. (Table 21 on pages 49-51 compares the initiatives to 2030 RTP goals.)

Policies

- Increase the provision of public transit as a viable alternative to automobile travel for both the transit dependent and choice riders.
- Support programs meeting the needs of the region's many different population groups, including persons with disabilities, the elderly, low-income persons, transit-dependent workers, choice commuters, and other special needs populations.
- Balance the desire for safe and efficient travel by all modes.
- Support collaboration with planning agencies, private enterprises, and public organizations, both foreign and domestic, to improve intermodal freight movement into and out of the region, within the region, and through the region.
- Support initiatives and projects designed to improve the existing transportation infrastructure, including roadways, bridges, airports, nonmotorized systems, and transit vehicles and facilities, and to enhance the overall security of the transportation system.
- Support transportation initiatives and projects enhancing and preserving the existing system via effective and innovative management strategies.
- Support use of new technologies, including data collection and analysis, Geographic Information Systems, and ITS, to improve the maintenance, operation, security, and future development of the regional transportation system.
- Improve economic vitality while enhancing accessibility, mobility, safety, environmental resources, and overall quality of life.
- Support appropriate roadway capacity improvements (identified in the regional CMS plan) in areas where other strategies, including congestion management and public transit, fail to improve traffic flow to acceptable levels. Balance capacity needs with environmental protection and community priorities.
- Support the continued enhancement and refinement of a regional safety management system, thereby increasing safety and security for all travelers.
- Support programs meeting the safety and security needs of transit passengers and employees.
- Encourage cooperation and coordination among the entities charged with facilitating international and homeland security.
- Support initiatives protecting and enhancing the natural and built environments, including sustainable development strategies.
- Reduce disproportionate transportation impacts on all groups. Balance transportation needs with neighborhood and community priorities.

- Support development of outreach activities aiming to involve populations traditionally underrepresented in transportation decision-making processes, and support a planning process open to collaboration with the public.

Initiatives

- Provide support to the regional transit authority to implement and enhance the regional transit plan by:
 - developing a quantitative analysis of demand response transit service;
 - developing more relevant tools for evaluating regional transit performance;
 - coordinating ongoing transit alternatives analysis studies (including the Ann Arbor to Detroit Alternatives Analysis/Environmental Impact Statement Study);
 - actively seeking funding for additional studies and implementation of completed studies; and
 - supporting long-range implementation of the ongoing Detroit-Chicago High-Speed Rail Passenger Corridor Study.
- Facilitate implementation of recommendations outlined in the *Elderly Mobility & Safety Final Plan of Action*.
- Examine transportation issues for persons with special needs — including persons with disabilities, low-income workers, young people, and the elderly — and develop recommendations as needed.
- Develop a more quantitative analysis of nonmotorized system needs and recommendations for development/expansion of the system. Coordinate such efforts with the Michigan Department of Transportation's regional nonmotorized investment strategy.
- Support community efforts to improve walkability and bikeability by developing tools and techniques for use by local officials.
- Develop a more quantitative land use/transportation interface and use it to examine the impact of transportation on land use and vice versa.
- Continue coordinating studies impacting freight movement in the region (Detroit Intermodal Freight Terminal, Blue Water Bridge Plaza Study, Ambassador Bridge Gateway, etc.). Maintain and fully utilize the data collected to plan and implement future project phases.
- Support efforts to improve traffic flow at border crossings (e.g., automated toll systems, increased inspection/customs personnel, additional border crossings, etc.) while maintaining security.
- More fully incorporate aviation, marine, and rail modes in the regional transportation planning process. Expand use of federal-aid funds for improving freight systems.
- Conduct a regional railroad grade separation analysis and make recommendations for improving safety and mobility at rail crossings.
- Develop the quantitative analyses necessary to implement and evaluate recommendations outlined in the regional CMS plan. Identify additional annual performance measures and collect the necessary data to support them.
- Develop a regional M&O committee to oversee development and implementation of an M&O strategy for effectively and safely managing the movement of people, goods, and vehicles on the region's transportation system.
- Develop a bottleneck elimination program.
- Coordinate alternative commuting initiatives (e.g., van/carpooling and park-n-ride) with the regional CMS plan.

- Identify and test the potential to increase freeway operations through use of adjacent underutilized arterials.
- Develop a regional signal coordination program and methods for evaluating and prioritizing the distribution of funds for signal improvements.
- Improve signage, both static and changeable.
- Support access management studies along selected regional corridors, as well as implementation of study recommendations.
- Maintain and expand the FCP.
- Develop and utilize quantitative measures of the benefits and costs of ITS.
- Support the efforts of the Transportation Asset Management Council to collect, evaluate, and report on regional pavement and bridge conditions. Use the data collected to formulate regional transportation funding decisions that are cost effective and efficient.
- Develop a regional bridge committee to make recommendations for addressing the shortfall in regional bridge funding.
- Continue monitoring transportation corridor studies conducted in the region (both road and transit) and support efforts to fund implementation of study recommendations. Corridor studies currently underway in the region include:
 - Ann Arbor to Detroit Alternatives Analysis/Environmental Impact Statement Study;
 - M-59 Road Improvement Study (I-96 to US-23);
 - I-75 Oakland County Planning/Environmental Study (8 Mile to M-59);
 - M-15 Environmental Assessment Study (I-75 to I-69);
 - Blue Water Bridge Plaza Study;
 - US-12 Improvement Study (Saline east city limit to Munger Road);
 - I-94 Rehabilitation Study (I-96 to Connor);
 - Canada-U.S.-Ontario-Michigan Border Transportation Planning/Need Feasibility Study;
 - Detroit Intermodal Freight Terminal;
 - US-24 Access Management Study (Labo Road to Albion Road);
 - M-59 Access Management Study (Ridge Road to Williams Lake Road); and
 - M-153 Access Management Study (Canton Township).
- Coordinate construction scheduling, implementation, tracking, and evaluation of transportation projects.
- Use the travel demand forecasting model to estimate the impacts of construction phasing on regional congestion and the benefit of various mitigation strategies during construction (e.g., detours, transit, etc.).
- Use the travel demand forecasting model to estimate the impacts of large regional events on travel patterns.
- More fully analyze the regional funding shortfall and options for reducing it, including innovative financing techniques and reprioritization of funding allocations.
- Analyze the economic impacts of transportation and land use decisions on the region.

- Develop and implement a more comprehensive plan for public involvement in all aspects and phases of the regional transportation planning process.
- Update and maintain the regional bus stop inventory and Advanced Transit Accident and Crime System database for use in transit planning activities.
- More fully incorporate issues of transportation security in the regional planning process.
- Develop a safety-conscious planning program by:
 - investigating more quantitative analysis and prioritization of future traffic safety needs,
 - analyzing the benefits of safety improvements,
 - facilitating use of SEMCOG's *Land Use Tools and Techniques* handbook, and
 - educating the public and local officials.
- Enhance analysis of the impacts (both positive and negative) of transportation projects.
- Expand analysis of transportation impacts to include, in addition to identified environmental justice groups, other ethnic groups, the elderly, persons with disabilities, low-income workers, and other identified special needs populations.
- Develop recommendations for addressing the region's designation as nonattainment for the new ozone and particulate matter standards.
- Develop a quantitative analysis of the impacts of transportation on water quality.
- Evaluate the impact of reauthorization of the federal transportation bill on the regional planning process and institute changes to the process as necessary.

Table 21
2030 RTP Initiatives in Relation to Goals

Initiative	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5
Provide support to the regional transit authority to implement and enhance the regional transit plan.	✓		✓		✓
Facilitate implementation of recommendations outlined in the Elderly Mobility & Safety Final Plan of Action	✓			✓	
Examine transportation issues for persons with special needs and develop recommendations as needed.	✓				
Develop a more quantitative analysis of nonmotorized system needs and recommendations for development/expansion of the system.	✓		✓	✓	✓
Support community efforts to improve walkability and bikeability by developing tools and techniques for use by local officials.	✓		✓	✓	✓
Develop a more quantitative land use/transportation interface and use it to examine the impact of transportation on land use and vice versa.	✓	✓	✓		✓
Continue coordinating studies impacting freight movement in the region. Maintain and fully utilize the data collected to plan and implement future project phases.		✓	✓		✓
Support efforts to improve traffic flow at border crossings while maintaining security.	✓	✓	✓		

Initiative	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5
More fully incorporate aviation, marine, and rail modes in the regional transportation planning process. Expand use of federal-aid funds for improving freight systems.	✓	✓	✓		
Conduct a regional railroad grade separation analysis and make recommendations for improving safety and mobility at rail crossings.	✓	✓	✓	✓	
Develop the quantitative analyses necessary to implement and evaluate recommendations outlined in the regional CMS plan. Identify additional annual performance measures and collect the necessary data to support them.	✓	✓	✓		✓
Develop a regional M&O committee to oversee development and implementation of an M&O strategy for effectively and safely managing the movement of people, goods, and vehicles on the region's transportation system.	✓	✓	✓	✓	✓
Develop a bottleneck elimination program.	✓	✓	✓	✓	✓
Coordinate alternative commuting initiatives with the regional CMS plan.	✓		✓		✓
Identify and test the potential to increase freeway operations through use of adjacent underutilized arterials.	✓	✓	✓		✓
Develop a regional signal coordination program and methods for evaluating and prioritizing the distribution of funds for signal improvements.	✓	✓	✓	✓	✓
Improve signage, both static and changeable.			✓	✓	
Support access management studies along selected regional corridors, as well as implementation of study recommendations.	✓		✓	✓	✓
Maintain and expand the FCP.	✓		✓	✓	✓
Develop and utilize quantitative measures of the benefits and costs of ITS.	✓	✓	✓	✓	✓
Support the efforts of the Transportation Asset Management Council to collect, evaluate, and report on regional pavement and bridge conditions. Use the data collected to formulate regional transportation funding decisions that are cost effective and efficient.	✓	✓	✓		
Develop a regional bridge committee to make recommendations for addressing the shortfall in regional bridge funding.	✓	✓	✓	✓	
Continue monitoring transportation corridor studies conducted in the region (both road and transit) and support efforts to fund implementation of study recommendations.	✓	✓	✓	✓	✓
Coordinate construction scheduling, implementation, tracking, and evaluation of transportation projects.	✓	✓	✓		✓
Use the travel demand forecasting model to estimate the impacts of construction phasing on regional congestion and the benefit of various mitigation strategies during construction.	✓	✓	✓		✓
Use the travel demand forecasting model to estimate the impacts of large regional events on travel patterns.	✓		✓		✓
More fully analyze the regional funding shortfall and options for reducing it.			✓		

Initiative	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5
Analyze the economic impacts of transportation and land use decisions on the region.	✓	✓	✓		✓
Develop and implement a more comprehensive plan for public involvement in all aspects and phases of the regional transportation planning process.	✓	✓	✓	✓	✓
Update and maintain the regional bus stop inventory and Advanced Transit Accident and Crime System database for use in transit planning activities.	✓		✓	✓	
More fully incorporate issues of transportation security in the regional planning process.				✓	
Develop a safety-conscious planning program.				✓	
Enhance analysis of the impacts (both positive and negative) of transportation projects.	✓		✓	✓	✓
Expand analysis of transportation impacts to include other identified populations.	✓		✓	✓	✓
Develop recommendations for addressing the region's designation as nonattainment for the new ozone and particulate matter standards.					✓
Develop a quantitative analysis of the impacts of transportation on water quality.					✓
Evaluate the impact of reauthorization of the federal transportation bill on the regional planning process and institute changes to the process as necessary.	✓	✓	✓	✓	✓

Source: SEMCOG.

Notes: Goal 1 – Enhance accessibility and mobility for all people.

Goal 2 – Enhance accessibility and mobility for freight while maintaining community integrity.

Goal 3 – Strategically improve the transportation infrastructure to enhance community and economic vitality.

Goal 4 – Promote a safe and secure transportation system.

Goal 5 – Protect the environment, both natural and built.

Conclusion

No single agency can be responsible for implementing the 2030 RTP. It requires coordination among many agencies, governmental units, special interest groups, and the general public. SEMCOG is responsible for bringing the appropriate parties together to ensure the blueprint for transportation in Southeast Michigan becomes reality. Project implementation is coordinated via the Transportation Improvement Program (TIP) process. The policies and initiatives will be carried out collaboratively — by standing committees such as the Federal-aid Committees, road and transit agencies, and various regional task forces convened by SEMCOG and others. SEMCOG's committee structure will be used to keep local elected officials aware of the progress made over the next several years and the public involvement process will be used to maintain an open dialogue with all interested parties. We are all part of the same region, and we all share the responsibility for continually crafting and implementing our shared vision for the future.

Appendix A: 2030 RTP Evaluation

The 2030 Regional Transportation Plan for Southeast Michigan (RTP) is subject to a number of evaluations designed to determine the impact of proposed policies, initiatives, and projects and to ensure all applicable laws and regulations have been followed. Even more importantly, these evaluations illustrate the success of the 2030 RTP in meeting the ultimate goal of improving regional transportation now and in the future.

Goals and Objectives

Implementing the policies, initiatives, and projects included in the 2030 RTP will allow the region to make significant progress toward stated goals and objectives as outlined below.

Enhance accessibility and mobility for all people

If the 2030 RTP is implemented, travel delay will decrease, as will the percentage of miles traveled under congested conditions. Average travel time (both auto and transit) will remain relatively constant, but this is primarily due to the continuing trend toward longer commute trips rather than an actual increase in congestion or decrease in travel speeds. Funding will be allocated to maintaining and operating the existing transit system, and some additional funding will be available to implement new bus routes in major commute corridors. Advancing the regional transit plan will also remain a high priority. Additional nonmotorized paths will be constructed, including links between existing paths, thereby creating a more coordinated and seamless nonmotorized network. The 2030 RTP also contains funding to construct intermodal facilities, such as park-and-ride lots where auto commuters can transfer to buses, and timed-transfer transit centers that make it easier to move from one bus route/system to another, thereby increasing connectivity. Finally, the 2030 RTP contains initiatives designed to improve mobility for the elderly, persons with disabilities, low-income workers, and young people.

Enhance accessibility and mobility for freight while maintaining community integrity

If the 2030 RTP is implemented, truck travel delay will decrease and average truck travel time will remain relatively stable. Border crossing movements will improve at both the Blue Water Bridge in Port Huron and Ambassador Bridge in Detroit. A study of a new international border crossing between Southeast Michigan and Southwest Ontario will also be completed, as will a study of a consolidated truck/rail terminal (Detroit Intermodal Freight Terminal) in the region. Numerous improvements will also be made to the road network — capacity expansions will facilitate more efficient truck movements, safety improvements will decrease truck crashes, bridge improvements will decrease detours around closed and restricted structures, and pavement projects will lead to less wear and tear on trucks. Finally, a regional freight task force will continue addressing other freight issues, including a lack of federal funding for all aspects of the freight system (including not only trucks, but also planes, trains, and boats).

Strategically improve the transportation infrastructure to enhance community and economic vitality

If the 2030 RTP is implemented, the existing transportation system will be preserved. Approximately 6,000 miles of road will be resurfaced, rehabilitated, or reconstructed; 1,100 bridges will be repaired or replaced; traffic signals will be modernized and retimed; roadways will be aesthetically improved with landscaping and street furniture; and the existing transit system will be maintained. While capacity expansion will be required in some locations, maintenance of existing infrastructure will clearly be given the priority. Over 86 percent of all investment will be spent within the urbanized area — focusing on the areas with the highest concentrations of people and jobs. Overall, the road and transit systems will operate more efficiently and effectively, thereby reducing the time we spend stuck in traffic.

Promote a safe and secure transportation system

If the 2030 RTP is implemented, safety will be improved by upgrading traffic signals (including pedestrian signals), adding intersection turn lanes and protected signal phasing, and adding center left turn lanes to remove turning vehicles from the flow of travel and provide pedestrian refuge areas. Recommendations addressing railroad grade separation concerns will be developed and implemented. Incident management activities (such as the Freeway Courtesy Patrol (FCP), freeway message signs, etc.) will be enhanced and expanded, thereby improving our ability to detect and clear incidents from the roadways and alert motorists so they can select alternate routes. Pedestrian issues will remain a high priority — additional nonmotorized facilities will be constructed, local communities will continue to be encouraged to become more pedestrian-friendly, and additional tools will be developed to help them do that. The regional transit bus stop inventory and safety database will be maintained and used to develop recommendations for increasing safety and security for transit riders and employees. Overall, safety will remain a high priority and SEMCOG will continue reaching out to local governments and encouraging safety-conscious planning at all levels.

Protect the environment, both natural and built

If the 2030 RTP is implemented, auto emissions will increase slightly, but will remain well below established budget limits. Fuel consumption will decrease, even as total miles traveled increase as fuel efficiency is improved. SEMCOG will continue working with local, state, and federal agencies to understand and address the implications of new air quality standards. New tools will be developed to more quantitatively analyze the impact of transportation investments on water quality. SEMCOG will also continue seeking better ways to quantify transportation impacts — both positive and negative — on the region's residents.

As always, SEMCOG will continue promoting active and open dialogue between the region's transportation agencies and the public in all aspects of regional transportation planning.

Federal Planning Factors

The Transportation Equity Act for the 21st Century (TEA-21) requires the planning process to take into account seven planning factors reflecting sound planning principles. These factors are associated with other important concepts, including social, economic, environmental, and land use impacts. The 2030 RTP effectively meets the challenges established by these factors.

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency

This planning factor relates directly to the 2030 RTP goal of investing strategically in transportation infrastructure to enhance the vitality of the community. The 2030 RTP includes many projects, policies, and initiatives supporting the movement of people to jobs, materials to plants, and products to market, thereby improving the regional economy.

Airports

The 2030 RTP supports efforts to maintain the region's airport capacity by supporting public purchase of private airports and upgrading airport service levels. The RTP also calls for a resolution of airport and community land use conflicts to allow airport expansion and development of related industries, while at the same time improving airport access for passengers and freight.

Freight movement

The 2030 RTP provides opportunities for private industry, freight haulers, and local and county governments to collaborate and plan for intermodal connectivity. SEMCOG facilitates a freight task force where representatives of various industries and governments come together to discuss freight issues and

possible solutions. One significant activity is the study of the Detroit Intermodal Freight Terminal (a combined rail/truck facility).

Border crossings

The 2030 RTP examines freight border crossing issues and seeks to advance the efficient movement of freight between Canada and the United States. SEMCOG is an active partner in the Canada-U.S.-Ontario-Michigan Transportation Partnership Planning/Need and Feasibility Study. The goal of this effort is developing a long-term strategy ensuring safe and efficient movement of people, goods, and services between the two countries. A second activity is SEMCOG's involvement in the Southeast Michigan/Southwest Ontario Binational Transportation Planning Project. This project's goal is expediting cross-border vehicle and cargo movements through coordination of planning and project implementation.

Congestion reduction

SEMCOG recognizes the impact road congestion has on freight and actively maintains a regional congestion management system (CMS) plan designed to identify congested locations and recommend mitigation strategies. The 2030 RTP contains \$4.7 billion in congestion mitigation projects — both capacity projects and non-capacity projects, such as changeable message signs and the FCP.

Labor force mobility

The 2030 RTP supports the region's many transit agencies whose riders are primarily traveling to and from work. SEMCOG also supports the Transportation to Work Coalition for Southeast Michigan, a regionwide coalition providing coordinated transit and paratransit trips for low-wage workers.

Increase the safety and security of the transportation system for motorized and nonmotorized users

This planning factor relates directly to the 2030 RTP goal of promoting a safe and secure transportation system. The 2030 RTP dedicates \$222 million to safety projects through FY 2030.

Safety

The 2030 RTP works to make the region's transportation system safer by including several important initiatives, including developing a safety-conscious planning program by investigating more quantitative analysis and analyzing the benefits of safety improvements. Another initiative is educating the public and local officials on effective safety practices.

Incident management

SEMCOG works with regional agencies to expand and enhance the region's incident management system. The 2030 RTP calls for developing a regional traffic operations committee to oversee development and implementation of regional operations improvements, including the FCP and Intelligent Transportation Systems (ITS).

Transit safety

SEMCOG continues to work with the region's transit providers to improve safety for passengers and employees. The 2030 RTP includes initiatives, policies, and projects supporting transit safety, including addressing real and perceived safety issues, supporting development of new maintenance facilities and a new downtown transit center, and improving amenities at bus stops and on buses.

Nonmotorized system safety

SEMCOG continues its commitment to helping bicycle advocacy groups and communities plan and implement nonmotorized activities. The 2030 RTP includes \$189 million for nonmotorized improvements throughout the region through FY 2030.

Increase the accessibility and mobility options available to people and for freight

At the heart of the 2030 RTP is accessibility and mobility options for people and freight. The 2030 RTP supports initiatives designed to improve accessibility for private vehicle users, pedestrians and bicyclists, transit users, and freight shippers.

Roadway congestion projects

The 2030 RTP was developed in accordance with the regional CMS plan. Current and future congestion was identified. Non-capacity mitigation strategies, including ITS, FCP, access management, transit, and transportation demand management, were considered first and then evaluated at the system level. Where these strategies did not appear effective, capacity expansion (i.e., additional lanes) was recommended. The 2030 RTP includes \$772 million for non-capacity mitigation strategies and \$3.9 billion for selective widening projects.

Elderly mobility

In 1999, SEMCOG developed a statewide *Elderly Mobility & Safety Final Plan of Action*, including specific recommendations in the areas of traffic engineering, alternative transportation, housing, health, driver licensing, and education. An Elderly Mobility Work Group was formed by the Governor's Traffic Safety Advisory Commission and continues to monitor progress. The 2030 RTP contains an initiative to continue working with the state to facilitate implementation of the recommendations. Doing so will not only improve mobility for the elderly, but for the rest of the traveling public as well.

Transit service

The 2030 RTP builds upon SEMCOG's continued success as a regional facilitator for improved transit service, and includes funding to maintain and operate the existing transit service. It also includes an initiative supporting continued efforts to implement the regional transit plan.

Persons with disabilities

The 2030 RTP was developed in coordination with the regional transit agencies. Transit services are operated pursuant to the Americans with Disabilities Act (ADA) and federal transportation requirements and are triennially reviewed by the Federal Transit Administration (FTA) to ensure current services are in compliance with applicable regulations. These reviews indicated the regional transit agencies are in compliance with ADA and FTA requirements. In addition, the 2030 RTP contains several initiatives designed to help address the transportation needs of persons with disabilities, such as supporting more and better transit, encouraging community safety and walkability, and updating the regional bus stop inventory for use in implementing physical improvements, such as wheelchair pads and lighting.

Protect and enhance the environment, promote energy conservation, and improve quality of life

SEMCOG continues its commitment to the environment, energy conservation, and improvements to quality of life. This federal planning factor relates directly to the 2030 RTP goals of enhancing accessibility and mobility for freight while maintaining community integrity, improving transportation infrastructure to enhance community and economic vitality, and protecting the environment. The 2030 RTP supports projects designed to promote alternatives to automobile travel, reduce auto emissions caused by idling in traffic, and reduce the impact of traffic incidents, such as crashes and special events. The 2030 RTP also contains initiatives dealing with the region's designation as nonattainment for new ozone and particulate matter standards. Finally, the 2030 RTP continues to support efforts to analyze and mitigate negative impacts on environmental justice populations and seek input from groups traditionally underrepresented in the transportation planning process.

Enhance the integration and connectivity of the transportation system across and between modes for people and freight

This factor relates to the 2030 RTP goals of enhancing accessibility and mobility for both people and freight and strategically improving the transportation infrastructure to enhance community and economic vitality.

Transit connectivity

The 2030 RTP includes policies and initiatives encouraging cooperation among the region's transit providers to coordinate routes and schedules, making it easier for passengers to move from one bus to another or from one system to another. The 2030 RTP also supports the efforts of the new regional transit authority to launch an integrated and coordinated system of public transit services.

Efficient border crossings

The 2030 RTP supports continued collaborative efforts with Canadian officials, including the Fast and Secure Trade (FAST) program that streamlines the border crossing process, enhances security, and improves the efficient flow of commodities between the nations. The 2030 RTP contains funding for improvements at both the Blue Water Bridge Plaza in Port Huron and the Ambassador Bridge Gateway in Detroit and for continued study of a new international border crossing in the region.

Intermodal freight facilities

The 2030 RTP supports development of intermodal freight facilities, such as the Detroit Intermodal Freight Terminal. It also calls for additional federal funding sources facilitating improved freight movement through the region.

Promote efficient system management and operation

This factor relates to the 2030 RTP goals of enhancing accessibility and mobility for people and freight and promoting a safe and secure transportation system. The 2030 RTP includes substantial funding for system management and operations, including a regional signal retiming program. Several initiatives are also designed to coordinate regional operations activities in the region.

Emphasize the preservation of the existing transportation system

This federal planning factor directly relates to the 2030 RTP goal of strategically improving the transportation infrastructure to enhance community and economic vitality. The 2030 RTP supports the continued efforts of the Transportation Asset Management Council to collect road and bridge data and to develop a consistent asset management system. The 2030 RTP contains \$22.7 billion to operate the existing road and transit systems. Of the \$18.1 billion in capital funding, 78 percent (\$14.2 billion) is dedicated to preserving the existing system.

Transportation Financing

The financial forecast is an important tool in developing the 2030 RTP. The findings provide an estimate of federal, state, and local transportation funding available in Southeast Michigan for FY 2005-2030. With this information, local road agencies, the Michigan Department of Transportation (MDOT), and transit agencies can reasonably predict their abilities to address current and future needs of the transportation system and submit projects for inclusion in the 2030 RTP. The estimates are then compared to the submitted projects to confirm planned project costs do not exceed expected revenues.

Revenue forecast

The complete revenue forecast for the 2030 RTP is the sum of several different revenue forecasts conducted for many kinds of revenue data. Future funding from federal road and transit programs, revenue raised by the State of Michigan, and various kinds of local transportation revenue were all forecast separately. The statistical methods followed for the 2025 RTP forecast were reviewed and

replicated for many of the federal-aid programs and the Michigan Transportation Fund (MTF). There were significant changes, however, to the overall methodology, especially in how Revenue Aligned Budget Authority amounts are accounted for in the forecast of federal-aid funds. Moreover, unlike the revenue forecast for the 2025 RTP, revenue for transit agencies is estimated using the same methodology as for roads. The primary method used to conduct these various revenue forecasts is simple linear regression based on recent historical data. In some instances, because of a lack of historical data or a lack of historical trends, average annual amounts are used for each fiscal year. Data from annual federal-aid highway apportionments, statewide MTF amounts, local Public Act 51 of 1951 reports, the National Transit Database, and Public Transportation Management System Annual Operating Reports, were used to conduct the various revenue forecasts.

SEMCOG estimates \$40.3 billion in available revenues for road and transit agencies from federal, state, and local sources for FY 2005-2030 (Table 22). Approximately \$12 billion comes from federal fuel tax revenues for the operation, maintenance, and capital improvement of both the road and transit systems. The State of Michigan will provide about \$19 billion in revenue, mainly from the state gasoline tax; local governments will provide about \$9 billion. Local governments will contribute a much greater share of the overall revenue needed to maintain and improve the transportation system in Southeast Michigan than has been forecast previously. Indeed, the local share of revenues is three times greater than it was in the 2025 RTP. Local revenue for transportation needs can come from a wide variety of sources, including millages, special assessments, user fees, and fund transfers.

Table 22
Summary of Available Revenue for the 2030 RTP, FY 2005-2030
(thousands)

Revenue Source	Revenue Available		
	Road	Transit	Total
Federal	\$11,045,600	\$1,415,900	\$12,461,500
State	\$16,989,000	\$1,535,800	\$18,524,800
Local	\$3,839,600	\$5,486,200	\$9,325,800
Total	\$31,874,200	\$8,437,900	\$40,312,100

Source: SEMCOG.

Fiscal constraint

The sum of the total costs of the projects necessary to operate, maintain, and strategically improve the transportation infrastructure in Southeast Michigan is nearly \$41 billion (Table 23). While this figure is slightly more than the total forecast revenue, which would make the project list seem unconstrained, the small difference is actually due to use of non-forecast revenue (e.g., various discretionary federal road and transit programs).

There is currently a period of great uncertainty regarding future federal and state funding levels for transportation with the expiration of TEA-21 in 2003 and barely increasing MTF revenues. With this in mind, the long-range forecast of transportation funding is calculated conservatively. While acknowledging that its forecasting work will continue to improve, and methodologies and procedures will be further refined, SEMCOG is confident that the results of the 2030 RTP financial forecast are reasonable estimates of the amount of funding the region's transportation agencies can expect to receive from 2005-2030 and that the 2030 RTP is constrained to those estimates.

Table 23
Summary of Expenditures for the 2030 RTP, FY 2005-2030
(thousands)

Expenditure Source	Expenditure Made		
	Road	Transit	Total
Federal	\$11,054,459	\$1,586,462	\$12,640,921
State	\$17,422,636	\$1,552,370	\$18,975,006
Local	\$3,671,829	\$5,610,152	\$9,281,981
Total	\$32,148,924	\$8,748,984	\$40,897,908

Source: SEMCOG.

Air Quality Conformity

As the lead local air quality planning agency in the region, SEMCOG is responsible for managing and facilitating the transportation air quality conformity process in Southeast Michigan. Conformity is a federal regulation contained in the Clean Air Act Amendments of 1990 (CAAA) requiring that transportation plans (including the 2030 RTP), programs, and projects in designated areas conform to their state's air quality plan, known as the State Implementation Plan (SIP). Essentially, the 2030 RTP must undergo a quantitative analysis demonstrating that emission levels associated with implementing the plan are below designated emissions level limits (budgets) set forth in the SIP.

The transportation conformity process is the major connection between transportation planning and emissions reductions from transportation sources. According to the metropolitan planning requirements of TEA-21, federally funded projects cannot be approved, funded, or implemented unless they are included in a conforming long-range regional transportation plan and short-range transportation improvement program. Enactment of the CAAA and TEA-21 created a new regulatory climate where transportation agencies are directed to make air quality a goal and are given fiscal incentives for compliance.

Southeast Michigan's air quality status

Air quality conformity analyses for Southeast Michigan currently involve two major pollutants — ozone (and its precursors, volatile organic compounds and nitrogen oxides) and carbon monoxide (CO). These pollutants may potentially cause or exacerbate health problems, as well as affect ecosystems and the built environment through corrosion. Air quality can also be affected by emissions of both coarse and fine particulate matter (PM₁₀ and PM_{2.5}). While conformity analyses for particulate matter are not currently required in Southeast Michigan, a new PM_{2.5} standard will require such analyses by January 2006.

The National Ambient Air Quality Standards (NAAQS) for the above pollutants are set at levels the U.S. Environmental Protection Agency (USEPA) believes will protect public health and welfare. NAAQS are used as the basis for determining an area's air quality designation (i.e., status, as "attainment" or "nonattainment"). Generally, a nonattainment area is one that does not meet a particular NAAQS. An area may be classified nonattainment for one pollutant and attainment for others. It is also possible for a nonattainment area to be reclassified as attainment if it is able to achieve the standard over time. Such areas are given a "maintenance" status, requiring them to demonstrate continued compliance with the standard in future but not impose additional controls to further reduce emissions.

Currently, transportation conformity analyses are required for all regions designated by the USEPA as either nonattainment or maintenance for the one-hour ozone, CO, or PM₁₀ standards. In addition, conformity will soon be required for two new NAAQS — eight-hour ozone and PM_{2.5}. Southeast Michigan's air quality designation and conformity requirements related to each of these standards are summarized below.

One-hour ozone

In 1995, the region was redesignated from nonattainment to maintenance for the one-hour ozone standard. At that time, a maintenance plan was developed establishing emissions budgets for the two precursors of ozone — volatile organic compounds (VOCs) and nitrogen oxides (NO_x). In order for a conformity determination to be made with regard to the one-hour ozone standard, VOCs emissions cannot exceed the mobile source emissions budgets of 198 thousand kilograms per day (kgs/day) for years 2004-2014, and 157 thousand (kgs/day) for years 2015 and beyond. For NO_x, emissions cannot exceed the budget of 375 thousand kgs/day in any analysis year.

Carbon monoxide

In 1999, the region was redesignated from nonattainment to maintenance for CO. Similar to ozone, a positive conformity determination for CO requires that emissions in any future year remain at or below the approved mobile source emissions budget of 3,486 thousand kgs/day.

Eight-hour ozone

On April 15, 2004, the EPA officially designated Southeast Michigan a moderate nonattainment area for the eight-hour ozone standard. A SIP, which must be approved by 2007, is currently being developed to address this problem. Transportation conformity to this new standard will be required beginning June 15, 2005. Procedures for conducting a conformity analysis prior to development of SIP budgets are still being prepared by USEPA. Once these procedures are in place, a new conformity analysis of the 2030 RTP will be prepared in time for the June 2005 deadline.

PM₁₀

As Southeast Michigan currently meets the NAAQS for this pollutant, a regional conformity analysis is not required.

PM_{2.5}

It is expected that EPA will designate some portion of Southeast Michigan as nonattainment for this new standard in January 2005. As with the eight-hour ozone standard, the nonattainment portion of Southeast Michigan will then have to demonstrate transportation conformity with this standard within one year of designation (January 2006). Procedures for conducting a PM_{2.5} conformity analysis are still being developed by USEPA.

2030 RTP conformity results

Table 24 shows the results of the 2030 RTP air quality conformity analysis. Forecast emissions for VOCs, NO_x, and CO are provided, as well as the vehicle miles of travel (VMT) associated with each forecast. The analysis indicates future emissions of all three pollutants will be well below established mobile source emissions budgets. Additionally, emissions are expected to decrease substantially between 2005 and 2030, despite a significant increase in VMT during this period. The decrease in emissions is due to the phase-in of new federal requirements for cleaner vehicles as well as cleaner gasoline and diesel fuel.

Table 24

Emissions from Ozone Precursors and Carbon Monoxide, Southeast Michigan

Scenario	Emissions (1,000's kg/day)			Daily VMT Summer* (in millions)	Daily VMT Winter* (in millions)
	VOCs	NO _x	CO		
Conformity Budget	156.8	374.6	3,486.3		
2005	121.3	321.0	2,098.0	145.7	106.3
2010	81.4	192.9	1,501.7	150.1	108.7
2020	50.4	65.2	1,230.0	158.0	112.8
2030	47.1	46.0	1,233.7	164.2	116.0

Source: SEMCOG.

* Emissions are calculated using the VMT associated with the USEPA-defined maintenance area for each pollutant, as well as the season in which that pollutant is most problematic. For VOCs and NO_x, this is the average summer weekday VMT for the entire seven-county Southeast Michigan region. For CO, it is the average winter weekday VMT for the tri-county area of Macomb, Oakland, and Wayne Counties.

Environmental Justice

SEMCOG evaluates the strength of the 2030 RTP by its commitment to meeting the transportation needs of all citizens, particularly those who have traditionally been underrepresented in the transportation planning process. Besides the customary practices designed to facilitate collaborative interaction during all phases of the transportation planning process, SEMCOG evaluates the impacts of the 2030 RTP on five groups — low-income households, and African-American, Asian-American, Native American, and Hispanic persons.

Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1) states that, “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” In the same spirit, President Clinton issued Executive Order 12898 on February 11, 1994, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The stated purpose of this order is to make achieving environmental justice part of (each Federal agency’s) mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. Similar orders followed from the U.S. Department of Transportation (USDOT) and Federal Highway Administration. The USDOT order specifically defines the five populations that must be included in environmental justice (EJ) analyses.

Title VI, Executive Order 12898, and the USDOT order contain no specific requirements in terms of evaluating the impacts of the transportation planning process on the defined populations. SEMCOG has taken the lead in conducting analyses of project implementation, accessibility, and public involvement. These analyses may be refined in the future as SEMCOG evaluates its planning process and products on an ongoing basis to ensure equitable treatment of all people in compliance with Title VI and the various EJ orders.

Identification of EJ populations

The first step in the 2030 RTP analysis is identifying the location of the defined EJ populations. Minority populations are defined in the USDOT order as persons who are African-American, Asian-American, Native American, or of Hispanic descent. Low-income means persons whose household income is at or below the Department of Health and Human Services poverty guidelines. Based on regional totals, minority persons make up 27 percent of the region's total population. In addition, 10 percent of households in the region are living at or below the poverty level.

For both minority populations and low-income households, 2000 U.S. Census block groups where the percentage population of either group meets or exceeds the regional average are identified as EJ block groups. Additionally, traffic analysis zones (TAZ) are identified as EJ TAZs if they contain any part of an identified EJ block group. Regionwide, 15.9 percent of total land area is home to a significant EJ population. (Figure 11 shows the locations of identified EJ populations.)

Project analysis

The 2030 RTP project analysis includes mappable projects (i.e., projects that contain sufficient geographic information to allow mapping to a particular location) in four categories — bridge, enhancement (such as nonmotorized and streetscaping projects), road preservation, and safety. These four project types are generally considered to have a positive impact on the adjacent community. For each project type, the land area surrounding the projects is tabulated and assigned to either the EJ total or the non-EJ total. The same is done for project costs; in this portion of the analysis, general line-item projects (i.e., those assigned only to a county or municipality rather than a particular road segment) are also included, with dollar amounts distributed based on the EJ to non-EJ ratio in the designated area. In all, 725 projects totaling \$3.3 billion were analyzed.

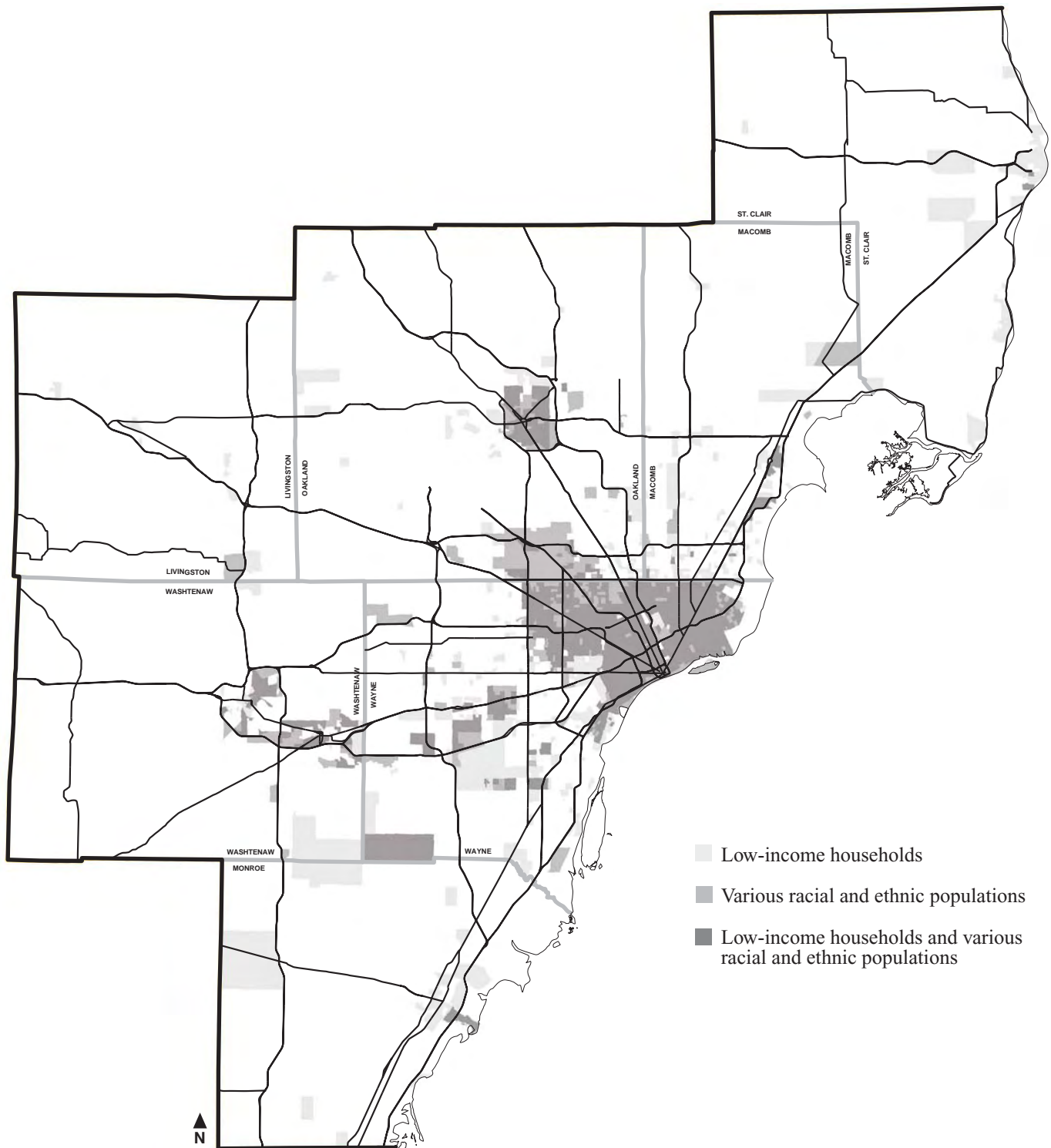
Results indicate that of the 31,813 acres surrounding these projects, 14,203 (47 percent) are home to a significant EJ population. Of the \$3.3 billion invested in these types of projects, \$1.7 billion (52 percent) is invested in EJ areas (Table 25). Considering 15.9 percent of all land area in the region is home to a significant EJ population, these results indicate EJ populations are receiving an equitable share of project benefits.

Table 25
Environmental Justice Project Analysis

Project Type	Regional		Environmental Justice			
	Project Acres	Cost (\$1,000s)	Project Acres	Cost (\$1,000s)	Acres Ratio	Cost Ratio
Bridge	1,595	\$299,326	997	\$187,525	63	63
Enhancement	6,354	\$189,365	1,740	\$47,943	27	25
Preservation	18,327	\$2,413,209	7,518	\$1,299,040	41	54
Safety	5,537	\$398,144	3,948	\$190,778	71	48
Total	31,813	\$3,300,044	14,203	\$1,725,286	45	52

Source: SEMCOG.

Figure 11
**Environmental Justice Populations
Southeast Michigan**



Source: SEMCOG.

Accessibility

Accessibility is another indication of the impact 2030 RTP projects could have on EJ groups. How will areas be affected by implementation of the projects in this plan that increase capacity? Will accessibility be disproportionately gained or lost in one area over another? To answer these questions, a measure of accessibility was developed using SEMCOG's travel demand forecasting model. This analysis addresses the impact of capacity projects on accessibility, which is defined as a function of travel time from one TAZ to another. Accessibility is said to decrease if travel time increases by more than 10 percent. Accessibility to jobs and select activity centers (airports, entertainment centers, hospitals, and universities) is considered for both auto and transit trips, both before and after implementation of proposed capacity projects. Of the 1,442 TAZs in the region, only four will see a decrease in transit accessibility to work. Of those, only two are identified EJ TAZs. Five TAZs will see a decrease in transit accessibility to activity centers, three of which are EJ TAZs. There will be no decreases in auto accessibility to either work or activity centers. These results indicate there appears to be no disproportionate negative impact on accessibility in EJ areas due to implementation of 2030 RTP capacity projects.

Public Involvement

While project evaluation is an important aspect of ensuring environmental justice, so too, are planning processes such as public involvement. The public involvement process is an important element in transportation planning and SEMCOG values the input of all persons. It is of particular concern that those who have historically been underrepresented be sought out and heard, including EJ populations.

Because of the importance of public involvement, SEMCOG has endeavored to meet with representatives from the various EJ populations and involve them in the transportation planning process. Feedback from the representatives has been shared with SEMCOG's various committees. SEMCOG has an active general media strategy for using television, radio, cable television, and editorial boards to disseminate important messages. Specific actions taken by SEMCOG to reach out to EJ populations include placing advertisements in various news publications reaching African-American, Asian-American, Native American, and Hispanic persons and low-income residents and focusing efforts to meet with and present information to these various groups. Information is also disseminated through local block clubs, libraries, and various grass roots organizations.

Public Priorities

The public involvement program designed for the development, review, and approval of the 2030 RTP uses a three-pronged approach — education, receipt of comments, and synthesis of ideas. In order for the public involvement program to be truly effective, releases of information and activities must be tied to key milestones and interim products in the 2030 RTP development process. These interim products are by no means small or insignificant — they are important components, including the regional development forecast (RDF); regional transit plan; goals and objectives; regional needs analysis (both process and results); revenue forecast; and policies, initiatives, and projects. All combined, these components comprise the 2030 RTP. Each of these milestones was presented to SEMCOG's Transportation Advisory Council, Executive Committee, and/or General Assembly (either for information or action) at meetings open to the public; described and promoted on the SEMCOG Web site; and announced via *Regional Update*, media releases, and/or public notices. Two of the milestones — the RDF and transit plan — had supplemental public involvement plans with special meetings designed for public input.

SEMCOG's public involvement program seeks to involve the public early and often in the regional transportation planning process and focuses on reaching and involving individuals who are not traditionally involved. The public is considered to include private residents, business/industry representatives, and special interest/advocacy groups.

Education

SEMCOG has an ongoing commitment to educating the public regarding transportation issues and potential solution strategies. During 2030 RTP development, SEMCOG created a variety of educational initiatives targeted to various audiences as outlined below by four distinct types of activities:

Presentations and public meetings

- joint presentations — co-sponsorship of meetings with other organizations, such as Federal-aid Committees, the Michigan Department of Transportation, and transit agencies;
- speakers bureau — presentations by SEMCOG staff to groups on a specific topic;
- SEMCOG University — in-depth presentations on technical information designed for transportation professionals; and
- Town Hall Meetings — meetings inviting the public to learn about the 2030 RTP.

Publications

- general publications — general-information publications, such as the *Citizens' Guide to Transportation Planning in Southeast Michigan*;
- serial publications — *Regional Update*, designed for local governments and *SEMscope*, designed for the general public;
- tip cards — informational “take-with” cards distributed in bulk to local libraries, city, village, and township halls, and various distribution points throughout the region; cards contain basic information about the region’s transportation system, agencies to contact for information, and Town Hall meeting dates; and
- Web — an RTP Web page with a comprehensive, up-to-date listing of all important 2030 RTP developments.

Displays

- mobile displays — free-standing display boards loaned to libraries, public buildings, and government offices throughout the region.

Notifications

- public notices — announcements mailed to a list of over 2,500 individuals and organizations;
- media releases — announcements sent to over 200 media outlets in the region;
- public service announcements — on-air announcements related to the 2030 RTP, including those by the Detroit Reader Information Service for persons who are print impaired; and
- media engagement — meetings with editorial boards, television and radio interviews, and cable television programs.

Comments

SEMCOG works closely with local governments and encourages citizens to offer their comments on key 2030 RTP components, both to SEMCOG and other transportation agencies. SEMCOG’s public information pieces include contact names, phone numbers, and Web addresses for those other transportation agencies.

During 2030 RTP development, SEMCOG sponsored a series of forums and workshops on general transportation issues and transit specifically. Over the course of two years, the agency held three forums

and 23 workshops at various regional locations at various times of the day.³ At all meetings, participants were asked to evaluate different transportation system components and offer their comments on potential solution strategies. These comments were collected and analyzed, then used as input that ultimately shaped both the regional transit plan and the 2030 RTP.

SEMCOG also receives direct comments from the public throughout the planning process — by e-mail, mail, a toll-free comment line, and during SEMCOG meetings. SEMCOG regularly asks meeting participants to complete comment cards or questionnaires. The mobile display discussed previously also includes mail-back comment cards. The comment cards and questionnaires are standardized and responses from all are combined for analysis. All comments receive a response. In some instances, the comments may also be referred to other agencies. All comments and their responses are kept by SEMCOG and made available for review by the public.

Another initiative undertaken by SEMCOG in preparation for the 2030 RTP was a regionwide public opinion survey. In the summer of 2002, SEMCOG sponsored a survey on transportation issues.⁴ The survey was administered by telephone (to a statistically representative population sample) and was also posted on the SEMCOG Web site.

Finally, SEMCOG routinely undertakes a review and content analysis of newspaper articles, letters to the editor, and editorials in an effort to learn more about the ideas, concerns, and issues expressed by or for the public.

Synthesis of public priorities

It is critical to the planning process that the public's ideas and concerns are included in development of the 2030 RTP. SEMCOG, working with and listening to the public, developed a comprehensive understanding of the public's transportation needs. The result of this work is the identification and prioritization of issues by the public as follows:

- maintaining pavement in good condition;
- improving road safety and maintenance;
- providing public transit for people with special needs;
- providing public transit for all people;
- adding lanes to existing roads;
- fixing closed and restricted bridges;
- using more high-tech transportation monitoring devices;
- encouraging alternative commute practices;
- providing walking and bicycling paths; and
- dedicating lanes for high-occupancy vehicles.

SEMCOG has effectively used the public's transportation concerns to shape the 2030 RTP. There is a good match between the public's prioritization of transportation needs and the spending of regional resources (Table 26). The public identified pavement/road conditions as their first concern; the 2030 RTP

³ Details of the forums can be found in the SEMCOG publications *Transportation 2000 and Beyond: A Visioning Process* (September 1999); *Regional Transit: What's its Future?* (August 2000); and *Improving Transit in Southeast Michigan: A Framework for Action* (October 2001).

⁴ For more information, refer to the SEMCOG publication *Regional Transportation Opinion Survey: Reporting the Results*.

dedicates \$22.9 billion or 56 percent of its funds for road preservation projects. The public identified safety needs as the second highest priority; the 2030 RTP dedicates \$222 million or nearly one percent of its funds on safety projects and also contains policies and initiatives acknowledging safety as a high regional priority. The public identified transit as the third most important need; the 2030 RTP dedicates \$8.5 billion or almost 21 percent of its funds to transit projects.

It should be noted that this analysis includes only 2030 RTP projects which have dollar values assigned. The 2030 RTP also includes policies and initiatives related to various transportation priorities. In the case of safety, the fact that the RTP contains relatively little funding for safety projects is not indicative of a low priority level. Safety projects are relatively inexpensive compared to pavement or congestion projects and will always represent a relatively small portion of total funding amounts. However, the 2030 RTP also contains a number of initiatives (for which dollar values are not assigned) supporting continued efforts to improve transportation safety. Safety has been and will remain a very high priority for SEMCOG and its planning partners.

Table 26
Public Prioritization of Needs Compared to 2030 RTP Spending

Public Rank	Transportation Issue	RTP		
		Investment Rank	Investment (billions)	Percent Investment
1	Maintaining pavement in good condition	1	\$22.9	56
2	Safety	6	\$0.2	1
3	Transit	2	\$8.7	21
4	Congestion	3	\$3.9	10
5	Fixing bridges	4	\$2.6	6
6	Hi-tech system monitoring devices/alternative commute	5	0.8	2
7	Nonmotorized	7	0.2	1
N/A	Other issues*	N/A	1.5	4
Total			40.8	100

Source: SEMCOG.

*Other issues category includes transportation projects not fitting into public rank categories, such as road and transit studies.

Note: Totals may not match sum of individual numbers due to rounding.

Public Comment on the Draft 2030 RTP

SEMCOG's General Assembly released the draft 2030 RTP for public and agency review and comment on June 17, 2004 and accepted comments through November 4, 2004 when the final 2030 RTP was adopted. The comment period was announced via media releases, public notices, *Regional Update*, and the Summer 2004 *SEMscope*. The draft was discussed via local and cable news and public affairs programs, radio interviews, meetings with editorial boards, and public service announcements. Five Town

Hall meetings were held — one each in Howell, Monroe, and Southfield, and two in the City of Detroit — and 69 people attended at least one meeting. SEMCOG hosted a meeting for state and local road and transit agencies and made presentations upon request. Particular emphasis was placed on soliciting presentations to groups traditionally underrepresented in the transportation planning process. Traveling display boards and information cards were exhibited at libraries and public facilities throughout the region. The draft executive summary was translated into Spanish, read on the Detroit Reader Information Service (a radio station for the print impaired), and recorded in audio format. (The Spanish and audio formats were also posted on SEMCOG's Web site.) On August 23, 2004, a special issue of *Regional Update* summarizing public involvement activities, responding to frequently heard comments, and identifying remaining comment opportunities was sent to SEMCOG's entire mailing list, including town hall meeting attendees, libraries, and the media.

Table 27 summarizes comments received on the draft 2030 RTP by topic (regional development, general transportation, regional transportation investment, mobility, nonmotorized travel, transportation system preservations, specific projects, public transit, and truck traffic).

Table 27
Draft 2030 RTP Comments and Responses

Topic: Development	
Comment:	Inquiry re: relationship between RTP and development forecast
Response:	The RTP is based on current and anticipated development patterns, which are governed by local planning policies. Transportation project decisions in the RTP also take into account many other factors beyond the development forecast. The RTP includes many Smart Growth principles, including an emphasis on maintaining the existing system and improving all modes of travel.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Suggestion that alternative development projections be explored
Response:	The RTP is based on current and anticipated development patterns, which are governed by local planning policies. Transportation project decisions in the RTP also take into account many other factors beyond the development forecast. The RTP includes many Smart growth principles, including an emphasis on maintaining the existing system and improving all modes of travel.
Resolution:	No changes necessary
Copied:	N/A
Comment:	RTP does not address relationship between community development and transit; does not include Smart Growth principles
Response:	The RTP is based on current and anticipated development patterns, which are governed by local planning policies. The limited amount of likely local funding available for public transit makes it difficult to incorporate extensive expansion of transit into the RTP. The RTP includes many Smart Growth principles, including an emphasis on maintaining the existing system and improving all modes of travel.
Resolution:	No changes necessary
Copied:	N/A
Comment:	RTP supports sprawl and needs to be based on new development model
Response:	The RTP is based on current and anticipated development patterns, which are governed by local planning policies. Transportation project decisions in the RTP also take into account many other factors beyond the development forecast. The RTP includes many Smart Growth principles, including an emphasis on maintaining the existing system and improving all modes of travel.
Resolution:	No changes necessary
Copied:	N/A
Comment:	RTP supports sprawl and reliance on traditional fuels
Response:	The RTP is based on current and anticipated development patterns, which are governed by local planning policies. Transportation project decisions in the RTP also take into account many other factors beyond the development forecast. The RTP includes many Smart Growth principles, including an emphasis on maintaining the existing system and improving all modes of travel.
Resolution:	No changes necessary

Copied:	N/A
Comment:	RTP does not support existing and established communities, such as Detroit and inner ring suburbs
Response:	The RTP is based on current and anticipated development patterns, which are governed by local planning policies. The limited amount of likely local funding available for public transit makes it difficult to incorporate extensive expansion of transit into the RTP. The RTP includes many Smart Growth principles, including an emphasis on maintaining the existing system and improving all modes of travel.
Resolution:	No changes necessary
Copied:	N/A
Topic: General	
Comment:	Support RTP as proposed
Response:	No direct response necessary
Resolution:	No changes necessary
Copied:	N/A
Comment:	RTP process is much better than in past
Response:	No direct response necessary
Resolution:	No changes necessary
Copied:	N/A
Comment:	City of Ferndale Resolution objecting to the 2030 RTP and recommending deletion of the proposed I-75 expansion project in Oakland County until completion of an alternatives analysis study of mass transit in the Woodward corridor
Response:	The proposed I-75 project is justified under several criteria and has been identified for funding. Delaying this project does not enhance the likelihood of improving transit.
Resolution:	No changes necessary
Copied:	MDOT Lansing; MDOT Metro Region; DARTA
Comment:	City of Hamtramck resolution objecting to the 2030 RTP and recommending deletion of the proposed I-75 expansion project in Oakland County to be substituted with a plan to develop light rail between Detroit and Pontiac
Response:	The proposed I-75 project is justified under several criteria and has been identified for funding. Delaying this project does not enhance the likelihood of improving transit.
Resolution:	No changes necessary
Copied:	MDOT Lansing; MDOT Metro Region; DARTA
Comment:	Suggest SEMCOG take a stronger leadership role
Response:	SEMCOG and local elected officials work closely with regional stakeholders, including the public, business owners, and special interest groups, to ensure the RTP is responsive to regional needs.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Snow removal methods need to be more environmentally friendly
Response:	The Michigan Department of Transportation (MDOT) is experimenting with environmentally sensitive solutions in the southwest Michigan region along I-94. That area receives a lot of commercial traffic between Detroit and Chicago and also substantial amounts of lake-effect snow, which make it a prime location for testing purposes. MDOT has been studying different brine combinations for the past four years in an effort to find the formula that is most effective. They have used sugar beet extract and other natural products combined with magnesium chloride. What needs to be understood is that these products have limitations. They're most effective when placed on the pavement before snowfall allowing for easier removal. The products form a layer between the pavement and the snow, eliminating snowy patches, which can create icy spots. It's also expensive, so MDOT is waiting for more companies to become involved in this industry, which will bring down the cost via competition.
Resolution:	No changes necessary
Copied:	MDOT Lansing

Topic: Investment	
Comment:	Suggestion to show general project costs (cost to widen road, operate transit, etc.) and show cost benefit of transit
Response:	A background paper detailing the RTP needs analysis contains additional cost information. The RTP contains an initiative to more fully analyze the regional funding shortfall and options for reducing it, including innovative financing techniques and reprioritization of funding allocations. Cost/benefit analyses can be researched under this initiative.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Need initiative regarding cost/benefit analysis
Response:	The RTP contains an initiative to more fully analyze the regional funding shortfall and options for reducing it, including innovative financing techniques and reprioritization of funding allocations. Cost/benefit analyses can be researched under this initiative.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Indicate number of projects by type, rather than just by dollars invested; better explain nature of safety funding
Response:	Safety projects are relatively inexpensive compared to other project types and, oftentimes, other project types also included safety components; therefore, investment in safety appears to be a low priority when considering only total investment by project type. In fact, safety is a high regional priority.
Resolution:	Added text/graphics to final 2030 RTP re: proposed investment
Copied:	N/A
Comment:	RTP does not provide justification for total needs estimate, clear project planning, or innovative funding source recommendations
Response:	The 2030 RTP needs estimate is generalized and not specific to timing. More specificity would require detailed development of what we refer to as an "unfunded" or "illustrative" project list detailing how and when we would address all \$70 billion in needs. While this may be beneficial for future plans, we must focus current resources on developing a list of projects for which we have identified funding. (This is a requirement if we are to receive federal transportation dollars.) The 2030 RTP does identify funded projects by time code. Some projects in the later time codes are in the form of "line items" (e.g., pave various gravel roads countywide), but any projects that add capacity (e.g., new roads or new lanes on existing roads) must be specified with project name, limits, and proposed number of lanes. With respect to other funding sources, the 2030 RTP contains an initiative to "more fully analyze the regional funding shortfall and options for reducing it, including innovative financing techniques and reprioritization of funding allocations." We agree that federal and state funding will never cover all our needs; we must look for better ways to spend the money we have and generate additional revenues elsewhere.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Revenue shortfall is increasing; region cannot financially sustain the RTP
Response:	The RTP contains an initiative to more fully analyze the regional funding shortfall and options for reducing it, including innovative financing techniques and reprioritization of funding allocations.
Resolution:	No changes necessary
Copied:	N/A
Topic: Mobility	
Comment:	RTP does not address mobility for seniors or persons with disabilities
Response:	We agree the transportation system must meet the needs of all regional travelers. In 1999, SEMCOG developed a statewide action plan for elderly mobility and safety, which continues to be monitored by the Governor's Traffic Safety Advisory Commission. The 2030 RTP contains an initiative to continue working with the state to facilitate implementation of plan recommendations. For clarity, text reiterating this commitment will also be added to the final 2030 RTP document.
Resolution:	Added text to final 2030 RTP re: elderly mobility and Americans with Disabilities Act
Copied:	N/A

Topic: Nonmotorized	
Comment:	Regional bicycle path analysis should take into account smaller concentrations of activity in traditional downtowns
Response:	The regional bicycle path analysis did consider smaller establishments in close proximity to others as “activity centers.” It was these activity centers that formed the basis of the analysis.
Resolution:	No changes necessary
Copied:	N/A
Topic: Preservation	
Comment:	Region's economic development relies on better maintenance of existing road and transit systems; frustrated that I-696/Franklin project keeps getting delayed
Response:	We agree that maintaining what we have should be the priority and the 2030 RTP reflects that priority. Approximately \$23 billion (or 56 percent of total funding) is dedicated to road and transit operations (patching potholes, retiming traffic signals, running the buses, etc.). Of the \$18 billion in capital funding, 78 percent is for preserving existing roads, bridges, nonmotorized trails, and transit. In all, 90 percent of RTP funding is for preservation rather than expansion. As for the I-696/Franklin Road project, this project remains in the Michigan Department of Transportation's 5 Year Road & Bridge Program and is also programmed in the draft 2030 RTP. Our best information is that the project is scheduled for construction in 2005.
Resolution:	No changes necessary
Copied:	MDOT Metro Region; MDOT Lansing
Comment:	RTP should focus on maintaining existing roads and transit rather than expanding
Response:	We agree that more needs to be done to maintain our roads and ensure investments are cost-effective and feel the 2030 RTP addresses these needs. Approximately \$23 billion (or 56 percent of total 2030 RTP funds) will be spent maintaining pavement in good condition. The 2030 RTP also contains an initiative to continue working with the statewide Transportation Asset Management Council to collect comprehensive pavement data and develop a regional pavement management system for identifying the most cost-effective and efficient pavement strategies.
Resolution:	Added text to final 2030 RTP re: Asset Management Council and pavement management systems
Copied:	N/A
Comment:	Road conditions and construction quality need to be improved
Response:	We agree that more needs to be done to maintain our roads and ensure investments are cost-effective and feel the 2030 RTP addresses these needs. Approximately \$23 billion (or 56 percent of total 2030 RTP funds) will be spent maintaining pavement in good condition. The 2030 RTP also contains an initiative to continue working with the statewide Transportation Asset Management Council to collect comprehensive pavement data and develop a regional pavement management system for identifying the most cost-effective and efficient pavement strategies. Specific complaints about construction quality can also be directed to the agency responsible for the road.
Resolution:	Added text to final 2030 RTP re: Asset Management Council and pavement management systems
Copied:	MDOT Metro Region; MDOT Lansing; RCOC
Topic: Project Specific	
Comment:	Request alternate route for regional transit link between Monroe County and Detroit; priority for Telegraph Road access management study in Monroe County; and maintenance of I-275 bike path/connection to Sterling State Park
Response:	An alternate route between Monroe County and Detroit will be depicted on the transit plan map. Reference will be made to ongoing corridor studies, including the Telegraph Road access management study. The request for I-275 bike path improvements will be transmitted to the Michigan Department of Transportation.
Resolution:	Modified transit map in final 2030 RTP and added study list/map
Copied:	N/A
Comment:	RTP should include recommendations for improvements by Detroit Department of Public Works and Detroit Department of Transportation
Response:	The 2030 RTP includes a number of project proposals to improve transportation in the City of Detroit. However, the RTP must reflect fiscal reality, meaning we cannot propose additional

Resolution:	services beyond anticipated revenues.
Copied:	No changes necessary N/A
Comment:	Recommend more city transportation, particularly in Detroit
Response:	The 2030 RTP includes a number of project proposals to improve transportation in the City of Detroit. However, the RTP must reflect fiscal reality, meaning we cannot propose additional services beyond anticipated revenues.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Opposed to widening roads to five lanes in Four Towns area
Response:	These projects have been under consideration for several years and, with the exception of the Oakley Park Road project, have been included in previous RTPs. (At the public meeting, you indicated the projects had been deleted from the 2025 RTP, but our records do not reflect that.) These projects were submitted by the Road Commission for Oakland County. We have yet to receive any formal response from the involved townships themselves. We encourage you to continue working with your township officials to make them aware of your concerns prior to final action on the 2030 RTP.
Resolution:	No changes necessary
Copied:	RCOC
Note:	Three similar comments received
Comment:	Charter Township of Waterford resolution requesting that Haggerty Road, Union Lake Road, and Williams Lake Road be widened to no more than three lanes where needed and that a full environmental impact assessment be completed on any proposed widening
Response:	The study of traffic flow and congestion in the 4 Towns area (Commerce, Waterford, West Bloomfield, and White Lake Townships) has been ongoing for a number of years. The Road Commission for Oakland County has proposed projects to widen Haggerty Road from 14 Mile to Richardson to five lanes and to study the widening of Oakley Park from Welch to Haggerty, Union Lake from Richardson to Cooley Lake, and Williams Lake from Cooley Lake to M-59/Maceday Lake to Airport Road to five lanes. These are all long-term proposals planned between 2011 and 2025. Additional environmental study would be required before any of these projects could move forward and final design, including number of lanes, would be based in part on environmental considerations. Individuals opposed to the widening of these roads to five lanes should continue working with the Road Commission of Oakland County as they study and plan for necessary road improvements in the area.
Resolution:	No changes necessary
Copied:	RCOC
Comment:	White Lake Township resolution requesting that Haggerty Road, Union Lake Road, and Williams Lake Road be widened to no more than three lanes where needed and that a full environmental impact assessment be completed on any proposed widening
Response:	The study of traffic flow and congestion in the 4 Towns area (Commerce, Waterford, West Bloomfield, and White Lake Townships) has been ongoing for a number of years. The Road Commission for Oakland County has proposed projects to widen Haggerty Road from 14 Mile to Richardson to five lanes and to study the widening of Oakley Park from Welch to Haggerty, Union Lake from Richardson to Cooley Lake, and Williams Lake from Cooley Lake to M-59/Maceday Lake to Airport Road to five lanes. These are all long-term proposals planned between 2011 and 2025. Additional environmental study would be required before any of these projects could move forward and final design, including number of lanes, would be based in part on environmental considerations. Individuals opposed to the widening of these roads to five lanes should continue working with the Road Commission of Oakland County as they study and plan for necessary road improvements in the area.
Resolution:	No changes necessary
Copied:	RCOC
Comment:	Charter Township of West Bloomfield resolution requesting that Haggerty Road, Union Lake Road, and Williams Lake Road be widened to no more than three lanes where needed and that a full environmental impact assessment be completed on any proposed widening
Response:	The study of traffic flow and congestion in the 4 Towns area (Commerce, Waterford, West Bloomfield, and White Lake Townships) has been ongoing for a number of years. The Road Commission for Oakland County has proposed projects to widen Haggerty Road from 14 Mile to

	Richardson to five lanes and to study the widening of Oakley Park from Welch to Haggerty, Union Lake from Richardson to Cooley Lake, and Williams Lake from Cooley Lake to M-59/Maceday Lake to Airport Road to five lanes. These are all long-term proposals planned between 2011 and 2025. Additional environmental study would be required before any of these projects could move forward and final design, including number of lanes, would be based in part on environmental considerations. Individuals opposed to the widening of these roads to five lanes should continue working with the Road Commission of Oakland County as they study and plan for necessary road improvements in the area.
Resolution:	No changes necessary
Copied:	RCOC
Comment:	Support for widening Haggerty Road to five lanes
Response:	This project is proposed in the draft 2030 RTP.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Support for study to widen Union Lake Road to five lanes
Response:	This project is proposed in the draft 2030 RTP.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Indicate support for Detroit to Chicago high-speed rail project
Response:	This is an ongoing project, is fully supported, and will be highlighted in the final 2030 RTP document.
Resolution:	Added text to existing initiative in final 2030 RTP re: the Detroit to Chicago high-speed rail project
Copied:	MDOT Lansing
Comment:	Opposed to constructing boulevard on Southfield from 9-1/2 Mile to 12 Mile
Response:	This project addresses identified needs and is supported by local officials; this comment will be forwarded to the Road Commission for Oakland County. Those opposed are encouraged to continue working with the Road Commission for Oakland County to make them aware of your concerns.
Resolution:	No changes necessary
Copied:	RCOC
Comment:	Opposed to I-75 interchange project at Crooks/Long Lake
Response:	This project has been planned for a number of years and a contract to purchase necessary right-of-way was recently approved by the Troy City Council. The project is also recommended as part of the I-75 Corridor Study (regarding the widening of I-75 from Eight Mile to M-59). Those opposed are encouraged to continue working with officials from the City of Troy to make them aware of their concerns prior to final action on the 2030 RTP.
Resolution:	No changes necessary
Copied:	MDOT Metro Region; MDOT Lansing; RCOC; City of Troy
Note:	Four similar comments received
Comment:	Opposed to I-75 interchange project at Crooks/Long Lake; recommend expansion/redesign of I-75/Rochester Road interchange instead
Response:	This project has been planned for a number of years and a contract to purchase necessary right-of-way was recently approved by the Troy City Council. The project is also recommended as part of the I-75 Corridor Study (regarding the widening of I-75 from Eight Mile to M-59). Those opposed are encouraged to continue working with officials from the City of Troy to make them aware of their concerns prior to final action on the 2030 RTP.
Resolution:	No changes necessary
Copied:	MDOT Metro Region; MDOT Lansing; RCOC; City of Troy
Comment:	Support for I-75 interchange project at Crooks/Long Lake
Response:	We have received comments from residents and businesses, both opposed to and in support of this project. Individuals are encouraged to continue working with City of Troy officials to make them aware of their concerns prior to final action on the 2030 RTP.
Resolution:	No changes necessary
Note:	17 similar comments received

Comment:	Support for I-75 widening project in Oakland County
Response:	This project is proposed in the draft 2030 RTP.
Resolution:	No changes necessary
Copied:	MDOT Lansing; MDOT Metro Region
Comment:	Support for the following projects — Haggerty Road, Union Lake Road, I-75 widening in Oakland County, and I-75 interchange at Crooks/Long Lake
Response:	We have received comments from residents and businesses, both opposed to and in support of these projects. Individuals are encouraged to continue working with state and local officials to make them aware of their concerns prior to final action on the 2030 RTP.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Inquiry re: project to add center left turn lane on Warren from Cadieux to Mack
Response:	This project was cancelled due to prohibitively high utility costs.
Resolution:	No changes necessary
Copied:	N/A
Comment:	Inquiry re: I-75 Business Loop/M-50 project in Monroe County
Response:	This study was cancelled in May 2003 and has not been reprogrammed in the draft 2030 RTP. According to the Michigan Department of Transportation, the study was canceled due to budget limitations and will not be resumed unless additional funding is found. SEMCOG has identified a \$30 billion shortfall between now and 2030; unfortunately, only projects for which funding has been identified can be included in the RTP.
Resolution:	No changes necessary
Copied:	MDOT University Region; MDOT Lansing
Comment:	Inquiry re: reverting Michigan Avenue from 4th to Cass to original brick
Response:	There are currently two projects programmed in the Transportation Improvement Program (the region's short-term implementation plan) to repave Michigan from Cass to Griswold and to install lighting, sidewalks, and streetscaping between 6th and 20th. The City of Detroit and the Michigan Department of Transportation are currently working with the Corktown community to determine the best option for repaving the brick sections of Michigan Avenue.
Resolution:	No changes necessary
Copied:	Detroit DPW
Comment:	Propose better alternative to relieve congestion along I-94 from I-96 to Conner that will require less land acquisition.
Response:	The Preferred Alternative for I-94 from I-96 to Conner consists of the addition of one lane in each direction, acceleration/deceleration lanes, and three-lane continuous service drives on both sides of the interstate and at the M-10 and I-75 interchanges. Space would also be reserved in the median to accommodate future lane expansion or transit. The additional driving lanes would reduce current and future congestion on the freeway; the service drives would allow local traffic to travel the length of the corridor without getting on the freeway; and the overall design would accommodate future transit use. This preferred alternative is a result of refinements made to reduce impacts (including land acquisition) associated with previous alternatives. Interested individuals are encouraged to continue working with the Michigan Department of Transportation as they proceed with environmental clearance and design for this project.
Resolution:	No changes necessary
Copied:	N/A
Topic: Transit	
Comment:	RTP does not address regional transit needs
Response:	Approximately \$8.7 billion will be available for transit between now and 2030, representing 20 percent of total RTP funding. This money will be spent primarily on maintaining and operating existing transit services, with some minor expansion. We agree that more and better transit is needed in the region as outlined in the regional transit vision adopted by SEMCOG in 2001. Unfortunately, no additional transit projects can be included in the RTP until additional revenues are raised. The 2030 RTP does include initiatives supporting implementation of the transit vision, including seeking additional funding. For clarity, text explaining the various funding issues and reiterating our commitment to better transit will be added to the final 2030 RTP document.
Resolution:	Added text to final 2030 RTP re: transit funding
Copied:	DARTA
Note:	12 similar comments received

Comment:	RTP does not address regional transit needs; recommend street car system
Response:	Approximately \$8.7 billion will be available for transit between now and 2030, representing 20 percent of total RTP funding. This money will be spent primarily on maintaining and operating existing transit services, with some minor expansion. We agree that more and better transit is needed in the region as outlined in the regional transit vision adopted by SEMCOG in 2001. Unfortunately, no additional transit projects can be included in the RTP until additional revenues are raised. The 2030 RTP does include initiatives supporting implementation of the transit vision, including seeking additional funding. For clarity, text explaining the various funding issues and reiterating our commitment to better transit will be added to the final 2030 RTP document.
Resolution:	Added text to final 2030 RTP re: transit funding
Copied:	DARTA
Comment:	RTP does not address regional transit needs, particularly for persons with disabilities
Response:	Approximately \$8.7 billion will be available for transit between now and 2030, representing 20 percent of total RTP funding. This money will be spent primarily on maintaining and operating existing transit services, with some minor expansion. We agree that more and better transit is needed in the region as outlined in the regional transit vision adopted by SEMCOG in 2001. Unfortunately, no additional transit projects can be included in the RTP until additional revenues are raised. The 2030 RTP does include initiatives supporting implementation of the transit vision, including seeking additional funding. We also feel the 2030 RTP includes provisions to help address the needs of persons with disabilities. For clarity, text explaining various transit funding issues, addressing the Americans with Disabilities Act, and reiterating our commitment to better transit will be added to the final 2030 RTP document.
Resolution:	Added text to final 2030 RTP re: transit funding and Americans with Disabilities Act
Copied:	DARTA
Note:	Two similar comments received
Comment:	RTP does not address regional transit needs, particularly for persons with disabilities; opposed to expansion projects on I-75 and I-94
Response:	Approximately \$8.7 billion will be available for transit between now and 2030, representing 20 percent of total RTP funding. This money will be spent primarily on maintaining and operating existing transit services, with some minor expansion. We agree that more and better transit is needed in the region as outlined in the regional transit vision adopted by SEMCOG in 2001. Unfortunately, no additional transit projects can be included in the RTP until additional revenues are raised. The 2030 RTP does include initiatives supporting implementation of the transit vision, including seeking additional funding. We also feel the 2030 RTP includes provisions to help address the needs of persons with disabilities. For clarity, text explaining various transit funding issues, addressing the Americans with Disabilities Act, and reiterating our commitment to better transit will be added to the final 2030 RTP document. Regarding inclusion of the I-94 and I-75 expansion projects in the 2030 RTP, while it is true that these projects were temporarily “deferred” by the Michigan Department of Transportation (MDOT) due to budget constraints, it was not their intention that the projects never move forward. Based on comments received during its 2003 “listening sessions,” MDOT agreed to program all deferred project phases for future funding in the 2030 RTP. While a funding shortfall remains, we support spending the dollars that are available on the highest priority projects — I-94 and I-75 are two such priorities. The 2030 RTP also contains an initiative to further explore the funding shortfall and options for reducing it.
Resolution:	Added text to final 2030 RTP re: transit funding and Americans with Disabilities Act
Copied:	DARTA; MDOT Metro Region; MDOT Lansing
Comment:	RTP favors road expansion over transit; opposed to I-75 interchange project at Crooks/Long Lake.
Response:	Approximately \$8.7 billion will be available for transit between now and 2030, representing 20 percent of total RTP funding. This money will be spent primarily on maintaining and operating existing transit services, with some minor expansion. We agree that more and better transit is needed in the region as outlined in the regional transit vision adopted by SEMCOG in 2001. Unfortunately, no additional transit projects can be included in the RTP until additional revenues are raised. The 2030 RTP does include initiatives supporting implementation of the transit vision, including seeking additional funding. For clarity, text explaining various transit funding issues and reiterating our commitment to better transit will be added to the final 2030 RTP document. The proposed I-75/Crooks/Long Lake interchange project has been planned for a number of

	<p>years and a contract to purchase necessary right-of-way was recently approved by the Troy City Council. The project is also recommended as part of the I-75 Corridor Study (regarding the widening of I-75 from Eight Mile to M-59). Individuals opposed to the project are encouraged to continue working with officials from the City of Troy to make them aware of their concerns prior to final action on the 2030 RTP.</p> <p>Resolution: Added text to final 2030 RTP re: transit funding and Americans with Disabilities Act</p> <p>Copied: DARTA; MDOT Lansing; MDOT Metro Region; RCOC; City of Troy</p>
<p>Comment:</p> <p>Response:</p>	<p>Region should pursue a commuter rail system plan</p> <p>In 2001, SEMCOG's General Assembly adopted a Regional Transit Plan. The plan is comprised of several components, including the need for 1) additional line haul bus service; 2) additional community transit service; 3) additional options to connect the major urban centers in our region; and 4) a system of higher transit than we currently have, in 12 corridors around the region. This system could be bus rapid transit, light rail, commuter rail or any combination of the higher level options. Detailed corridor analysis would be needed to identify the best alternative in each of the 12 corridors identified in the plan. This plan was nearly unanimously approved by the SEMCOG General Assembly. The problem is that there is no funding to implement any of the capital improvements recommended. Nevertheless, SEMCOG has started the requisite studies along with the Federal Transit Administration (FTA) to identify the best alternative in the Ann Arbor to Detroit corridor and are currently in a 3 million dollar Alternatives Analysis /Draft Environmental Impact Study phase of the project. This is a very prescriptive study conducted with the FTA according to their rules to identify the best alternative for this corridor. At some point in the study, the region, or at least Washtenaw and Wayne counties and some of the cities, will have to decide, after the study details costs, if they will financially support the selected alternative. The biggest problem we have is there are no funds, other than suspending the existing public transit services, to provide match to the 60 percent of the total capital costs the federal government would provide or, even more importantly, to cover the operating deficits of whatever system is selected. The federal government does not provide funding to cover the operation of the system. Commuter rail is one of the options considered in the Ann Arbor to Detroit study. In addition, there is a new rail car called a DMU that can operate on railroad tracks and in the right of way of city streets that we are going to consider in the study. The regional connections identified in our transit plan between major urban areas could also be commuter rail.</p>
<p>Resolution:</p> <p>Copied:</p>	<p>No changes necessary</p> <p>DARTA</p>
<p>Comment:</p> <p>Response:</p> <p>Resolution:</p> <p>Copied:</p>	<p>Propose Interstate Traveler concept for regional transit</p> <p>Reasonable transit alternatives are considered at the corridor study level.</p> <p>No changes necessary</p> <p>N/A</p>
<p>Comment:</p> <p>Response:</p>	<p>RTP does not address regional transit needs</p> <p>In 2001, SEMCOG's General Assembly adopted a Regional Transit Plan. The plan is comprised of several components, including the need for 1) additional line haul bus service; 2) additional community transit service; 3) additional options to connect the major urban centers in our region; and 4) a system of higher transit than we currently have, in 12 corridors around the region. This system could be bus rapid transit, light rail, commuter rail or any combination of the higher level options. Detailed corridor analysis would be needed to identify the best alternative in each of the 12 corridors identified in the plan. This plan was nearly unanimously approved by the SEMCOG General Assembly. The problem is that there is no funding to implement any of the capital improvements recommended. Nevertheless, SEMCOG has started the requisite studies along with the Federal Transit Administration (FTA) to identify the best alternative in the Ann Arbor to Detroit corridor and are currently in a 3 million dollar Alternatives Analysis /Draft Environmental Impact Study phase of the project. This is a very prescriptive study conducted with the FTA according to their rules to identify the best alternative for this corridor. At some point in the study, the region, or at least Washtenaw and Wayne counties and some of the cities, will have to decide, after the study details costs, if they will financially support the selected alternative. The biggest problem we have is there are no funds, other than suspending the existing public transit services, to provide match to the 60 percent of the total capital costs the federal government would provide or, even more importantly, to cover the operating deficits of whatever system is selected. The federal government does not provide funding to cover the operation of the system. Commuter rail is one of the options considered in the Ann Arbor to</p>

Resolution: Copied:	Detroit study. In addition, there is a new rail car called a DMU that can operate on railroad tracks and in the right of way of city streets that we are going to consider in the study. The regional connections identified in our transit plan between major urban areas could also be commuter rail. No changes necessary DARTA
Comment: Response: Resolution: Copied:	Level of service of existing transit is not adequately addressed in the RTP companion document (<i>2030 Regional Transportation Plan for Southeast Michigan: Regional Transportation Needs</i>) The data summarized in the transit section of the companion document indicates DDOT has a higher level of service than the other transit agencies because this analysis is based on published transit schedules. DDOT service does not always adhere to the published schedule, making its level of service less than indicated in the analysis. The document also states that most of the area within the region that could support fixed-route transit service is currently covered by existing service. However, much of the area is still greatly underserved and significant expansion of transit over existing transit levels is needed. <i>2030 Regional Transportation Plan for Southeast Michigan: Regional Transportation Needs</i> is a final document and cannot be changed for clarification at this point; however, discussion of these issues in future publications will be modified. These issues were not directly referenced in the 2030 RTP, nor does the need to clarify the discussion in any way impact the final 2030 RTP transit analysis. No changes necessary N/A
Comment: Response: Resolution: Copied:	Until transit operations improve, funding should be focused there rather than on expansion Approximately \$8.7 billion will be available for transit between now and 2030, representing 20 percent of total RTP funding. This money will be spent primarily on maintaining and operating existing transit services, with some minor expansion. We agree that more and better transit is needed in the region as outlined in the regional transit vision adopted by SEMCOG in 2001. Unfortunately, no additional transit projects can be included in the RTP until additional revenues are raised. The 2030 RTP does include initiatives supporting implementation of the transit vision, including seeking additional funding. For clarity, text explaining the various funding issues and reiterating our commitment to better transit will be added to the final 2030 RTP document. Added text to final 2030 RTP re: transit funding N/A
Topic: Trucks	
Comment: Response: Resolution: Copied:	I-75 truck scale station north of Luna Pier causes long backups on I-75, which conflict with motorists entering and exiting the freeway MDOT has been notified of the situation. Monroe County and Luna Pier officials are encouraged to continue working with MDOT to identify and mitigate the problem. No changes necessary MDOT Lansing; MDOT University Region
Comment: Response: Resolution: Copied:	RTP does not address problems with trucks (weights, speeds, drivers, etc.) The RTP does not address such issues directly. However, SEMCOG has convened a freight task force to examine and address a number of issues related to the provision of safe and efficient freight movement in the region. Specific complaints regarding truck regulations (such as weight limits) can also be directed to the Michigan Department of Transportation. No changes necessary N/A
Comment: Response: Resolution: Copied:	Trucks need to be inspected for weight and safety equipment, especially brakes The RTP does not address such issues directly. However, SEMCOG has convened a freight task force to examine and address a number of issues related to the provision of safe and efficient freight movement in the region. Specific complaints regarding truck regulations (such as weight limits) can also be directed to the Michigan Department of Transportation. No changes necessary N/A

Source: SEMCOG.

Appendix B: St. Clair County 2030 Long Range Transportation Plan

Background

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and its successor, the Transportation Equity Act for the 21st Century (TEA-21), require Metropolitan Planning Organizations (MPO) to formally revise their long-range transportation plans within five years of the original date of its adoption. The adopted plan is then submitted to the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The long range plan should be consistent with current and forecasted transportation and land use conditions, which facilitates funding opportunities. Safe, Accountable, Flexible and Efficient Transportation Equity Act 2003 (SAFETEA), which is the planned reauthorization of TEA- 21, will further strengthen the long range transportation planning process. St. Clair County Transportation Study (SCCOTS) is a state designated transportation study area within Southeast Michigan. SCCOTS functions similar to a Metropolitan Planning Organization (MPO) by setting transportation policy and developing plans. Through the Michigan Department of Transportation (MDOT) and Southeast Michigan Council of Governments (SEMCOG), the MPO for the region, approximately 3 million dollars in Federal Funds are allocated to SCCOTS annually. Impending economic and legislative changes as well as the completion of several key transportation studies within the County prompted SCCOTS to initiate the St. Clair County Long Range Transportation Plan process.

Study area and community characteristics

St. Clair County, Michigan is one of seven counties surrounding the Detroit Metropolitan Area. The County encompasses a land area of 724 square miles. The Port Huron-Marysville urban area stretches from the Village of Lexington south along the shores of Lake Huron and the St. Clair River, ending just north of the City of Algonac. The Detroit urban area extends into the southern portion of the County, wrapping around Lake St. Clair. The immediate interior of the urban areas contain sections of the County most suitable for development, which conforms to the County's Master Plan. An agricultural/village pattern of land use exists in the western portion of the County, supporting a rural lifestyle that residents would like to preserve.

St. Clair County is comprised of 23 townships, six cities, and two villages. According to the United States Census 2000, over 164,000 people resided in St. Clair County and nearly 57,000 people were employed in the County. Many residents of St. Clair County also commute to the Detroit Metropolitan Area and nearby Flint for work. St. Clair County is a trade gateway between the United States and Canada for the movement of people and goods via the Blue Water Bridge and the Canadian National Rail Tunnel. A safe and efficient transportation system is essential to maintaining an attractive place to live, work and recreate in St. Clair County. As St. Clair County continues to grow, it is faced with the challenges of accommodating new development, while preserving the character and lifestyle of the community.

Methodology

In order to better understand these challenges and opportunities existing assets were inventoried, the performance of the existing transportation network was evaluated, and a forecast of future transportation demand and operating conditions was developed. After a rigorous public involvement process, a transportation issues map was developed, serving as a basis for the development of alternatives. Model results and evaluation criteria were weighted and used to evaluate each of the generated alternatives. Once completed, recommendations were made, which are outlined in this report. A final preferred alternative resulted from the analysis and continued public involvement. This preferred alternative contains financially constrained transportation projects and complementary policies designed to generate a high

return on investment and encourage cooperation between communities. The St. Clair County Long Range Transportation Plan and the resulting projects are completely integrated with the SEMCOG 2030 Regional Transportation Plan and the MDOT Five Year Program.

Appendix C: 2030 Long Range Transportation Plan for Washtenaw County

Background

An extension of the Transportation Equity Act for the 21st Century (TEA21) is the current federal legislation that governs transportation planning and provides the federal funds for transportation. TEA21 requires that the transportation plan cover at least a 20-year planning period. The plan is updated every three years because Southeast Michigan, including Washtenaw County, is a Maintenance Area for the one-hour ozone standard set by the U. S. Environmental Protection Agency (EPA). In addition to the 3-year update cycle, the plan is amended as priorities, available revenues, or transportation needs change.

Policies

The 2030 Long Range Transportation Plan for Washtenaw County guides and directs transportation improvements in Washtenaw County. The 2030 Plan provides inputs to the short range Transportation Improvement Program (TIP) as projects become more finalized by each of the Agencies. The Washtenaw Area Transportation Study (WATS) has been supportive of transportation alternatives to the single occupancy vehicle since it was organized. In the mid-1970s the WATS Policy Committee [formerly the Ann Arbor-Ypsilanti Urban Area Transportation Study (UATS)] adopted a policy to support transit and non-motorized facilities using federal funds. The policy established federal funding targets of 84 percent for roads, 12 percent for public transit and 4 percent for non-motorized facilities.

The City of Ann Arbor passed a 2.5 mill property tax for public transit in the early 1970s. In addition the City of Ypsilanti and the surrounding townships have supported public transit with general funds since the 1970s. Other policies that affected the development of the plan include the Michigan Department of Transportation's "Fix it First" that allocates funding to maintain the existing facilities before widening or constructing new facilities.

Current Plan

The 2030 Long Range Transportation Plan for Washtenaw County is the product of many agencies and the public working together to provide a guide for future transportation improvements. Local transportation and planning agencies, the Southeast Michigan Council of Governments (SEMCOG), and the Michigan Department of Transportation (MDOT) were all active partners in the development of this plan. The Federal Highway Administration and the Federal Transit Administration also provided assistance. Over 18 meetings were held with the public and more than 160 individuals provided comments and suggestions for the plan.

Plan goals

The 2030 Long Range Transportation Plan for Washtenaw County Plan Goals and Objectives were completed and adopted in conjunction with the SEMCOG and the MDOT originally as part of the 2020 Plan. The 2025 Plan was an update of the 2020 Plan and the four original goals were reaffirmed. The goals used by the local agencies as they evaluated the deficiencies and identified improvements are:

- Promote a safe and secure transportation system.
- Provide accessibility and mobility for all people and goods.
- Invest strategically in transportation infrastructure to enhance the vitality of the community.
- Protect and enhance the environment.

Plan improvements

Improvements were developed based on the Congestion, Safety, Bridge, Transit, Pavement and Non-Motorized deficiencies, policies and the public comments that were received. The WATS plan includes 428 funded improvements at a total cost of \$1.481 billion. Table 28 is a summary of the funded improvements found in the 2030 Long Range Transportation Plan for Washtenaw County.

Table 28
Funded Improvements by Type of Improvement, Washtenaw County
(thousands)

Improvement Type	Number of Improvements	Total Cost (\$1,000s)
Bridge	38	\$65,346
Widen and new road	40	\$239,402
Studies and other Miscellaneous	7	\$2,400
Park-and-ride	11	\$18,600
Transportation demand management	7	\$32,524
Resurface/reconstruct	133	\$362,563
Nonmotorized	44	\$15,644
Signal	19	\$3,673
Intersection	51	\$80,665
Transit capital	60	\$130,867
Transit operating	18	\$530,187
Total	428	\$1,481,871

Source: WATS.

This plan also identifies more improvements that cannot be funded than previous (2025, 2020 and the 2015) Plans. The 2030 plan identified nearly a billion dollars in unfunded improvements. A complete list of these improvements and summary pie charts are available from WATS or online at www.miwats.org.

Acronyms

Act 51 — Public Act 51 of 1951

ADA — Americans with Disabilities Act

CAAA — Clean Air Act Amendments of 1990

CMS — Congestion management system

CO — Carbon Monoxide

EJ — Environmental justice

FAC — Federal-aid Committee

FAST — Fast and Secure Trade

FAUB — Federal-aid Urban Boundary

FCP — Freeway Courtesy Patrol

FHWA — Federal Highway Administration

FMCSA — Federal Motor Carrier Safety Administration

FY — Fiscal year

ISTEA — Intermodal Surface Transportation Efficiency Act

ITS — Intelligent Transportation Systems

LOS — Level of service

MDEQ — Michigan Department of Environmental Quality

MDOT — Michigan Department of Transportation

MTF — Michigan Transportation Fund

NAAQS — National Ambient Air Quality Standard

NO_x — Nitrogen oxides

PM_{2.5} — Particulate matter less than 2.5 microns in diameter

PM₁₀ — Particulate matter less than 10 microns in diameter

RDF — Regional development forecast

RTP — Regional transportation plan

SCCOTS — St. Clair County Transportation Study

SDFO — Structurally deficient/functionally obsolete

SEMCOG — Southeast Michigan Council of Governments

SIP — State Implementation Plan

SMART — Suburban Mobility Authority for Regional Transportation

TAZ — Traffic analysis zone
TDFM — Travel demand forecasting model
TDM — Transportation demand management
TEA-21 — Transportation Equity Act for the 21st Century
TIP — Transportation Improvement Program
USDOT — U.S. Department of Transportation
USEPA — U.S. Environmental Protection Agency
VMT — Vehicle miles traveled
VOCs — Volatile Organic Compounds
WATS — Washtenaw Area Transportation Study

Glossary

Americans with Disabilities Act (ADA) — The federal act designed to remove barriers to employment, school, housing, health care, transportation, and other services for persons with disabilities.

Bottleneck — A congested corridor less than one-half mile long.

Carbon monoxide (CO) — A colorless, odorless, poisonous gas, produced mostly by the incomplete combustion of fuels used for transportation, heating, electric power generation, and as a by-product of some industrial processes. It affects the central nervous system by limiting oxygen distribution to the body.

Clean Air Act Amendments of 1990 (CAAA) — A two-part act with goals that include greater integration of the transportation and air-quality planning process. Its objective is ensuring transportation plans and projects contribute to the attainment of National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (USEPA).

Congestion management system (CMS) — A systematic process for managing congestion. The CMS provides information on transportation system performance and finds alternative ways to alleviate congestion and enhance the mobility of people and goods to levels that meet state and local needs.

Environmental justice (EJ) — A federal directive requiring all federal programs to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. Populations considered to be EJ populations include: African-American, Asian-American, Native American or Hispanic persons, and low-income households.

Fast and Secure Trade (FAST) — A joint venture between Canada and the United States whereby they streamline the border crossing process to enhance security and the efficient flow of commodities between the nations.

Federal Highway Administration (FHWA) — A branch of the U.S. Department of Transportation that administers the Federal-aid Highway Program and provides financial assistance to states to construct and improve highways, urban and rural roads, and bridges.

Federal Motor Carrier Safety Administration (FMCSA) — An administration within the U.S. Department of Transportation (USDOT) responsible for reducing crashes, injuries, and fatalities involving large trucks and buses.

Federal-aid Committee (FAC) — Each county, except St. Clair and Washtenaw, has a Federal-aid Committee, charged with managing federal transportation spending at the county level. Committee members include transit officials, county-highway engineers, city engineers, and city, county, township, and village officials. The City of Detroit also has its own Federal-aid Committee.

Federal-aid Urban Boundary (FAUB) — A line dividing rural from urban land area.

Financially constrained — The concept that the total cost of a given area's transportation projects cannot exceed the funding that area can reasonably expect to receive. Federal law requires both the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP) to be financially constrained.

Fiscal year (FY) — Year beginning on October 1 and ending on September 30 of the following year.

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 at prescribed times listed in a published schedule.

Freeway Courtesy Patrol (FCP) — A free service provided to stranded motorists on the region's freeways. The FCP offers towing and simple emergency repairs.

Intelligent Transportation Systems (ITS) — Technology that serves to enhance transportation mobility, conserve energy, protect the environment, and improve safety. ITS technology includes changeable message signs and traffic signal controls.

Intermodal — Planning and infrastructure focusing on connectivity between modes (such as trucks, planes, boats, cars, bicycles, buses, and planes) as a means of facilitating linked trip making for people and freight.

Intermodal Surface Transportation Efficiency Act (ISTEA) — Legislative initiative restructuring funding for transportation programs; authorizing an increased role for regional planning commissions/metropolitan planning organizations (MPO) in funding decisions; and requiring comprehensive regional and statewide long-term transportation plans.

Level of service (LOS) — A measure of transportation quality that can be used to describe the service offered by a transit provider or congestion on a road.

Metropolitan planning organization (MPO) — An organization designated by the governor and local-elected officials as the agency responsible, along with the state, for transportation planning in urbanized areas. The organization serves as a forum for cooperative decision making by local-elected officials.

Michigan Department of Environmental Quality (MDEQ) — A state department responsible for protecting and enhancing Michigan's environment and public health for today and for the sustainable future.

Michigan Department of Transportation (MDOT) — A state department reporting directly to the governor. Its primary functions include construction, improvement, and maintenance of the state highway system (which includes 9,700 miles of Interstate, US - and M- numbered highways) and administration of all other state transportation programs. Responsibilities include developing and implementing comprehensive transportation plans for the entire state.

Michigan Transportation Fund (MTF) — A state fund created by Public Act 51 of 1951. It is the primary collection and distribution fund for transportation monies; from it dollars are allocated (using the statutory funding formula) to state, county, and city and village road agencies as well as to special funds (e.g., Critical Bridge Fund, Comprehensive Transportation Fund, and Economic Development Fund).

National Ambient Air Quality Standards (NAAQS) — Federal standards that set allowable concentrations and exposure limits for various pollutants. The U.S. Environmental Protection Agency (USEPA) developed the standards in response to a requirement of the Clean Air Act Amendments of 1990 (CAAA).

Nitrogen oxides (NO_x) — One of the criteria pollutants monitored under the Clean Air Act Amendments of 1990 (CAAA). Sources of NO_x include gasoline vapors and chemical solvents.

Nonmotorized — A transportation mode not using motorized vehicles. For example, walking, bicycling, horseback riding, and roller-blading are all types of nonmotorized transportation.

Non-recurring congestion — Vehicular travel that slows down at unpredictable times and places. Slowdowns are usually due to traffic incidents, poor weather conditions, and maintenance activities.

PM_{2.5} — Particulate matter less than 2.5 microns in diameter. PM_{2.5} is primarily formed from chemical reactions in the atmosphere and through fuel combustion (e.g., motor vehicles, power generation, and wood stoves).

PM₁₀ — Particulate matter less than 10 microns in diameter. Sources of PM₁₀ include soot and fog.

Public Act 51 of 1951 (Act 51) — The state law governing transportation funding issues. Largely unchanged since its inception nearly 50 years ago, Act 51 dictates the majority of revenue from the Michigan Transportation Fund (MTF) be distributed using complex formulas as follows: 39 percent to the Michigan Department of Transportation (MDOT) for state highways, 39 percent to counties, and 22 percent to cities and villages for local roads.

Recurring congestion — Congestion usually experienced at predictable times and places. Usually, it occurs during morning and evening peak travel times.

Regional development forecast (RDF) — Socioeconomic forecast of population, households, and employment. SEMCOG's 2030 RDF describes how the region is expected to develop between now and 2030 and provides critical input to the transportation planning process.

Regional transportation plan (RTP) — The long-range, multi-modal plan documenting policies, initiatives, and projects designed to meet the surface transportation needs of the region.

Southeast Michigan Council of Governments (SEMCOG) — A regional planning partnership accountable to member local governments in Southeast Michigan. SEMCOG's membership includes counties, cities, villages, townships, intermediate school districts, public universities, and community colleges in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties.

St. Clair County Transportation Study (SCCOTS) — One of two transportation studies in the Southeast Michigan region. SCCOTS has certain transportation planning responsibilities for St. Clair County. (See transportation study.)

State Implementation Plan (SIP) — A plan produced by the state environmental agency containing specific strategies for controlling emissions and reducing ambient levels of pollutants, in order to satisfy the Clean Air Act Amendments of 1990 (CAAA). The SIP must demonstrate reasonable further progress toward clean air attainment is achieved.

Structurally deficient/functionally obsolete (SDFO) — Terms used to describe the ability of a bridge to support the transportation system. If the bridge's structure is in poor shape and unable to carry the weight it was designed for, it is said to be structurally deficient. If a bridge is in good physical condition but does not support the current or future demands placed on it by the transportation system, it is said to be functionally obsolete. Often both conditions exist simultaneously in one structure.

Suburban Mobility Authority for Regional Transportation (SMART) — A public agency providing transit services for communities within Macomb, Monroe, Oakland, and Wayne Counties. These communities support SMART's services with voter-approved financial assistance.

Title VI of the 1964 Civil Rights Act — Part of the Civil Rights Act that broadens duties of the Civil Rights Commission and assures no person, irrespective of race, color, or national origin, will be denied the benefits of, or participation in, any program receiving federal funds.

Traffic analysis zone (TAZ) — A special geographic area delineated by state and or local transportation agencies for tabulating traffic-related data, especially trips to work and place of work statistics. A TAZ usually consists of one or more census blocks, block groups, or census tracts.

Transportation Asset Management Council — A committee advising the State Transportation Commission on statewide asset management strategy and the necessary procedures and analytical tools to implement this strategy on Michigan's highway system.

Transportation demand management (TDM) — Transportation programs aimed at increasing the efficiency of the transportation system by managing demand on the system. Programs developed for this purpose include rideshare, transit, and flexible work hours.

Transportation Equity Act for the 21st Century (TEA-21) — The federal law authorizing federal-aid highway programs as approved on June 9, 1998.

Transportation Improvement Program (TIP) — A three-year list, updated every two years, of regional transportation improvement projects designed to implement the goals and objectives of the Regional Transportation Plan (RTP).

Transportation study — An organization, established under state law, to allow counties with smaller populations to carry out comprehensive transportation planning. For purposes of Regional Transportation Plan (RTP) project programming, transportation studies have the same functions as Federal-aid Committees. The SEMCOG region contains two transportation studies — the St. Clair County Transportation Study (SCCOTS) and Washtenaw Area Transportation Study (WATS).

Trunkline — The roads maintained by the Michigan Department of Transportation (MDOT). There are three types of roads that comprise the state trunkline system: interstate highways, US highways, and state highways. These roads are posted with I-, US-, or M- number designations.

U.S. Department of Transportation (USDOT) — A department in the United States government whose mission it is to serve the country by ensuring a fast, safe, efficient, accessible, and convenient transportation system, while enhancing quality of life today and in the future.

U.S. Environmental Protection Agency (USEPA) — A federal agency responsible for setting limits on how much of a pollutant can be in the air. Working with each state, the USEPA helps develop a State Implementation Plan (SIP) outlining the strategy the state will follow to improve air quality.

Vehicle miles traveled (VMT) — A unit of measure that calculates the total miles traveled by all vehicles in a specified area for a specific period of time. VMT is used to evaluate the use a roadway receives at different times of the day.

Volatile organic compounds (VOCs) — Hydrocarbons released from burning fuel, such as gasoline or oil. Another source of VOCs comes from paint and dry-cleaning solvent vapors. When these hydrocarbons are released into the atmosphere and are acted upon by the sun and heat, they combine with nitrogen oxides (NO_x) to form ozone.

Washtenaw Area Transportation Study (WATS) — One of two transportation studies in the Southeast Michigan region. WATS has certain transportation planning responsibilities for Washtenaw County. (See transportation study.)