

MICHIGAN FREIGHT PLAN

Supplement to the 2035 MI Transportation Plan



TRANSPORTATION COMMISSION

Jerrold M. Jung, Chairman
Todd Wyett, Vice Chairman
Lynn Afendoulis, Commissioner
Charles F. Moser, Commissioner
Michael D. Hayes, Commissioner
Sharon Rothwell, Commissioner

MDOT EXECUTIVE TEAM

Kirk T. Steudle, P.E., Director
Laura J. Mester, CPA, Chief Administrative Officer
Gregory C. Johnson, P.E., Chief Operations Officer

TEAM MEMBERS

Lina Chapman, Project Manager
Rob Balmes
Vince Bevins
Pam Boyd
Deb Brown
Eric Costa
Randy Debler
Jason Firman
Jesse Gwilliams
Susan Gorski
Andy Irwin
Nikkie Johnson
Peggy Johnson
Larry Karnes
Ron Katch
Dennis Kent
Polly Kent
Jason Latham
Rob Lippert
Marty Lontz
Paul Lott
Sara Moore
Craig Newell
Patty O'Donnell
Bob Parsons
Tim Ryan
Brad Sharlow
Terry Stepanski
Larry Whiteside
Ola Williams
Brad Winkler
Dave Wresinski

AERONAUTICS COMMISSION

J. David VanderVeen, Chair
Peter Kamarainen, Vice Chair
Mike Trout, Director
Laura Mester, Commissioner
Lt. Col. Dan Atkinson, Commissioner
Brigadier General Len Isabelle, Commissioner
Scott Heather, Commissioner
Russ Kavalhuna, Commissioner
Roger Salo, Commissioner
Rick Fiddler, Commissioner

MICHIGAN FREIGHT PLAN

Supplement to the 2035 MI Transportation Plan

TABLE OF CONTENTS

INTRODUCTION	6
1 PLAN OVERVIEW	8
Freight Defined	8
MAP-21	8
Plan Development Process	9
Connection to 2035 MI Transportation Plan	9
2 STRATEGIC GOALS	10
National Freight Goals.....	10
2035 MI Transportation Plan Goals.....	10
3 ECONOMIC CONTEXT OF FREIGHT PLANNING	12
Statewide Goods Movement Snapshot	13
Logistics and Supply Chain Strategic Plan.....	14
4 FREIGHT POLICIES, STRATEGIES, AND INSTITUTIONS	15
Investment Decision Guidance: A Corridor-Based Approach.....	15
Grant and Loan Programs.....	18
Constraints on Freight-Related Investments.....	19
Freight-Related Institutions	19
Regional Freight-Planning and Border Partnerships.....	20
5 STATE FREIGHT TRANSPORTATION ASSETS	22
Freight Profile	22
Freight Infrastructure Assets	22
Key Freight Industry and Natural Resource Locations.....	33
6 SYSTEM CONDITION AND PERFORMANCE	38
2035 MITP Performance Measures.....	38
Tracking the Performance of Michigan’s Infrastructure	39
7 20-YEAR FREIGHT FORECAST	41
Highway Freight Forecast	41
Waterborne Freight Forecast.....	47
Rail Freight Forecast	51
Air Freight Forecast	55
8 OVERVIEW OF TRENDS, NEEDS, AND ISSUES	56
Freight Trends.....	56
Statewide Investment Needs	57
Issues and Performance Barriers	57
Highway Issues and Strategies	58
Rail Issues and Strategies.....	65
Air Issues and Strategies.....	66
Marine Issues and Strategies.....	67
Border Crossing Issues and Strategies.....	68

9 THE STATE'S DECISION-MAKING PROCESS	70
Stakeholder Engagement and Public Involvement	70
Discussion of Project Prioritization	71
10 FREIGHT PROJECT LIST	73
LIST OF FIGURES	
Figure 1 – Linkage Between MITP Goals and National Freight Goals	11
Figure 2 – Michigan Commodity Movement Totals: Modal Split by Tonnage (2009)	13
Figure 3 – Michigan Commodity Movement Totals: Modal Split by Value (2009)	13
Figure 4 – Corridors of Highest Significance: National/International and Statewide	16
Figure 5 – Population within 10 miles of a Corridor of Highest Significance	17
Figure 6 – Michigan Major Freight Infrastructure	23
Figure 7 – Michigan Active Rail (2013)	26
Figure 8 – Detroit Intermodal Freight Terminal (DIFT).....	27
Figure 9 – Michigan Commercial Ports	28
Figure 10 – Scheduled Air Service Airports by Tonnage (2009)	30
Figure 11 – Petroleum Terminals and Refineries in Michigan	32
Figure 12 – Chrysler, Ford, and GM Production Facilities.....	33
Figure 13 – Michigan Logging Locations	34
Figure 14 – Crop Concentration and Storage Facilities	35
Figure 15 – Michigan Natural Resource Operations	36
Figure 16 – Warehouse and Trucking Employment.....	37
Figure 17 – Michigan Congested Roadways (2011).....	58
Figure 18 – Michigan Highway Freight Bottlenecks	59
Figure 19 – Truck and Bus Crashes and ATRI Rollover Locations (2010)	61
Figure 20 – Trunkline Remaining Service Life (RSL) (2011)	63
Figure 21 – MDOT Bridge Ratings (2011).....	64
LIST OF TABLES	
Table 1 – Top Commodities Moved by Trucks in Michigan (2009)	22
Table 2 – Michigan Freight Intermodal Connectors	24
Table 3 – Top Commodities Moved by Rail in Michigan (2009).....	27
Table 4 – Top Commodities at Michigan Ports (2009).....	29
Table 5 – Top Air Cargo Airports by Tonnage (2009)	31
Table 6 – Michigan Truck Freight Movements (2009-2030): Overall	42
Table 7 – Michigan Truck Freight Movements (2009-2030): Michigan to Michigan	43
Table 8 – Michigan Truck Freight Movements (2009-2030): Michigan to Other.....	44
Table 9 – Michigan Truck Freight Movements (2009-2030): Other to Michigan.....	45
Table 10 – Michigan Truck Freight Movements (2009-2030): Through	46
Table 11 – Michigan Marine Freight Movements (2009-2030): Overall	47
Table 12 – Michigan Marine Freight Movements (2009-2030): Michigan to Michigan.....	48
Table 13 – Michigan Marine Freight Movements (2009-2030): Michigan to Other	49
Table 14 – Michigan Marine Freight Movements (2009-2030): Other to Michigan	50
Table 15 – Michigan Rail Freight Movements (2009-2030): Overall	51
Table 16 – Michigan Rail Freight Movements (2009-2030): Michigan to Michigan.....	52
Table 17 – Michigan Rail Freight Movements (2009-2030): Michigan to Other	53
Table 18 – Michigan Rail Freight Movements (2009-2030): Other to Michigan	54
Table 19 – Michigan Rail Freight Movements (2009-2030): Through	55
Table 20 – Freight Project List: Highway (Tier 1)	73
Table 21 – Freight Project List: Highway (Tier 2)	78
Table 22 – Freight Project List: Rail	85
Table 23 – Freight Project List: Marine	87
APPENDIX	
Trunkline Freight Project List Development	A

INTRODUCTION

The Michigan Department of Transportation (MDOT) recognizes the importance of freight mobility in support of the movement of goods, products, and services across Michigan. A safe, efficient and well-maintained transportation network supports cost-effective freight movement, economic development, and improved quality of life. The freight transportation system of Michigan is an important element of economic competitiveness, especially as the state continues to expand its role as a major domestic and global trade partner.

The purpose of the Michigan Freight Plan is to provide a comprehensive overview of the state's freight transportation system, including existing assets, system performance, and investments required to ensure long-term success. The Freight Plan is a multi-modal and intermodal resource, providing an overall framework for freight system improvements and priorities. The Freight Plan serves as an element of the 2035 MI Transportation Plan (2035 MITP), and integrates its overall vision, goals, objectives, strategies, and decision-making principles.

"The freight transportation system of Michigan is an important element of economic competitiveness, especially as the state continues to expand its role as a major domestic and global trade partner."

THE PLAN IS ORGANIZED INTO THE FOLLOWING SECTIONS:

Section 1, *Plan Overview*, establishes the context for the creation of the Michigan Freight Plan. The most recent federal transportation bill, Moving Ahead of Progress in the 21st Century (MAP-21) encourages state departments of transportation to create multi-modal freight plans, and in effect rewards that planning effort by allowing an increased share of federal funding for projects that benefit the movement of freight. Many of the required elements for state freight plans are contained in MDOT's existing state long-range plan, 2035 MI Transportation Plan: Moving Michigan Forward (2035 MITP), and are referenced throughout this document. Required information not contained within the 2035 MITP is included in this document, which is to be considered a supplement to the current state long-range plan and associated white papers.

Section 2, *Strategic Goals*, includes a description of National Freight Goals as established in MAP-21. In addition, 2035 MITP goals are described and linked to the National Freight Goals to demonstrate the alignment of state and federal priorities for the movement of freight, and its contribution to economic development and improved quality of life.

Section 3, *Economic Context of Freight Planning*, delves into the justification for a focus on freight planning in today's economy and includes a brief summary of current goods movement patterns in Michigan. An introduction is provided to the state's Logistics and Supply Chain Strategic Plan which continues the focus on building and maintaining a strong economic foundation for business with transportation as its backbone.

Section 4, *Freight Policies, Strategies, and Institutions*, includes an overview of the corridor-based analysis conducted during the state's long-range planning process; grant and loan programs available to support freight movement; current fiscal constraints on freight-related investments; and a listing of educational institutions, associations, partnerships, and regional freight planning initiatives present in Michigan.

Section 5, *State Freight Transportation Assets*, provides further details of existing transportation assets, data on goods movement by tonnage and value, and key freight industry and natural resource locations throughout Michigan.

Section 6, *Condition and Performance of the State's Freight Transportation System*, describes the 2035 MITP performance measures as they relate to the goals and objectives that guide transportation investment decisions in the state. MDOT maintains a number of tracking systems that provide a quick snapshot as to how the department is performing in relation to the performance measures that have been established through the state's long-range planning process, including measures related to the movement of freight.

Section 7, *20-Year Freight Forecast*, presents modal forecasts through 2030 for highway, rail, and marine commodity movements using information from the Transearch database maintained by IHS Global Insight. Transearch is a planning tool that allows users to analyze current and future freight flows by origin, destination, commodity, and transport mode.

Section 8, *Overview of Trends, Needs, and Issues*, includes a summary of the existing trends, needs, and issues in Michigan as they relate to the movement of freight across the state, including a discussion of specific freight bottlenecks and highway conditions that impact the efficient movement of freight.

Section 9, *The State's Decision-Making Process*, presents the public involvement and stakeholder engagement process conducted throughout the creation of the Michigan Freight Plan. In addition, a detailed description of the methods used to create the prioritized list of freight projects is included, such as a discussion of the tiered project list approach and the specific data measures used to identify projects with significant freight impacts.

Section 10, *Project List by Mode and Tier*, contains all three project tiers, including currently programmed highway projects that align with national freight investment priorities, as well as projects on highways and other modes of transportation that also are highly important to the continued efficient functioning of Michigan's transportation system as a whole.



1 PLAN OVERVIEW

FREIGHT DEFINED

Freight is defined as any good, product, or raw material carried by a commercial means of transportation - including air, highway, rail, water, and pipeline. The activities involved in the management of how and where freight moves are defined as logistics. This is becoming a significant challenge due to the growing need for freight services resulting from increased consumer demand in Michigan, congestion and the ability of transportation infrastructure to support such demand. In light of existing market forces, rising fuel prices, and other factors that will increase the cost of moving goods, freight planning is an important component of the statewide and metropolitan planning process.

When trucks carrying goods to market or factory are delayed in traffic, the result can be reduced productivity, increased operating costs, and decreased fuel efficiency. Delay can potentially increase the cost of transporting goods by as much as 50 to 250 percent. The 2,110 freight bottlenecks on highways throughout the United States cause more than 243 million hours of delay to truckers annually. At a delay cost of \$26.70 per hour, the conservative value used by the U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) Highway Economic Requirements System model, these bottlenecks cost shippers and truckers about \$6.5 billion per year. Those costs ripple throughout the economy, affecting the cost of goods for businesses and consumers alike.

MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY (MAP-21)

The Michigan Freight Plan was created in response to recommendations outlined in the most recent federal surface transportation authorization bill, MAP-21, enacted in 2012.

In response to growing pressures on the freight network, Section 1115 of MAP-21 emphasized that the policy of the United States is to improve the condition and performance of the national freight network to help provide the foundation for the country to compete in the global economy.

In addition to outlining national freight goals, Section 1115 of MAP-21 requires that the FHWA establish a National Freight Network by Oct. 1, 2014. The National Freight Network is to include an FHWA-identified primary freight network of approximately 27,000 miles, a more focused system than the 40,000-mile federal Interstate system. The National Freight Network will consist of roads and bridges deemed critical to the national movement of freight and include rural freight corridors, identified in cooperation with the states, which serve as connectors to the primary freight network.

In order to demonstrate the importance of the movement of freight to the economic competitiveness of the United States and the commitment of the federal government, MAP-21 included a financial incentive designed to encourage states to create state freight plans, either as stand-alone documents or as part of existing state long-range plans.

The creation of a state freight plan, along with a prioritized list of projects, has the potential to increase a state's federal match portion of funding for projects on Interstate routes from 90 percent to 95 percent. Non-Interstate routes are eligible for an increase from 80 to 90 percent in federal funding. While it does not increase federal funding to the state, receiving an increased federal share on critical freight projects statewide would create additional flexibility in the use of state funds for other types of projects. The potential financial benefit to Michigan could be up to \$10 million in state funding flexibility.

¹ Federal Highway Administration, Highway Economic Requirements System (HERS), "Creating a Freight Sector within HERS" white paper, 2001.

² Federal Highway Administration, Freight Story, The Economic Costs of Freight Transportation, www.ops.fhwa.dot.gov/freight/freight_analysis/freight_story/costs.htm.

³ MAP-21 Moving Ahead for Progress in the 21st Century, U.S. Department of Transportation, Federal Highway Administration, www.fhwa.dot.gov/map21/.

In general, a “freight project” is defined as any surface transportation project eligible for assistance under 23 U.S.C. that improves the movement of freight. Eligible project types include:

- **Construction, reconstruction, rehabilitation, and operational improvements directly relating to improving freight movement;**
- **Intelligent transportation systems and other technology directly relating to improving freight movement;**
- **Efforts to reduce the environmental impacts of freight movement on the primary freight network;**
- **Railway-highway grade separation;**
- **Geometric improvements to interchanges and ramps;**
- **Truck-only lanes;**
- **Climbing and runaway lanes;**
- **Truck parking facilities eligible for funding under Jason’s Law;**
- **Real-time traffic, truck parking, roadway condition, and multimodal transportation information systems;**
- **Improvements to freight intermodal connectors; and improvements to truck bottlenecks.**

Freight projects are required to have adequate funding sources identified and must demonstrate improvements to the efficient movement of freight and meet national performance targets. National performance targets are to be established by the USDOT by Oct. 1, 2015. Until those targets are established, states should be able to demonstrate how the project makes progress toward achieving the national goals for freight movement and economic vitality, improve the National Freight Network, enhance the ability of a rural community to access national and international trade markets, or support regional economic development activities.

MAP-21 also encourages states to develop freight plans in coordination with a state freight advisory committee consisting of internal and external stakeholders. Efforts are under way to formally assemble a statewide freight advisory committee, the duties of which would be in alignment with MAP-21.

PLAN DEVELOPMENT PROCESS

Since 2009, MDOT has maintained the Freight Coordination Group (FCG), an internal advisory committee comprised of staff involved in freight planning, research, and programming, with representatives from the central office and seven MDOT regions. In addition to MDOT staff, representatives from the FHWA Michigan Division participate as well. In lieu of the advisory committee described in MAP-21, MDOT relied on the expertise of the FCG and public input as this plan was developed.

The FCG was consulted extensively throughout the development of this plan and was divided into two workgroups to streamline and expedite efforts to comply with MAP-21. Workgroup 1 developed the Freight Plan, including providing content and data analysis, while Workgroup 2 was responsible for the creation of a prioritized list of projects, as required by FHWA.

To maintain consistency with state long-range planning requirements, MDOT provided stakeholders and the general public the opportunity to provide comment on the Freight Plan. See Section 9 for more information on the public involvement process for the Freight Plan.

CONNECTION TO 2035 MI TRANSPORTATION PLAN

MDOT’s current long-range plan, 2035 MI Transportation Plan (2035 MITP), was adopted in September 2012 as an update to the 2030 MI Transportation Plan (2030 MITP) completed in 2007. The original 2030 MITP contains 17 technical and 11 strategic reports that include many of the elements required for a state freight plan as described in MAP-21. These include identification of trends, needs, issues, policies, strategies, and performance measures as they relate to freight and the transportation system as a whole. Those technical and strategic reports will be referred to throughout this document. In addition to the technical and strategic reports from 2030 MITP, the 2035 MITP update includes a series of white papers that reflect newly available data and explain the variety of changes that took place in Michigan between 2007 and 2012.

MDOT has produced additional state-level planning documents that serve as valuable resources for this plan. They include the Michigan State Rail Plan (2011) and the Michigan Airport System Plan (2008).

4 MAP-21 Moving Ahead for Progress in the 21st Century, Prioritization of Projects to Improve Freight Movement Guidance, U.S. Department of Transportation, Federal Highway Administration, Oct. 19, 2012.

2 STRATEGIC GOALS

NATIONAL FREIGHT GOALS

The Michigan Freight Plan aligns with Michigan's state long-range planning goals and with the National Freight Goals established in MAP-21. The Michigan Freight Plan was developed to meet national freight goals and support the overarching goals of the [2035 MITP](#). The National Freight Goals are summarized as follows:

- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness;
- Reduce congestion on the freight transportation system;
- Improve the safety, security, and resilience of the freight transportation system;
- Improve the state of good repair of the freight transportation system;
- Use advanced technology, performance management, innovation, competition and accountability in operating and maintaining the freight transportation system; and
- Reduce adverse environmental and community impacts of the freight transportation system.

2035 MI TRANSPORTATION PLAN GOALS

In June 2007, MDOT redeveloped and adopted its long-range transportation plan, the [2030 MITP](#). Many of the technical reports are referenced throughout this document.

In 2012, the 2030 MITP was updated to reflect new data, describe changes that had taken place throughout the state between 2007 and 2012, and to maintain the 20-year planning horizon required by the FHWA. The mission, goals, objectives, and rationale from the 2030 MITP were reaffirmed, while a series of white papers was developed to catalogue the many changes that took place, including new collaborations, changes in freight volumes, and socioeconomic changes, among other topic areas. Figure 1 on the next page illustrates how the National Freight Goals are linked to the 2035 MITP goals.

The following goals, established in the 2030 MITP, were reaffirmed in the 2035 MITP:

System Improvement: Modernize and enhance the transportation system to improve mobility and accessibility.

Efficient and Effective Operations: Improve the efficiency and effectiveness of the transportation system and transportation services, and expand MDOT's coordination and collaboration with partners.

Safety and Security: Continue to improve transportation safety and ensure the security of the transportation system.

Stewardship: Preserve transportation system investments, protect the environment, and utilize public resources in a responsible manner.

The 2030 MITP identified the following goals that are specific to the Corridors of Highest Significance (COHS) as extensively detailed in the [Corridors and International Borders Report](#), and again reaffirmed in the [Corridors and International Borders White Paper](#):

Modal Choice: Provide choices for user segments, connectivity between modes, and connectivity between activity centers for a seamless transition between modes.

Freight Adequacy: Support for Michigan businesses, industry, freight shippers, and haulers to improve economic competitiveness.

Figure 1: Linkage Between MITP Goals and National Freight Goals

2035 MITP Goals ► National Freight Goals ▼	Efficient and Effective Operations	System Improvements	Safety and Security	Stewardship	Modal Choice	Freight Adequacy
National Freight Goals	●	●	●	●	●	●
Enhance economic efficiency, productivity, and competitiveness	●	●	●		●	●
Reduce congestion	●	●	●	●	●	●
Improve state of good repair	●	●		●	●	●
Use advanced technology, performance management, innovation, competition and accountability in operation and maintaining network	●	●	●	●	●	●
Reduce adverse environmental and community impacts	●			●	●	●

3 ECONOMIC CONTEXT FOR FREIGHT PLANNING



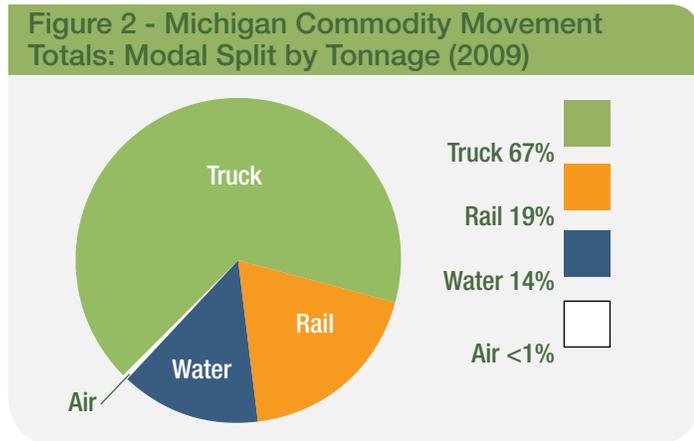
An efficient and well-maintained transportation system provides the backbone for all economic activity. Efficient transportation systems move goods and people throughout local, regional, national and international economies in a safe, timely and reliable manner. Transportation is very closely tied to economic development and is a vital part of the nation's and Michigan's overall economic competitiveness. Both the USDOT and MDOT identify the link between transportation and the economy as a top priority.

Statistics indicate that the demand for transportation grows with economic activity. In Michigan, commercial vehicle miles traveled (VMT) has historically grown at an even higher rate than the Gross State Product (GSP), suggesting that economic growth is strongly linked to transportation in Michigan.

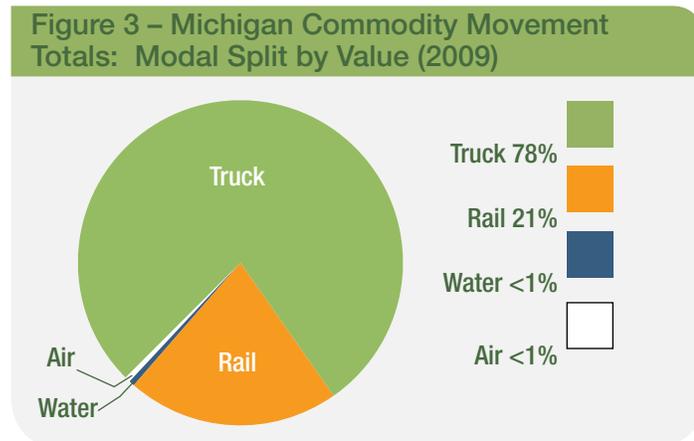
Michigan's three largest industries - manufacturing, agriculture and tourism - are highly dependent on good transportation systems. An efficient and dependable transportation system can lower costs, enhance competitiveness, and support just-in-time inventory systems for business.

STATEWIDE FREIGHT MOVEMENT SNAPSHOT

Tonnage moved to, from, within, and through Michigan totaled approximately 434 million tons in 2009. Trucking accounted for 67 percent of the tonnage moved, while rail handled 19 percent, water handled 14 percent, and aviation carried less than 1 percent (Figure 2). The value of all freight movements throughout Michigan in 2009 was more than \$520 billion, with trucks handling 78 percent of the goods moved by value, rail handling 21 percent, and water and air modes each handling less than 1 percent (Figure 3).



Source: Michigan Department of Transportation Statewide and Urban Travel Analysis Section



Source: Michigan Department of Transportation Statewide and Urban Travel Analysis Section

Major commodities moved throughout the state by truck in 2009 include nonmetallic minerals, such as sand and gravel (48.49 million tons), farm products (37.17 million tons), and secondary traffic, such as movements of mixed freight to and from warehouse and distribution centers (35.42 million tons).

For rail, coal (19.77 million tons), chemicals (11.09 million tons), and metallic ores (9.95 million tons) were the top commodities moved by tonnage in Michigan in 2009, with coal being all inbound, chemicals mostly through movements, and metallic ores mostly outbound movements from the iron mines in Marquette County.

Nonmetallic minerals (25.01 million tons) were the leading commodity shipped by water in Michigan in 2009, mostly outbound from limestone quarries in northern Michigan.

In terms of air freight, the Detroit Wayne County International Airport continued to handle the majority of high-value, time-sensitive products typically shipped by air at 164,590 tons in 2009. Detroit Willow Run (39,823 tons), Grand Rapids (38,277 tons), Lansing (21,023 tons), and Flint (8,798 tons) make up the next tier of cargo airports.

The United States and Canada are the world's largest bilateral trading partners, with the cross-border movement of goods between them exceeding \$1.6 billion per day. The Ambassador Bridge in Detroit is the busiest commercial border crossing in the United States, with more than 2.6 million trucks crossing in 2011. The Blue Water Bridge in Port Huron is the second-busiest northern border crossing, with almost 1.5 million trucks in 2011. Transportation equipment is the leading product crossing Michigan's border with Canada, due to the presence of several auto manufacturing plants that require shipments between Michigan and Ontario.

3 ECONOMIC CONTEXT FOR FREIGHT PLANNING

LOGISTICS AND SUPPLY CHAIN STRATEGIC PLAN

In addition to the vision and goals set forth in the 2030 MITP and reaffirmed in the 2035 MITP, Gov. Rick Snyder and his administration have embraced an asset-based economic development approach to improving the state's economy, with a focus on building and maintaining a strong economic foundation for business. One key component is the presence of a safe, efficient and low-cost logistics and supply chain network in Michigan. As a result, MDOT works closely with the Michigan Economic Development Corp. (MEDC) and the Michigan Department of Agriculture and Rural Development (MDARD) through a formal partnership intended to help achieve the economic development goals of the state and accelerate economic success for businesses.

A state agency partnership released the [Logistics and Supply Chain Vision 2013-2020](#), that further refines the mission of the State of Michigan in regards to creating a positive business environment for economic growth:

"To lower cost, reduce time and remove risk for firms by developing an efficient logistics and supply chain ecosystem that leverages our assets and provides opportunities for collaboration and partnership."

The vision to reinvent Michigan to become a center of international trade requires developing an infrastructure that will meet the modern day demands of a globalized economy. Michigan has significant transportation assets, which serve intermodal freight traffic from around the world, including two of the country's busiest international border crossings in Detroit and Port Huron, four Class I railroads, a network of Interstate highways, the St. Lawrence Seaway, many commercial port facilities, and the major cargo-carrying airports of Willow Run and Detroit Metro. Michigan's robust freight infrastructure assets are described in greater detail in Section 5 of this plan.

4 FREIGHT POLICIES, STRATEGIES, INSTITUTIONS

This section provides a summary of the strategies, policies, and programs that support the mobility and efficient movement of freight in Michigan.

MDOT's approach to freight planning is intended to increase economic productivity and promote economic growth by recognizing freight needs in the long-range planning process. Freight is recognized by MDOT as important to the economic vitality of the state. Beginning with the 2030 MITP, the importance of the movement of freight to the economic vitality of the state has been part of the long-range planning process followed by MDOT.

INVESTMENT DECISION GUIDANCE: A CORRIDOR-BASED APPROACH

Freight must travel seamlessly along geographic corridors, with a choice of transportation modes between locations or activity centers within and outside Michigan. To support this, MDOT chose to focus on a corridor-based strategy to define economic activity centers throughout Michigan. The corridor approach has allowed MDOT to gain a better understanding of economic conditions and needs statewide.

The corridor-based analysis conducted during the development of the 2030 MITP held that specific corridors serve and support specific economic sectors, and the 2035 MITP affirmed this. By improving specific corridors, the shippers, businesses and industries dependent on those corridors can be strengthened, further supporting Michigan's economic competitiveness.



4 FREIGHT POLICIES, STRATEGIES, INSTITUTIONS

Corridors of Highest Significance - National/International and Statewide Corridors

A significant portion of the 2030 MITP was focused on the development of the Corridors of Highest Significance (COHS) (Figure 4). Corridors were designated and named based on the primary travel origin and destination they serve: national/international, statewide, regional, or local. COHS include national/international and statewide designated corridors and are defined as:

An integrated, multi-modal system of transport infrastructure along geographic corridors that provides a high level of support for the international, national, and state economies. These corridors connect activity centers within and outside Michigan and serve the movements of people, services, and goods vital to the economic prosperity of the state.

Figure 4 - Corridors of Highest Significance: National/International and Statewide



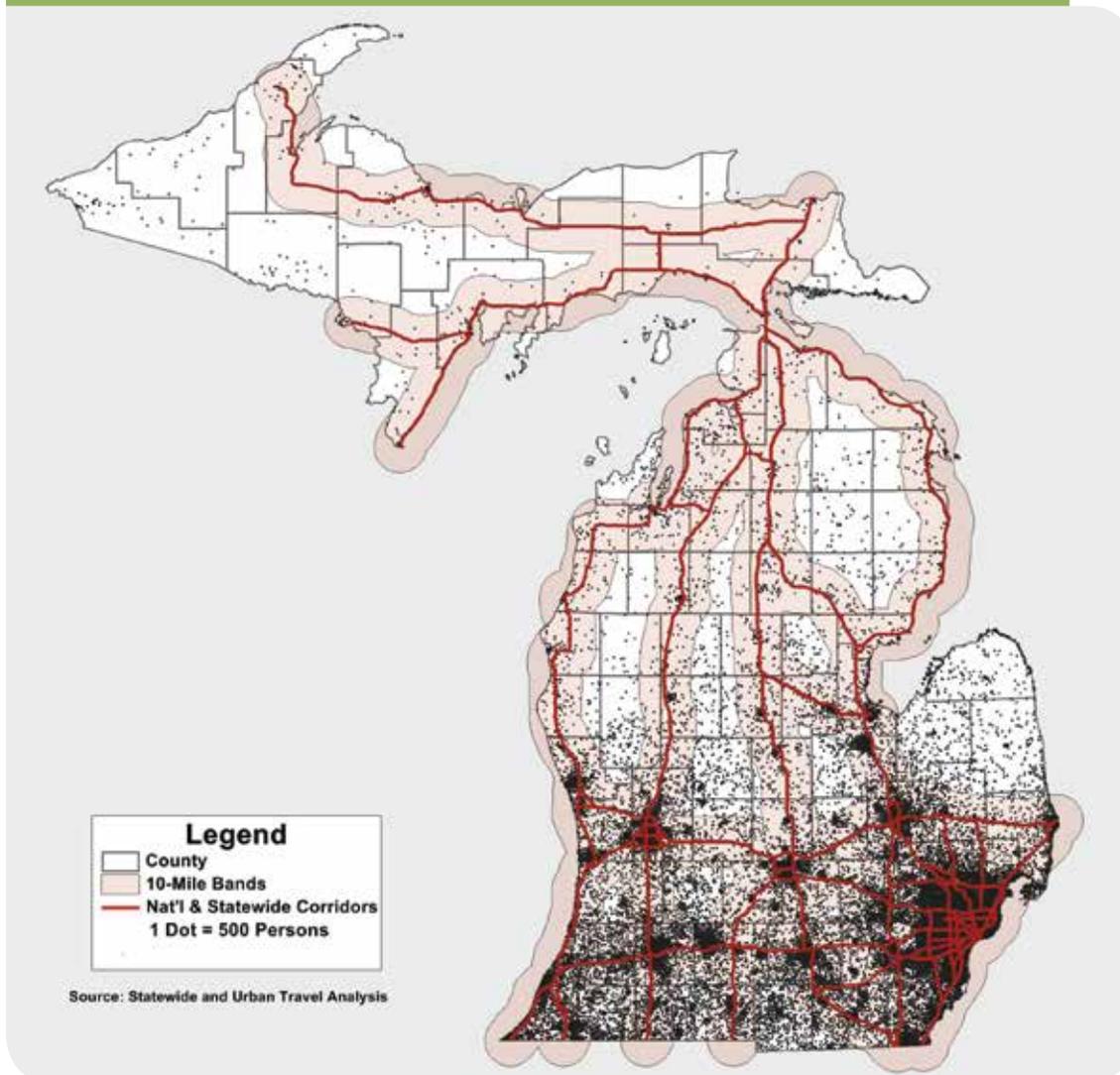
Regionally and Locally Significant Corridors

Michigan's economy includes many local and regional economic activity centers throughout the state in addition to the corridors that support the international, national and state economies. In identifying the COHS, it became clear that certain corridors support regional economies and are vital components of the transportation network and the state's economic health. These corridors were identified as regionally and locally significant corridors and are defined as:

An integrated, multi-modal system of transportation infrastructure along geographic corridors that provide a high level of support for a specific sub-state region of Michigan's economy. These corridors connect to and augment the Corridors of Highest Significance and serve the movements of people and goods within or between activity centers.

Because the corridors are multi-modal and not limited to highways, service areas were defined to include the population and employment within a 20-mile geographic area around the corridor, called the 20-mile band, which covers 10 miles on each side of the trunkline (Figure 5). COHS are not ranked; instead, they are based on the type of travel they carry. Even though the COHS do not include the entire state transportation network, they serve a very large segment of the travel needs of Michigan's businesses and encompass nearly 93 percent of the state's population.

Figure 5 - Population within 10 miles of a Corridor of Highest Significance



For more information on these corridors, please see the [Corridors and International Borders Technical Report](#) the [Corridors and International Borders White Paper](#), and the [MI Corridors of Significance Profile Summary](#) on the Web at www.michigan.gov/slrp.

4 FREIGHT POLICIES, STRATEGIES, INSTITUTIONS

GRANT AND LOAN PROGRAMS

MDOT maintains a number of grant and loan programs that provide financial support to projects designed to enhance the movement of freight.

Transportation Economic Development Fund (TEDF)

MDOT's Office of Economic Development manages the [Transportation Economic Development Fund \(TEDF\)](#). Enacted in 1987, the TEDF was created to assist in the funding of highway, road, and street projects necessary to support economic growth. Eligible entities include MDOT, county road commissions, and all city and village road agencies. Developers must work with one of the eligible recipients to access this fund. The program's mission is to serve as a catalyst for economic growth and enhance the state's ability to compete in the global market place, while improving the quality of life for the residents of Michigan. The goal of the TEDF is to provide funding for transportation projects to:

- **Improve the network of highway services essential to economic competitiveness;**
- **Improve accessibility to target industries as a catalyst for economic growth;**
- **Support private initiatives that create or retain jobs; and**
- **Encourage economic development and redevelopment efforts that improve the health, safety, and welfare of Michigan citizens.**

The types of projects eligible for TEDF assistance are:

- Category A** - Road projects related to target industry development and redevelopment opportunities.
- Category C** - Road improvements in urban counties to reduce traffic congestion.
- Category D** - Road improvements in rural counties to create an all-season road network.
- Category E** - Road improvements essential to the development of commercial forests in Michigan.
- Category F** - Road improvements that support an all-season road network in the urban areas of rural counties.

Freight Economic Development Program

The [Freight Economic Development Program](#) helps new or expanding businesses connect to the rail system. The program provides low-interest loans that can cover up to 50 percent of rail infrastructure costs at new or expanded facilities. The loans are designed to be forgiven if contractually obligated shipping commitments are met over the five-year repayment period.

Michigan Rail Loan Assistance Program (MiRLAP)

The [Michigan Rail Loan Assistance Program](#) provides no-interest loans to preserve railroad infrastructure through track maintenance and rehabilitation projects. Up to 90 percent of the eligible project costs can be covered by the loans, limited to \$1 million per project. Loans have a 10-year repayment period. Eligible projects include any type of construction or rehabilitation work that is associated with permanently affixed track materials and related structures, such as bridges and culverts.

State Infrastructure Bank (SIB) Loans

[State Infrastructure Bank \(SIB\)](#) loans are available to private companies and nonprofit organizations that are developing a publicly owned facility. These loans allow eligible applicants to close financing gaps, expand project scopes, improve safety, and, through project acceleration, avoid cost increases and reduce construction period disruptions. Eligible borrowers include any public entity, such as political subdivisions, state agencies, regional planning commissions, transit agencies, airports, port authorities, and economic development corporations. Private companies, such as railroads and nonprofit organizations that are developing a publicly owned facility, are eligible for SIB financing. The interest rate for SIB loans is currently set at 3 percent. The interest rate may vary, depending on the level of risk and repayment terms requested by the borrower. The interest rate also may vary for projects in need of emergency financing.

Office of Aeronautics Loan Program

The [Office of Aeronautics Loan Program](#) allows a publicly owned airport to borrow up to \$100,000 for airport-related projects. The interest rate on the loan, established annually by the state treasurer, is currently at 3.4 percent per annum (January 2012). Repayment is scheduled in yearly installments over a maximum 10-year period. Loans are often used by sponsors for their local match obligation in capital improvement projects; however, a loan may not exceed 90 percent of the sponsor's match of the overall project cost.

CONSTRAINTS ON FREIGHT-RELATED INVESTMENTS

Michigan does not have a separate funding mechanism specifically for freight projects. Limited funding at the state level, and limitations on how federal funding can be spent, limit MDOT's ability to complete needed freight projects.

Federal transportation funding received through the FHWA cannot be spent for projects that are not a part of the federal-aid highway system or otherwise eligible for funding as specified in [Title 23](#) of the United States Code. Federal aid is limited to roads classified in the Functional Classification System (FCS) as a collector or higher. This limits investments in local roads serving industries directly or connecting to the higher functioning federal-aid system.

The need for an increase in state transportation funding is currently the subject of significant debate. Existing state funding is insufficient to sustain current highway condition, and additional revenue is needed to fund freight projects that go beyond simply preserving the existing transportation system. Further, funds available through the specialized state programs described above are at risk of being reduced.

FREIGHT-RELATED INSTITUTIONS

A number of freight-related institutions are present and active throughout Michigan. The following list is not exhaustive but represents the major industry associations and educational institutions that focus on freight interests in Michigan. MDOT coordinates with each of the following groups on a project-by-project basis, often during major project planning or during times of stakeholder engagement for planning studies and long-range planning updates.

Associations

The [Michigan Railroads Association \(MRA\)](#) is a nonprofit trade association that represents the interests of the freight railroads operating in Michigan. MRA members range in size from large Class I interstate carriers to smaller regional carriers and short-line railroads. MRA members account for more than 95 percent of all rail freight moved in Michigan. Amtrak, the nation's rail passenger service, operates over MRA member track.

The [Michigan Trucking Association \(MTA\)](#) is a statewide, full-service trade association that has promoted the interests of Michigan motor carriers since 1934. The mission of the MTA is to serve the interests of the trucking industry; enhance the industry's image, efficiency, productivity and competitiveness; promote highway safety; provide educational programs; and work for a healthy business environment.

The Michigan Grain Dealers Association, the forerunner of the [Michigan Agri-Business Association](#), was formed on June 25, 1903. The primary interest of the group is to further the development and prosperity of businesses engaged in agriculture.

Educational Institutions

Michigan State University, Supply Chain Management Program

The [Supply Chain Management Program](#) at Michigan State University (MSU) integrates topics from manufacturing operations, purchasing, transportation, and physical distribution into a unified course of study. This is the most widely recognized program in the United States that offers integration among these critical, value-adding components to enhance global competitiveness.

4 FREIGHT POLICIES, STRATEGIES, INSTITUTIONS

University Research Corridor

The [University Research Corridor](#) is an alliance between MSU, the University of Michigan and Wayne State University to transform, strengthen and diversify the state's economy. University Research Corridor partners have formed this alliance to improve understanding of the vital role the three universities have played, and will play, in revitalizing the state's economy.

The following universities have completed multiple studies with and for the department, including freight topics related to traffic reliability, border crossing delay, ITS applications to reduce traffic congestion, and commercial vehicle safety.

- Michigan Tech Research Institute (MTRI)
- Michigan Tech Transportation Institute (MTTI)
- University of Michigan Transportation Research Institute (UMTRI)
- Center for Automotive Research (CAR)

REGIONAL FREIGHT PLANNING AND BORDER PARTNERSHIPS

This section provides an overview of the regional freight planning initiatives and border partnerships that MDOT participates in, including multi-state freight corridors, multi-state metropolitan areas, and other regional groups of states and provinces.

Great Lakes Regional Transportation Operations Coalition (GLRTOC)

MDOT is a member of the [GLRTOC](#), which is made up of Michigan's neighboring state DOTs (Illinois, Indiana, Wisconsin, Minnesota), toll authorities in Indiana and Illinois, and Ontario, Canada. GLRTOC collaborates on initiatives that improve cross-regional highway operations in support of regional economic competitiveness and improved quality of life. Plans and strategies designed to achieve the coalition's goals include efficient freight operations, reliable mobility, and traffic incident management and emergency traffic operations.

Next Michigan Development Corporations

A major economic development effort in Michigan has been the creation of five [Next Michigan Development Corporations](#) (NMDCs), as designated by the Michigan Strategic Fund through Public Act 275 of 2010.

NMDCs were created to foster economic opportunities in Michigan and to promote economic growth focused on multi-modal transportation. NMDCs in Michigan include:

- [Port Lansing Next Michigan Development Corporation](#)
- [West Michigan Economic Partnership](#)
- [Traverse City Next Michigan Development Corporation](#)
- [I-69 International Trade Corridor](#)
- [Detroit Region Aerotropolis Development Corporation](#)

Detroit Regional Chamber of Commerce: Translinked

The Detroit Regional Chamber is paving the way for the growth of the transportation, distribution and logistics industry through [Translinked](#). The mission is to develop the southeast Michigan, northwest Ohio and southwest Ontario region into a world-class and globally recognized transportation and logistics hub. The program is dedicated to convening stakeholders and industry leaders, aggregating resources and regional metrics, and accelerating investment and job growth.

Mid-America Freight Coalition (MAFC)

The [MAFC](#) is a regional organization that cooperates in the planning, operation, preservation, and improvement of transportation infrastructure in the Midwest. This region includes 10 states (Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) that share key interstate corridors, inland waterways, and the Great Lakes. These 10 states signed a Memorandum of Understanding in October 2006 demonstrating their willingness to meet freight demands through regional cooperative efforts. The MAFC is built upon the work of the [Upper Midwest Freight Corridor Study](#) (UMFCS).

Eastern Border Transportation Coalition (EBTC)

The [EBTC](#) is a nonprofit membership organization created in 1994 dedicated to improving the movement of people and goods between the United States and Canada. EBTC members are the state transportation agencies of Michigan, New York, Vermont and Maine; and the Canadian provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Newfoundland and Labrador.

Transportation Border Working Group (TBWG)

The mission of the [TBWG](#) is to promote the safe, secure, efficient, and environmentally responsible movement of people and goods across the U.S.-Canada border. It brings together transportation and border agencies to coordinate transportation planning, policy implementation, and the deployment of technology to enhance infrastructure and operations on the northern border. It was established in 2000.

Public Border Operators Association (PBOA)

The [PBOA](#) is a bi-national membership organization representing the publicly owned and operated international bridge and tunnel crossings between the Province of Ontario and the states of Michigan and New York. Current members include the: Blue Water Bridge Authority, Buffalo and Fort Erie Public Bridge Authority, Detroit-Windsor Tunnel, MDOT, Niagara Falls Bridge Commission, Ogdensburg Bridge and Port Authority, Sault Ste. Marie Bridge Authority, Seaway International Bridge Corporation, and Thousand Islands Bridge Authority.

North American Strategy for Competitiveness (NASCO)

[NASCO](#) is a coalition of North American governments, businesses and educational institutions specifically focusing on solutions for needs and requirements in the areas of transportation and energy logistics and infrastructure, security, and the development of a skilled workforce. NASCO's ultimate objective is to have a globally competitive transportation network.

International Bridge, Tunnel and Turnpike Association (IBTTA)

The [IBTTA](#) was founded in 1932 and is the worldwide association for the owners and operators of toll facilities and the businesses that serve tolling. Its mission is to advance toll-financed transportation. MDOT is a member.

