

Southeast Michigan Freight and Economic Analysis

July 2012

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Southeast Michigan Council of Governments

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1. INTRODUCTION

Michigan has had more than its fair share of economic challenges. Nonetheless, a recent analysis by Bloomberg ranks Michigan as the state with the second-fastest recovery from the recession.¹

Key to sustaining this recovery is economic diversification based on capitalizing on growth industries that involve creating and/or moving freight in an ever-widening global environment.

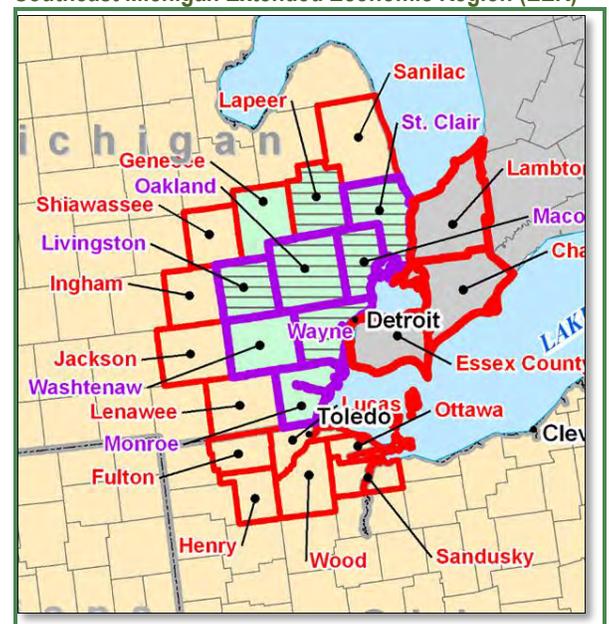
The SEMCOG Freight Analysis, combined with complementary work done by the Detroit Regional Chamber, forms an important basis upon which to diversify and grow the economy.

1.1 PROJECT PURPOSE

Southeast Michigan's unique geographical position, existing transportation infrastructure, and economic base combine to form an integral gateway to Canada, the Great Lakes/St. Lawrence Seaway, Chicago, the Midwest, Mexico, and the world. The region's transportation system, therefore, plays a vital role in the movement of both people and goods at the regional, national, and global levels. This system is important to the growth and health of Southeast Michigan's regional economy. If freight movement becomes unreliable or inefficient, the cost of doing business increases, which then threatens jobs and changes the business climate in the Southeast Michigan Extended Economic Region (EER) (Figure 1). Sustaining a careful balance between community needs and freight needs is essential.

SEMCOG integrates freight system planning into its regional transportation planning process. It emphasizes maintaining a freight system inventory and evaluating its condition, operation, and safety. Because freight movement is a core component of regional economic activity, it is necessary to also include market-based perspectives on how well the regional freight system is currently serving the needs of businesses and what investments in the regional freight system will be needed to support and enhance the regional economy in the future. This study addresses market-based perspectives through a **survey** of businesses that use the freight system, an analysis of regional **freight flow** patterns, freight profiles of **targeted industries** that are regionally important, and finally through the development of a **simplified economic analysis tool** to help evaluate and highlight the economic effects of transportation investments.

Figure 1
Southeast Michigan Extended Economic Region (EER)



¹ Bloomberg Economic Evaluation of States Index, *Bloomberg News*, November 3, 2011.

1.2 PLANNING ENVIRONMENT

Southeastern Michigan's transportation assets were built over decades to primarily serve auto manufacturing and the associated growing metropolitan population. The resulting system is extensive and capable of moving large volumes of heavy goods. The rail system transports a range of products from raw materials to finished automobiles. Freeways have supported the manufacturing base of the region with its just-in-time delivery capability. Overlaid on the freeways and railroads is a large grid/arterial highway network which radiates from the region's core city, Detroit. Other major components of the system include marine ports and airports. Regional marine terminals tend to ship and receive bulk materials transported within the Great Lakes. Air freight is a prime mover of high-value/light-weight products and those that must be shipped fast. Both the air and marine modes can ship products around the world.

1.3 CURRENT FREIGHT SYSTEM DEVELOPMENT

In southeastern Michigan, the restructuring of the automobile industry and demographic changes have resulted in a prolonged period of slow economic activity. Demographic analyses indicate that regional population and employment are down and will only fully rebound to peak pre-recession conditions over the course of many years. The recession and slow recovery has lowered levels of regional freight system congestion overall.

Even though pressure on the regional freight system has eased, available resources to maintain, redesign, and expand transportation facilities have become severely constrained. Motor fuels tax revenues, the main source of funding for roads and bridges, are declining due not only to recent economic conditions, but also to inflation and mandated advances in vehicle fuel efficiency. These factors have rendered once-sustainable revenue sources ineffective at meeting present and future freight infrastructure needs.

While future freight volumes, technological change, and investment sources are not known, proactively planning for the maintenance, connectedness, and strategic expansion of the freight system will be necessary to equip the region with the resiliency and operational flexibility required to keep commerce flowing and support regional prosperity.

2. STUDY SURVEY/SUMMARY OF FINDINGS

In light of the background presented above, and expanded upon in Appendix A, the first focus of this study was to survey the freight community to determine key issues by which it makes business decisions. Those survey findings were then connected to freight flow data to determine how various modes and corridors are handling the freight business in the Southeast Michigan EER. These two building blocks then helped define the most freight-affected industries. With that identification, profiles of trends, issues, and opportunities for target industries were examined to develop a manageable and efficient tool which allows decisions on freight investment to be made strategically, i.e., allocating limited resources to maximize investment return.

2.1 FREIGHT INDUSTRY SURVEY RESULTS

More than 300 businesses were contacted in person, by mail, phone, and email several times between June and October 2011. Returns from 47 of those contacted represent a substantial expansion in the number and variety of users with a unique perspective of the regional freight system. The responses, by industry type, include:

- Manufacturing – 12 responses
- Logistics – 18 responses
- Railroads – 3 responses
- Warehousing – 4 responses
- Retailing – 3 responses
- Other – 7 responses

The “Other” category includes businesses such as a port operator, a power generator, a health care provider, and a materials company.

The geographic location of these respondents is shown in Figure 2. Forty of the 47 respondents have their primary location in the region; all have an operation in Michigan. Complete survey results and the survey instrument are included in Appendix B.

The 47 respondents “graded” the degree to which freight transportation issues affect their businesses, now and in the future. Respondents evaluated these issues on a scale from 1 (not an issue) to 5 (high-priority issue). Tables 1A through 1F illustrate the responses by industry sector. For the current situation, only high incoming delivery costs rises to a concern of significance for manufacturing. For logistics operations, processing delay at the border is an issue of some concern.



Table 1A

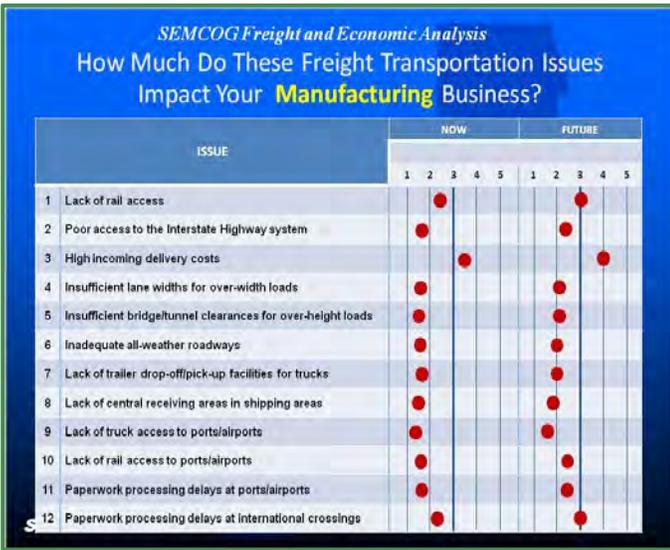


Table 1B

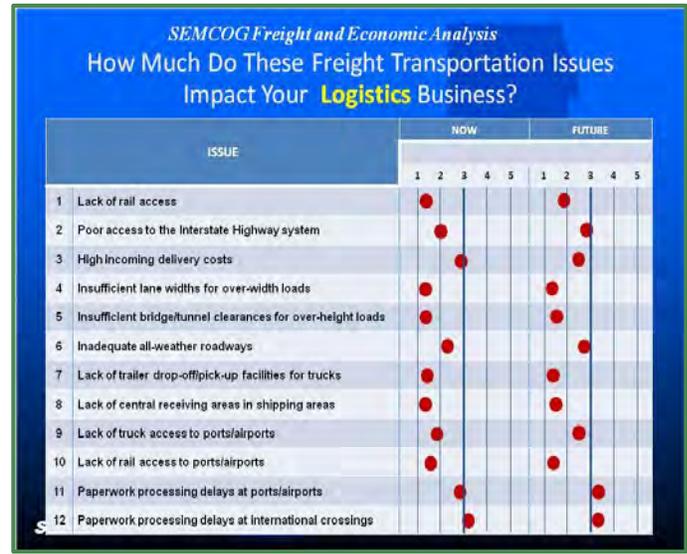


Table 1C

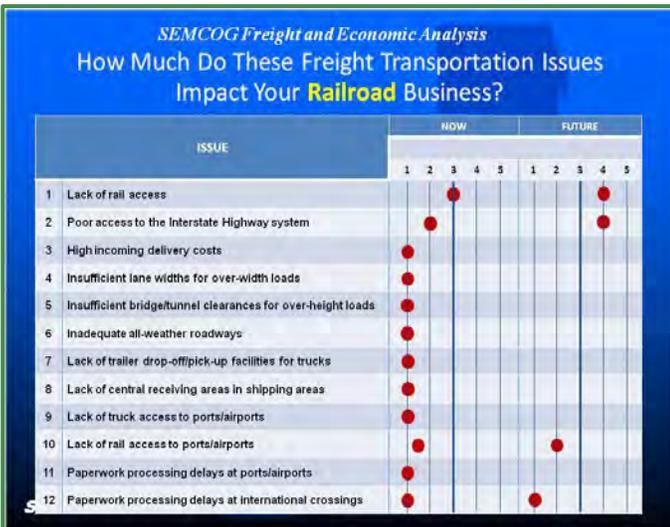


Table 1D

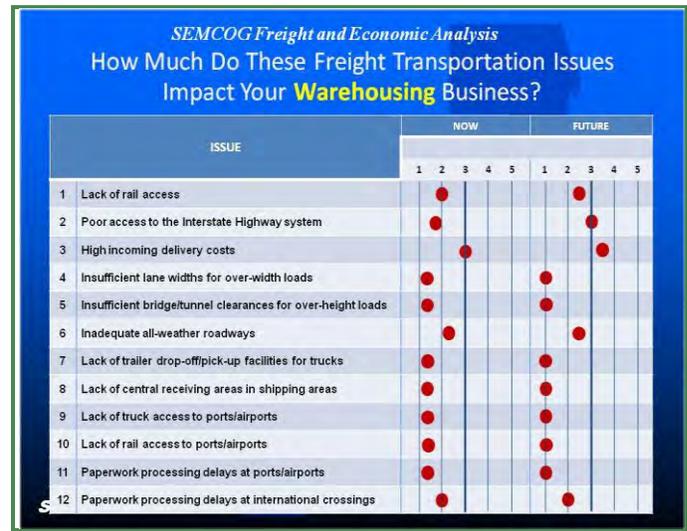
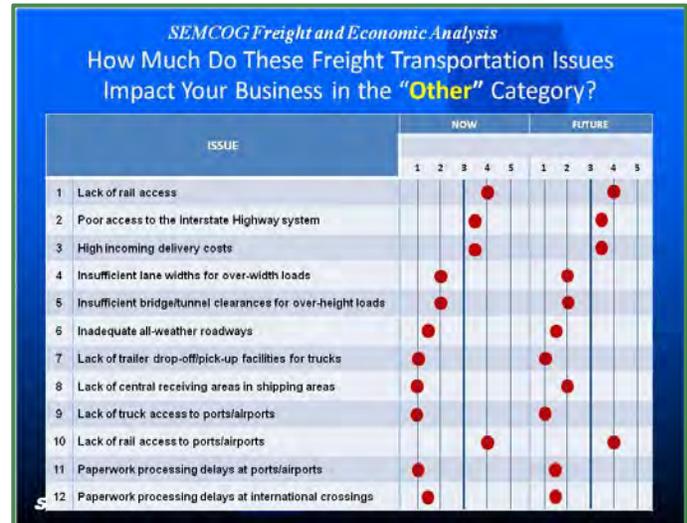


Table 1E



Table 1F



Railroads are concerned most about the lack of access to businesses. Warehouseurs and those respondents in the “Other” category are concerned about delivery costs. Additionally, those in the “Other” are concerned about the lack of rail access and poor access to interstates.

For the future, the concerns generally mirror those in the current situation, with the following additions. Logistics operations are concerned about paperwork at the border. Railroads and warehouseurs are concerned about poor access to interstates.

Other questions in the survey asked about factors that affect the competitiveness of the business surveyed; impediments to their growth; and, the single change to freight infrastructure costs vital to the respondent’s industry. These questions were purposefully left open ended to allow freight transportation issues to be placed in the context of other business priorities.

On ***competitiveness***:

- Manufacturers indicated repeatedly the key issues are price, quality/reliability of products they provide, their cost, and technological innovation.
- Logistics operators cited price plus the need for skilled labor, facility infrastructure, and fewer government rules/regulations.
- Railroads cited federal rules/regulations and connectivity as items most affecting their competitiveness.
- For warehouseurs, price/cost was, again, a major factor. The same is true for retailers along with the quality of the shopping experience.

In discussing ***impediments to their growth***:

- Manufacturers focused on the need for skilled labor, access to markets, and access to capital, as well as rail access and cost/rates.
- Logistics operators were most focused on the need for skilled labor/truck drivers and government rules/regulations as impeding their growth.
- The railroad respondents cited both connectivity and government rules/regulations as impediments to growth – the same factors that affect their competitiveness.
- Warehouseurs cited the overall condition of the economy as the principal impediment to their growth. They also note the effect of market changes due to technological innovations.
- Retailers indicate the pace of construction, especially housing, is key to their growth.

When discussing the ***single change to freight infrastructure that is most vital to their industry***:

- Manufacturers indicated the need for a new bridge/better access to Canada. Likewise, logistics operators focused on expanded border facilities and Customs. They also cited a need for better intermodal facilities and improved roads.
- The railroad respondents focused on a new double-stack tunnel to Canada in the Detroit-Windsor area plus more rail/road grade separations.
- Both warehouse and retailers called for improved road conditions.

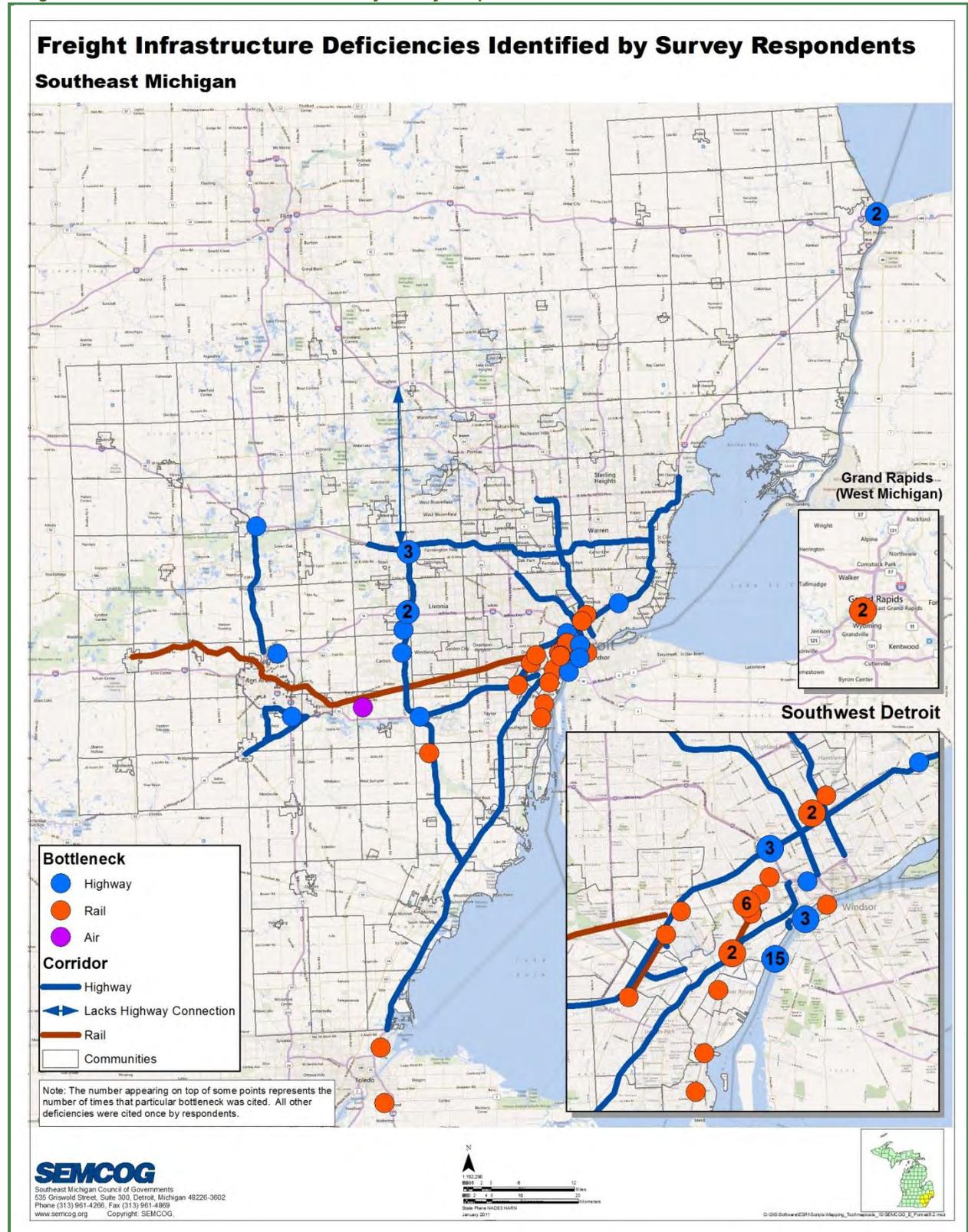
The survey respondents were asked to identify transportation bottlenecks/choke points in Southeast Michigan or in nearby areas in Michigan, Ohio, or Ontario. About half of those surveyed responded (24 of 47). Figure 3 displays the results. The majority of locations cited are in the regional core (between I-94 and the Detroit River, from the area of I-75 at I-94 downriver to Ecorse), several of which were noted more than once. Highway-related issues are mentioned most but rail choke points are also very prevalent in the responses. Examples include:

- Highway
 - Condition of Roads
 - Detroit River Crossings
 - Congestion at freeway interchanges (e.g. I-275/I-696/I-96 and I-94/I-96)
 - Congestion on freeway corridors
 - Local access from business location to freeway interchange
- Rail
 - The Livernois-Junction Yard area and the rail connections to it such as at:
 - ✓ Delray Junction Area
 - ✓ Vickers Interlocker
 - ✓ Sibley Road/Pennsylvania Road Area

The most frequently-mentioned bottlenecks/choke points are the Ambassador Bridge for highway and the Livernois-Junction Yard area for rail. SEMCOG and the Michigan Department of Transportation (MDOT) are aware of these particular bottlenecks and have proposed relief through the New International Trade Crossing and the Detroit Intermodal Freight Terminal project, respectively. One airport issue was cited -- the runway length at Willow Run Airport being long enough to handle fully-loaded large aircraft.

Figure 3 below shows the location of all freight infrastructure deficiencies cited by respondents, with numbers indicating the times a particular bottleneck was named. This map is not intended to show current transportation plans and projects. Many locations on the map are priorities in current transportation plans; others, such as a proposed freeway extension of M-5 in western Oakland County, have been specifically studied and turned down as an active option in the regional transportation plan. Other less expansive infrastructure and operational changes could still be considered to address freight mobility concerns in these areas.

Figure 3
Freight Infrastructure Deficiencies Identified by Survey Respondents



When non-infrastructure issues were cited by the respondents, the most frequently mentioned are labor shortages (truck drivers), cost (particularly the price of fuel), and government regulations (from hours of service for trucking to complications in licensing/permitting).

In regards to the regulatory environment, the principal concern is with Customs processing at the U.S.-Canadian border. For many smaller and medium freight motor carriers, the Free and Secure Trade program (FAST), which is designed to securely expedite freight clearance across the U.S.-Canadian border, does not solve the problem because it neither addresses the issue of queue times that precede FAST designated customs booths at the border crossings nor truck driver turnover rates. Other regulatory concerns are the processes for gaining a permit for oversized/overweight loads at federal, state, and local levels. The redundancy is a cost issue for the freight industry. A recent tightening of the national hours-of-service rules is also a major concern to the motor carrier shipping business, limiting the delivery range a driver can reliably reach in one day. Finally, conversations with those in the waterborne transportation industry indicate that Michigan's ballast water law has shifted Michigan-bound international shipments to neighboring states with less restrictive laws. Overall, there is a desire for fewer and more-consistent regulations while maintaining safe operations.

3. FREIGHT FLOWS

Freight flow information provides insight into the current state of demand, interaction with other geographical areas, commodity type, and economic values of the shipments. This is of particular importance to SEMCOG when assessing the adequacy of infrastructure to serve freight-dependent businesses. When monitored over time, the information can illustrate clearly the effects of changes in trip interaction patterns, modes used, and the quantity of demand.

The general geographic patterns for the Southeast Michigan EER freight shipments indicate that roughly half of all movements involve origins or destinations in Michigan and adjacent states. Canada and Mexico represent between ten and 15 percent (Figures 4A and 4B).

Figure 4A
2009 Inbound and Outbound Trip Origins and Destinations

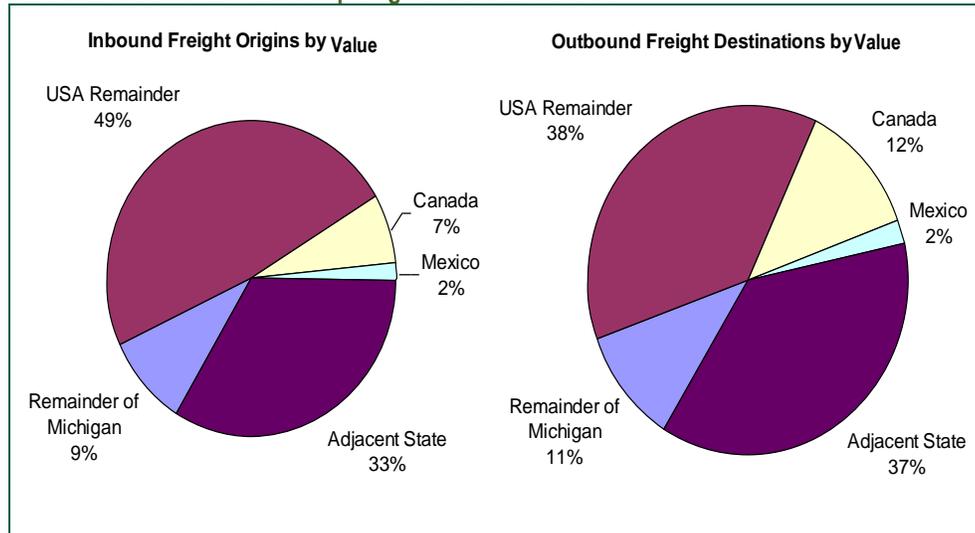
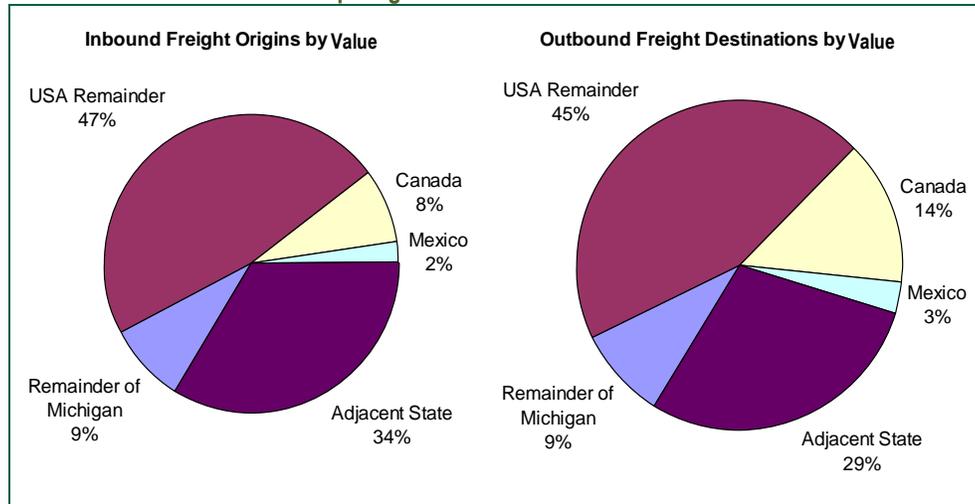


Figure 4B
2030 Inbound and Outbound Trip Origins and Destinations



Trucks are clearly the dominant mode in both the current situation and the forecast for the future (the year 2030). In general, the largest share for rail shipments by value is for more-distant destinations but, also, for crossing the Canadian border (Figures 5 and 6).

Figure 5A
2009 Outbound by Mode and Destination Region

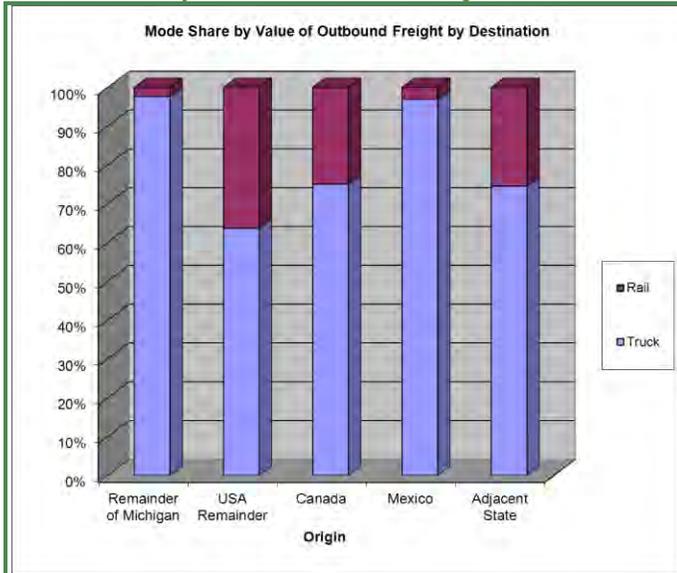


Figure 5B
2009 Inbound by Mode and Destination Region

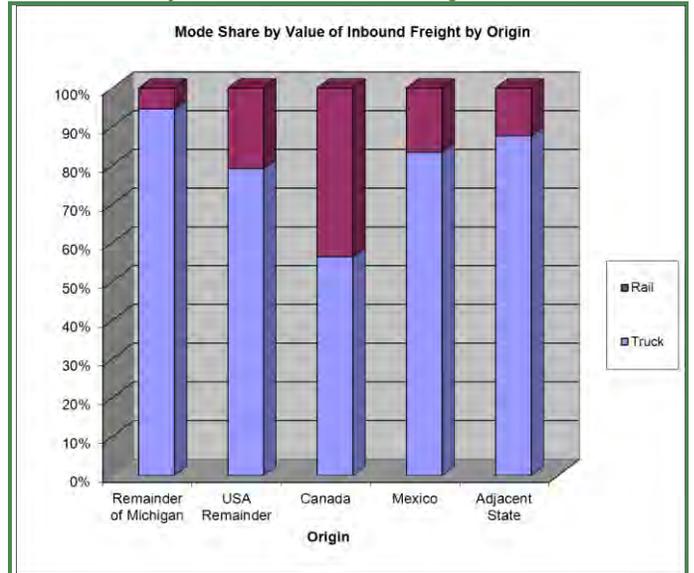


Figure 6A
2030 Outbound by Mode and Destination Region

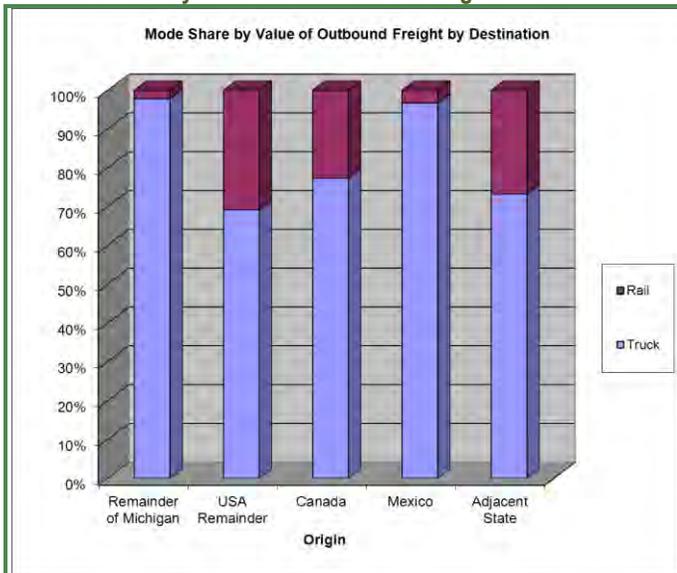
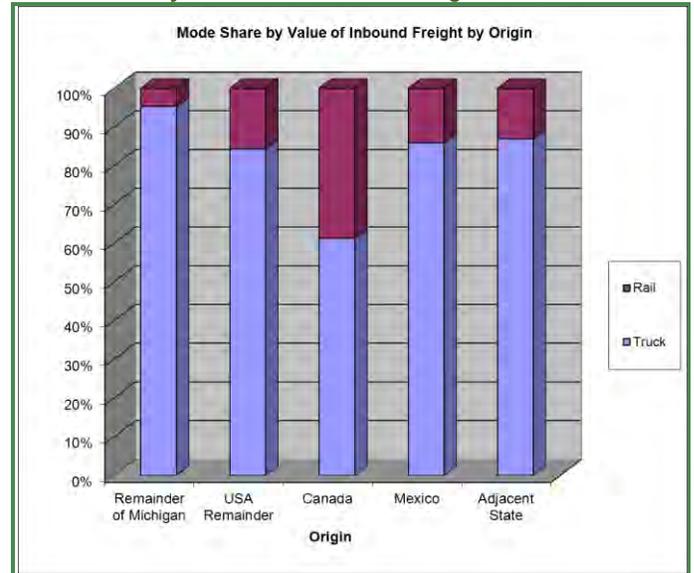


Figure 6B
2030 Inbound by Mode and Destination Region



Corridor flows have been developed by the Michigan Department of Transportation (MDOT) using Transearch data provided by Global Insight. In general, commercial volumes, tonnage, and values are now lower in Southeast Michigan (and throughout Michigan) than pre-recession levels, but movements have started to rebound. Forecasts point to an increase in commercial traffic in the region to new highs, with tonnage growing by 40 percent over the next 20 years and values nearly doubling.

According to work done recently by MDOT, the stretch of I-75 between M-59 and M-102 saw as much as 18.5 million tons, valued at over \$26 billion moved in 2009. The commercial volume is about 8,400 trucks per day. The major industries being served along this corridor include heavy manufacturing, nonmetallic minerals, and secondary traffic from warehouse/distribution centers to consumers. Nearly five million tons of nonmetallic minerals and over three million tons of mixed commodity warehouse movements travel this corridor. The highest value products traveling I-75 in this area are the warehouse/distribution traffic (\$3.7 billion), transportation equipment (\$3.5 billion), and machinery (\$2.3 billion).

About 10,300 trucks moved each day along the stretch of I-94 between I-96 and Conner. In 2009, the corridor served over 20.5 million tons, valued at over \$28.7 billion. By weight, chemicals and petroleum products combine to total over 5.7 million tons, while nonmetallic minerals (4.2 million tons) and primary metal manufacturing (1.6 million tons) were the next most prevalent. By value, transportation equipment (\$4.3 billion), machinery (\$3.6 billion), and chemicals (\$3.4 billion) were at the top of the list. More information on freight flows can be found in Appendix C.

4. TRANSPORTATION PROFILES

Based on analysis of the survey information and freight flow data, “target” industries for job growth were identified. Target industries are those with large regional employment, emerging businesses with large job multipliers, and/or industries that build on skills available in the Southeast Michigan EER. A complete explanation of the process to identify “targets” is included in Appendix D; the results are listed in Table 2.

Table 2
Summary of Characteristics of Selected Industries

Selected Industry	High Concentration	Large Employment	Growing	Shipping
Transportation Equipment Manufacturing (NAICS ³ 336)	●	●		●
Machinery Manufacturing (NAICS 333)	●	●		●
Plastics and Rubber Parts Manufacturing (NAICS 326)	●	●		●
Fabricated Metal Products Manufacturing (NAICS 332)	●	●		●
Wholesale Trade (NAICS 42)	●			●
Health Care (NAICS 62)	●	●	●	
Accommodation and Food Services (NAICS 72)			●	

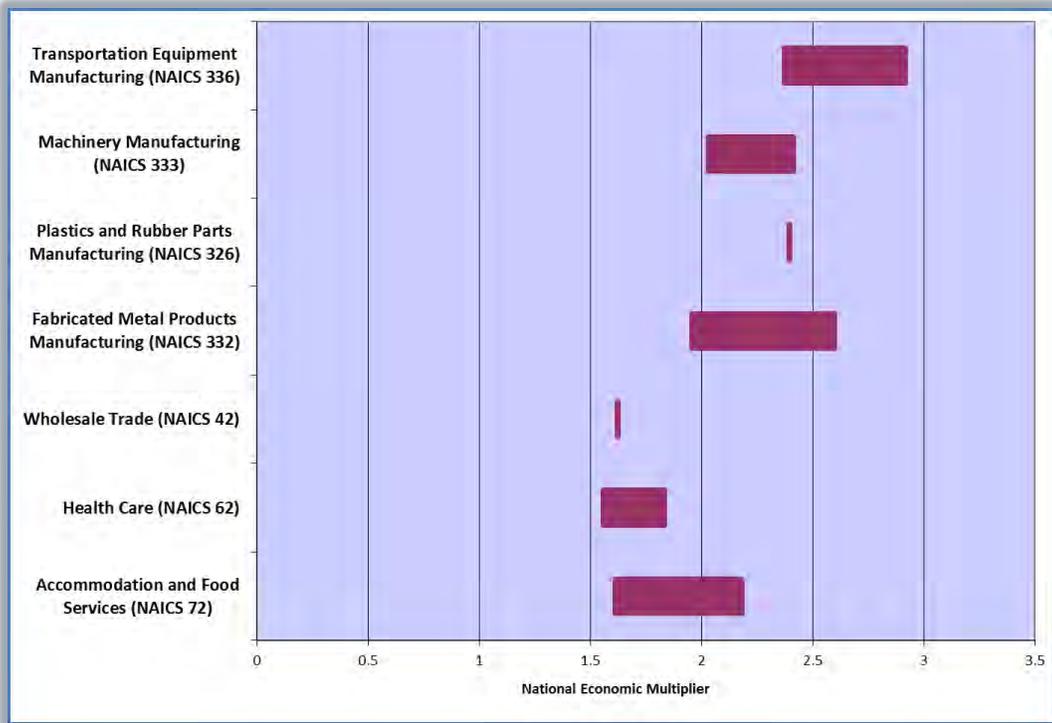
4.1 IMPORTANCE TO REGION

Figure 7 illustrates the economic multiplier for each of the seven target industries.² The multiplier indicates how much economic activity is generated by output in a particular industry. For example, Plastics and Rubber Products Manufacturing (NAICS 326)³ has a fairly high economic multiplier of 2.39. This means that producing \$1.00 of output in the sector will generate \$2.39 of activity throughout the economy. By comparison, an average or typical industry has a multiplier of only about 2.0.

² Transportation Satellite Accounts, U.S. Bureau of Economic Analysis.

³ North American Industry Classification System.

Figure 7
Economic Multiplier by Industry



Source: U.S. Bureau of Economic Analysis

The manufacturing industries have multipliers greater than the average of 2.0. Motor Vehicle Manufacturing (NAICS 3361)³, which is part of Transportation Equipment Manufacturing (NAICS 336) has second highest economic multiplier of all industries. This means that the automobile industry produces substantial activity throughout the economy.

4.2 ECONOMIC TRENDS

Table 3 presents a summary of economic trends in terms of employment, wages, and the average business size over the last ten years for the seven target industries in the Southeast Michigan EER. A downward arrow indicates that the measure (i.e., employment, wages, or workers per establishment) declined; an upward arrow indicates the measure grew; while an equals sign (=) indicates it held steady.

Table 3 also provides a comparison to U.S. national trends. The “greater than (>)” sign indicates that the measure grew faster than the U.S. average, while the “less than (<)” and equal (=) signs indicate the measure grew slower or equal to the U.S. average, respectively. The workers per establishment column also reports the average business size for the industry in the Southeast Michigan EER.

Table 3
SEMCOG Region Economic Trends: 1999 to 2009

Selected Industry	Employment	Wages	Workers per Establishment
Transportation Equipment Manufacturing (NAICS 336)	↓, > US	=, < US (> wages)	↓, 120
Machinery Manufacturing (NAICS 333)	↓, > US	↑, < US (> wages)	↓, 28
Plastics and Rubber Parts Manufacturing (NAICS 326)	↓, >US	↑, = US	↓, 51
Fabricated Metal Products Manufacturing (NAICS 332)	↓, > US	↑, < US	↓, 19
Wholesale Trade (NAICS 42)	↓, > US	↑, < US	=, 14
Health Care (NAICS 62)	↑, < US	↑, = US	=, 21
Accommodation and Food Services (NAICS 72)	↑, <US	↑, = US	=, 18

Source: County Business Patterns

Employment in the four manufacturing industries and Wholesale Trade (NAICS 42) declined over the last nationally; the decline in the SEMCOG region was greater than the U.S. average. Employment in Health Care (NAICS 62) and Accommodation and Food Service (NAICS 72) grew, but somewhat slower than the national average.

Wages grew in nearly every industry in the Southeast Michigan EER, although somewhat less than the U.S. average. Wages remained steady in the Transportation Equipment Manufacturing (NAICS 336) sector in the SEMCOG region, while they grew nationally. Although wage trends in Transportation Equipment Manufacturing (NAICS 336) and Machinery Manufacturing (NAICS 333) were slower than the U.S. average, wages remained higher than the U.S. national average.

Manufacturing business tend to have more workers per establishment. However, the size of the average businesses has declined.

4.3 SKILLS USED

Table 4 summarizes the labor skills used in each target industry. The majority of occupations in the manufacturing industries are related to production. In the cases of Transportation Equipment Manufacturing (NAICS 336) and Machinery Manufacturing (NAICS 333), the industries are the major employers of the occupation. Employees transferring to other industries may need to change occupations.

Food preparation and serving occupations make up 80 percent of employment in Accommodations and Food Services (NAICS 72) and the industry is the primary employer for these skills. Likewise, the Health Care (NAICS 62) requires specialized labor skills used primarily within the industry.

Table 4
Labor Skills Used Nationally

Selected Industry	Primary Occupations	Employment of Occupation
Transportation Equipment Manufacturing (NAICS 336)	Production (53%)	Major employer (20%)
Machinery Manufacturing (NAICS 333)	Production (55%)	Major employer (10-20%)
Plastics and Rubber Parts Manufacturing (NAICS 326)	Production (61%)	Minor employer (<10%)
Fabricated Metal Products Manufacturing (NAICS 332)	Production (62%)	Major employer for metal workers (>20%)
Wholesale Trade (NAICS 42)	Sales (27%), Admin (24%), Trans/Mat (20%)	Major employer (10-20%)
Health Care (NAICS 62)	Health practitioners (38%), Service (32%)	Specialized skills
Accommodation and Food Services (NAICS 72)	Food prep and serving (80%)	Primary employer

Source: Occupational Employment Statistics

4.4 SITE SELECTION CRITERIA

Table 5 summarizes responses about site selection criteria (other than labor skills) noted in the Freight Analysis Survey. Generally, respondents indicated a need to be close to customers, clients, suppliers or transportation services.

Table 5
Site Selection Criteria other than Labor Skills

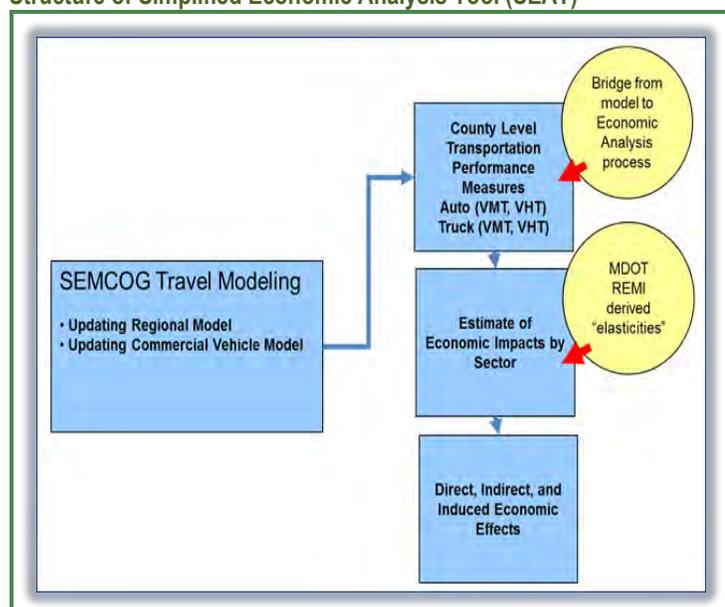
Selected Industry	Reason for Located in SEMCOG Region
Transportation Equipment Manufacturing (NAICS 336)	Near customers and assembly plants, workforce availability, tax incentives, property features
Machinery Manufacturing (NAICS 333)	Major highways, Detroit Airport
Plastics and Rubber Parts Manufacturing (NAICS 326)	Near clients and population centers, business opportunities
Fabricated Metal Products Manufacturing (NAICS 332)	Near customers and service centers
Wholesale Trade (NAICS 42)	Detroit Airport, U.S.-Canadian border, distribution areas, St. Lawrence Seaway
Health Care (NAICS 62)	Not covered in survey
Accommodation and Food Services (NAICS 72)	Not covered in survey

Source: SEMCOG Freight Industry Survey

5. SIMPLIFIED ECONOMIC ANALYSIS TOOL

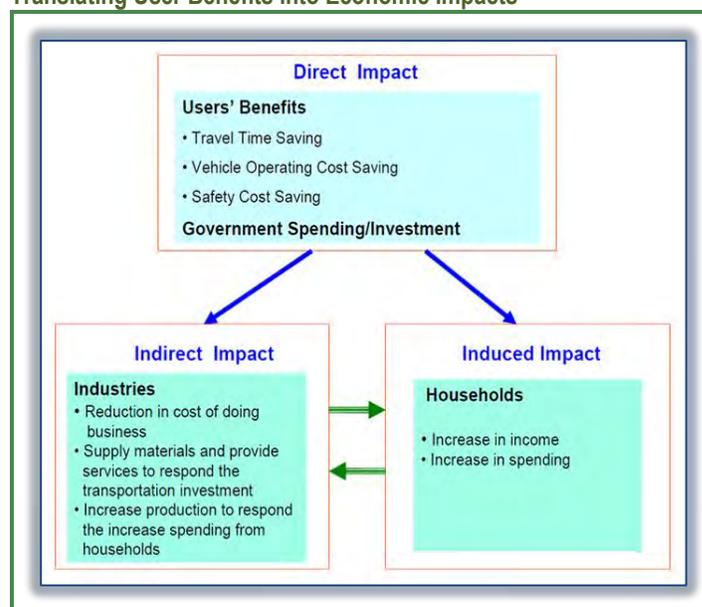
The Simplified Economic Analysis Tool (SEAT) is to be used to assess the user benefits and economic impacts of individual projects, groups of projects, or programs of projects that can be analyzed by SEMCOG. The tool can be used to assess the overall benefits of projects, chose among alternatives, or prioritize projects. Because the economic impacts are driven by work-related automobile travel and truck travel, the tool can help assess projects that improve freight travel.

Figure 8
Structure of Simplified Economic Analysis Tool (SEAT)



Source: System Metrics Group, Inc.

Figure 9
Translating User Benefits into Economic Impacts



Source: System Metrics Group, Inc.

The Simplified Economic Analysis Tool (SEAT) was developed as part of this study to focus on the economic effects of freight-related and other transportation investments. This tool will allow SEMCOG, and its partners, to conduct various analyses and estimate the economic impacts of projects. Figure 8 illustrates the basic economic analysis process. Figure 9 highlights the process by which the direct user and construction spending impacts lead to the indirect (effect on business) and induced (effect on households) impacts that magnify the effect on the economy.

The SEAT generates the following outputs:

- Travel Efficiency Measures (in 2010 dollars)
 - Travel time savings
 - Vehicle operating cost savings
 - Safety improvements
 - Emission cost savings

- Specific Regional Economic Impacts (in 2010 dollars)
 - Gross Regional Product
 - Personal income
 - Employment (total and by industry group)

The model also calculates two measures of the cost-effectiveness of a project:

- **BENEFIT-COST RATIO.** The benefit-cost ratio is calculated by dividing the total discounted benefits by total discounted costs. A benefit-cost ratio of 3.0 means that the public receives three dollars in benefits for every dollar invested (in construction, operations, and maintenance).
- **NET PRESENT VALUE (NPV).** The net present value is the difference between the discounted present value of benefits and the discounted present value of costs. A positive NPV indicates that benefits exceed costs. However, a large project can have a larger NPV than a small project and still have a lower benefit-cost ratio.

Appendix E contains additional information on the relationship between freight transportation infrastructure and economic development.

6. OBSERVATIONS AND RECOMMENDATIONS

Included in this section of the report are observations and recommendations based on the work conducted in this Freight & Economic Analysis Study.

6.1 PROJECTS

The input received from the freight/logistics community through the study's survey reinforces SEMCOG's support of **improved border crossings** through the **New International Trade Crossing** project, as well as border infrastructure and operational improvements at existing crossings. Similarly, SEMCOG will continue to support the **Detroit Intermodal Freight Terminal** project with the goal of improving rail operations and providing shippers with an economically competitive regional intermodal option. Concerns about disruptions in the reliability and speed of travel on the existing freeway network emphasize the importance of freeway performance for the survey respondents. This suggests SEMCOG's freight priorities should highlight enhancements in **tracking freeway performance** and highlighting the freight benefit for projects that improve the **reliability of freeway operations**. Perhaps more easily achieved, and more critical, are **last-mile improvements** (projects to better connect freeways and intermodal terminals to final delivery. Addressing these smaller, less-costly projects, can have significant impacts over time. In a similar vein, SEMCOG recognizes the survey respondents' spotlight on poor roadway pavement conditions. **Extending the life of pavement** on state and local truck routes must be a priority. Likewise, SEMCOG will support improving national and bi-national **ballast water standards** to protect the Great Lakes' ecosystem while providing a level playing field for Great Lakes ports. In all these areas, SEMCOG will continue its collaborative work with bi-national stakeholders to improve freight infrastructure development to further economic sustainability. Finally, the survey provided the opportunity for direct engagement with dozens of companies. **Continuing contact** will allow SEMCOG to keep abreast of real world problems which freight-dependent businesses are experiencing.

6.2 PLANNING

To promote the efficient allocation of investment resources, SEMCOG should continue the work begun in this study to **incorporate market perspectives** into its freight planning procedures. Continued **coordination with the Detroit Regional Chamber's Translinked initiative**, including a **freight industry voice** on the Transportation Advisory Committee during plan formation, and forming small **task force groups** to address particular freight issues, will help keep SEMCOG informed of local developments in the freight environment and provide opportunities for freight stakeholder participation that is focused on resolving measurable problems.

Another key part of the freight planning process is to reexamine the **classification of the existing transportation system into a hierarchy of freight facilities**: national, statewide, and regional, plus local/private connections to important facilities. The system definition process should identify the existing major freight activity centers and intermodal facilities of the region.

For each category of facility, SEMCOG (and MDOT) should **establish specific planning policies and performance measures**. Examples may include level of service standards, pavement condition standards, work zone policies (maintain capacity during projects), access management/land use impact oversight policies, and funding mechanisms.

To enable enhance **freight system flexibility**, SEMCOG should:

1. **Place an emphasis on intermodal facilities** that allow industries to use freight modes more interchangeably. This will provide industries additional options when driver shortages, fuel costs, or regulations cause rail to be less costly than trucking for some shipments.
2. **Support easing the flow of goods across the border** to allow the region to operate seamlessly to provide key industries the ability to locate production operations and use suppliers in the most efficient manner.
3. **Stay engaged with the private sector** to respond to non-infrastructure needs such as concerns about weight limits, workforce training, work rules, permitting, and licensing. While SEMCOG has no direct control over these issues, it can play a support role as part of an overall coalition of interest groups.

6.3 RETAIN & ATTRACT JOBS

The SEMCOG region should continue to evaluate the transportation needs of industries that are the most likely to retain jobs and attract new employment. The seven target industries included in this study are **highly concentrated**, have a **large employment base**, and/or are **expected to grow** within the region over the next 20 to 30 years. The industry profiles indicate that transportation plays a universal, albeit small role in the overall cost in these industries – a theme echoed in the survey of businesses. To attract and retain these businesses, **transportation policy should focus on maintaining and operating current facilities efficiently as an expected condition of the regional business environment**.

The industrial profiles indicate that one-third to one-half of all freight movement for the SEMCOG manufacturing industries occurs within 50 miles of the manufacturing site. This suggests that local road **improvements addressing last-mile, local connections to freeways may be as critical to shipments as major freeway projects**. As noted earlier, survey respondents cited several more local problems, which impinge on freight movement for that particular business. Addressing these, by completing relatively small projects, can have significant positive effects over time.

SEMCOG's forecast suggests that employment will decline more slowly in Wholesale Trade than in Manufacturing. Wholesale Trade has a reliance on trucking similar to the Manufacturing industries. However, wholesale firms tend to use their own trucks and require direct access to the Canadian border and regional distribution centers. To support these industries, **highway investments need to address specific Wholesale Trade sites**. In addition, Wholesale Trade relies on package shipment to a greater extent than other industries, so **airport access is critical factor**.

The **Health Care** and Accommodation and **Food Services industries** have their own specialized supply needs and are much **less reliant on transportation**. As a result, the specific transportation needs of these industries should be kept in focus through regular contact.

In general, transportation investments should support economic development efforts. SEMCOG planners can help economic development professionals and potential employers properly stay and grow in the Southeast Michigan EER by helping to provide access through **quality** existing infrastructure and, not just by making major, new capital investments in transportation. In either case, those **investments must be highly focused and provide a measurable return on investment**. The tool to do this has been made available through this project.

6.4 TRANSPORTATION INVESTMENT AND ECONOMIC DEVELOPMENT

The **Simplified Economic Analysis Tool (SEAT)** developed in this study allows SEMCOG to consider the economic impacts of freight-related and other transportation projects. The tool **provides SEMCOG with the ability to assess the direct user benefits of transportation projects and compare these benefits with project costs in an overall assessment of cost effectiveness**. SEMCOG can use the results of the SEAT analyses to help ensure that scarce transportation funding is applied to the most effective projects.

The **SEAT captures** economic development impacts in terms of **jobs, personal, income, and Gross Regional Product (GRP)**. Projects that improve freight flow help to lower industry production costs. By capturing these cost savings and their impact on the regional economy, the SEAT is better able to capture the benefits of freight projects than using traditional transportation measures alone.

The SEAT allows SEMCOG to:

- **Communicate the economic benefits** of the regional Transportation Improvement Program and proposed projects to decision-makers and the public.
- Support planners in choosing among alternatives by **identifying the “best” projects** from a cost-effectiveness standpoint.
- Help **make** the transportation investment **business case**.

- **Prepare competitive discretionary grant applications**, which are likely to become more important in the future. Discussion at the federal level is that TIGER grants may be the prototype for more performance-based planning required in the next federal transportation bill. With the SEAT, SEMCOG is prepared.
- **Pursue grants from non-traditional sources**, such as economic development grants that require quantification of impacts and public-private partnerships that expect the business case to be made.

Finally, the methods employed in this study can be used by SEMCOG in future planning work to pair market-based perspectives on regional freight infrastructure with ongoing analysis of the regional freight system condition and performance. Outreach to a wide variety of freight-reliant businesses, familiarity with freight flow trends and core industry logistics patterns, and economic analysis of transportation investments, all will help guide decisions on how to cost-effectively prioritize transportation investments that will both serve the current needs of businesses as well as support and enhance the regional economy in the future.

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