9– Chapter 9: Investment and Implementation

Chapter 9 details implementation and investment strategies recommended by WisDOT to implement the freight plan. The recommended implementation strategies carry out the vision and goals identified in Chapter 1, *Introduction* (referenced below).

This chapter builds upon the guidance defined in Chapter 8, *Freight Policies and Strategies*, and provides recommended investment and implementation strategies to facilitate the department's continued focus on providing a quality transportation system using available funds, implementing regulations, and integrating stakeholder feedback where appropriate.

Overview of Chapter 9
• Builds upon the policy direction (see Chapter 8, *Freight Policies and Strategies*) by guiding investments in Wisconsin's efficient, reliable, and safe transportation system, which supports freight movement. • Identifies current funding sources at both the federal and state level for freight transportation projects, as well as potential future funding sources.

The following highlights and discusses national initiatives informing the implementation of the Wisconsin State Freight Plan (SFP). In addition, this chapter offers background information on revenue and funding sources, as well as fiscally constrained challenges. Lastly, chapter 9 defines the department's implementation strategy for the plan, which will serve as a framework for putting the plan into action.

Implementing the Goals of the Wisconsin Freight Plan
Implementation and investment strategies are focused on achieving the plan's overarching goals of (see Chapter 1, *Introduction*): • Enhancing safety, security, and resiliency • Ensuring system preservation and enhancement • Enhancing system mobility, operations, reliability, efficiency, and connectivity

9.1 National Initiatives Informing State Freight Plan Implementation

National Freight Strategic Plan

The Moving Ahead for Progress in the 21st Century Act (MAP-21) mandated that the United States DOT produce a National Freight Strategic Plan (NFSP), and this was continued under the Fixing America's Surface Transportation (FAST) Act. The NFSP describes the freight transportation system and future demands on it; identifies major corridors and gateways; assesses physical, institutional, and financial barriers to improvement; and specifies best practices for enhancing the system. The NFSP also highlights strategies to help support freight transportation system needs through improved planning, dedicated funding streams and innovative technologies.

This first-of-its-kind document takes a comprehensive look at national freight needs and future challenges and offers a roadmap for improvements. It proposes solutions and strategies to address infrastructure, institutional, and financial bottlenecks that hinder the safe and efficient movement of goods. It also identifies many successful programs already in place to improve freight planning and investment, and it proposes new programs and ideas that could make more progress possible. Importantly, it also recognizes the benefits of establishing a strong freight program.

Fixing America's Surface Transportation Act[1]

As discussed in Chapter 8, *Freight Policies and Strategies*, the FAST Act includes a number of provisions focused on ensuring the safe, efficient, and reliable movement of freight. This Act includes a new $6.3 billion freight program, with money allocated to all states, with funds apportioned to a newly established National Highway Freight Program (NHFP). Money may only be spent on the National Highway Freight Network (NHFN) (a highway-only network – see Chapter 5, *Wisconsin's Transportation System Assets*) and only for projects that improve the movement of freight. States may use up to ten percent of their apportionments for freight rail and intermodal freight projects.

National Highway Freight Program Goals

- Investing in infrastructure and operational improvements that strengthen economic competitiveness, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity
- Improving the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas
- Improving the state of good repair of the NHFN
- Using innovation and advanced technology to improve NHFN safety, efficiency, and reliability
- Improving the efficiency and productivity of the NHFN
- Improving state flexibility to support multi-state corridor planning and address highway freight connectivity
- Reducing the environmental impacts of freight movement on the NHFN

Generally, NHFP funds must contribute to the efficient movement of freight on the NHFN and be identified in a freight investment plan included in a state's freight plan (required in FY 2018 and beyond). Eligible uses of program funds range from adding or widening roadway shoulders to geometric improvements to interchanges and ramps to railway-highway grade separation.

The NHFN includes several subsystems of roadways, such as the Primary Highway Freight System (PHFS) and Critical Rural Freight Corridors (CRFCs) and Critical Urban Freight Corridors (CUFCs). NHFP funds can be used for the NHFN and its subsystems of roadways. The next section discusses the PHFS, CRFCs and CUFCs.

[1] Fixing America's Surface Transportation Act. H.R. 22 114th Congress. (2014).

National Highway Freight Network

The FAST Act directed the Federal Highway Administration (FHWA) Administrator to establish a NHFN to aid in strategically directing federal resources and policies toward improved performance of highway portions of the United States freight transportation system.[2]

The NHFN includes the following subsystems of roadways:

- **PHFS:** This is a network of highways identified as the most critical highway portions of the United States freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerline miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads.
- **Other Interstate portions not on the PHFS:** These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of Interstate nationwide, and will fluctuate with additions and deletions to the Interstate Highway System.
- **CRFCs:** These are public roads not in an urbanized area that provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.
- **CUFCs:** These are public roads in urbanized areas that provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

Urbanized Areas

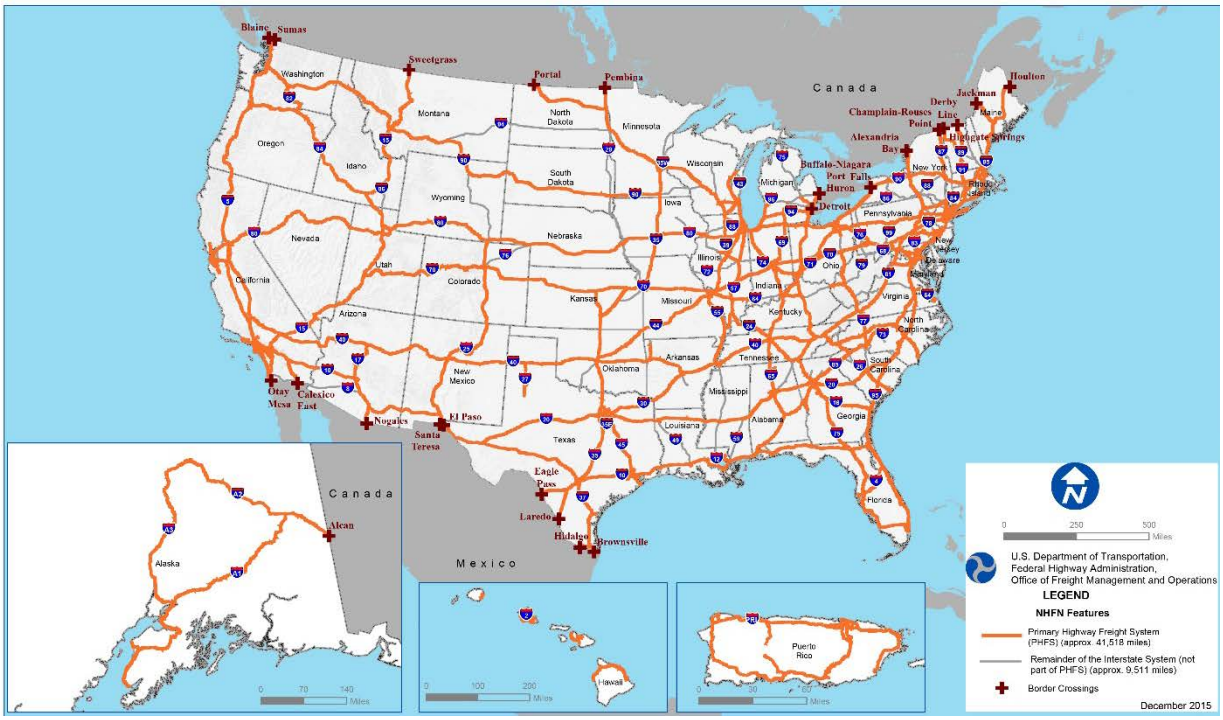
The minimum population for an urbanized area is 50,000, as defined by the Census Bureau. Being located inside or outside an adjusted urbanized boundary determines whether the public road can be designated as a CRFC or a CUFC. CUFC routes must be within the adjusted boundaries of an urbanized area. CRFC routes must be outside the adjusted boundaries of any urbanized area.

In an urbanized area with a population of more than 500,000, the Metropolitan Planning Organization (MPO), in consultation with the state, is responsible for designating the CUFC.

FHWA is responsible for designating and redesignating the PHFS every five years. States, and in certain cases MPOs, are responsible for designating public roads for the CRFCs and CUFCs in accordance with section 1116 of the FAST Act. State designation of the CRFCs is limited to a maximum of 150 miles or 20 percent of the PHFS mileage in the state, whichever is greater. State and MPO designation of the CUFC is limited to a maximum of 75 miles or 10 percent of the PHFS mileage in the state, whichever is greater.

[2] Federal Highway Administration, "National Highway Freight Network."

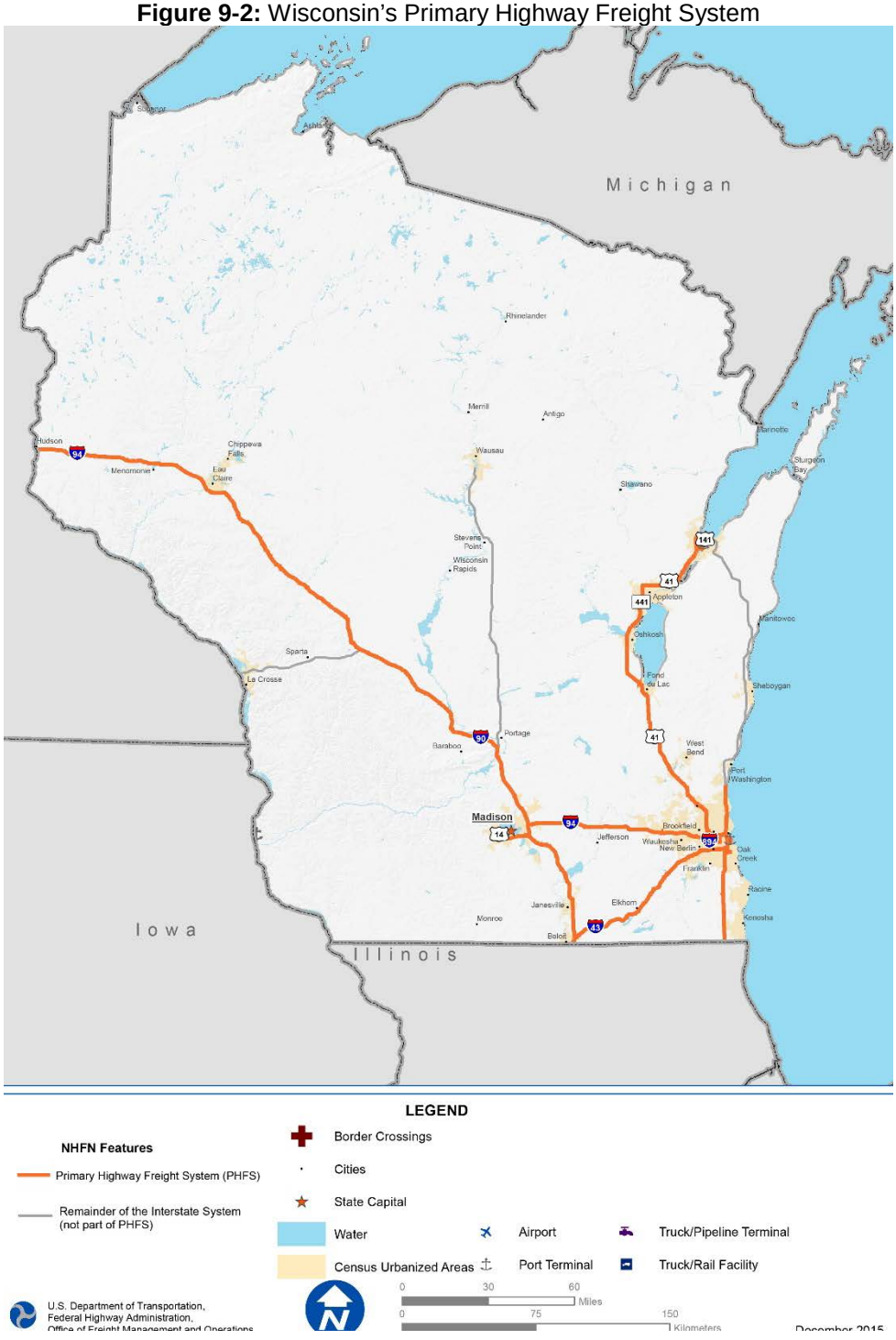
Figure 9-1: National Highway Freight Network



Source: U.S. Department of Transportation

There are approximately 909 miles of NHFN currently designated in Wisconsin. This number does not yet include CRFC and CUFC mileage because those routes have not yet been designated. Of the 909 miles, approximately 652 miles are designated as PHFS and approximately 257 miles are designated as Interstates not on the PHFS. Wisconsin's NHFN does not include critical non-Interstate highway Corridors 2030 Backbone routes, such as US 53 (Eau Claire – Superior), US 151 (Dubuque – US 12/18 in Madison and I-94 in Madison to Fond du Lac), US 10 (Menasha – Stevens Point), US 41 (north of Green Bay), and STH 29 (entire length from Chippewa Falls to Green Bay). The NHFN is shown in Figure 9-1 and Wisconsin's portion of the NHFN is shown in Figure 9-2.

Figure 9-2: Wisconsin's Primary Highway Freight System



Source: U.S. Department of Transportation

For Wisconsin, the maximum CRFC mileage is 150 miles and the maximum CUFC mileage is 75 miles. Once designated, NHFP funds may be applied towards Wisconsin CRFCs and CUFCs.

National Multimodal Freight Network

Recognizing the importance of multimodal connections, the FAST Act directed the United States Department of Transportation (U.S. DOT) to establish the National Multimodal Freight Network (NMFN) (Figure 9-3). This network is comprised of the following components: [3]

- NHFN
- Class I railroads
- Large public ports
- Inland and intracoastal waterways
- Great Lakes and St. Lawrence Seaway
- The 50 largest airports (annual landed weight)
- Other strategic freight assets

The United States DOT was also directed to consult with freight stakeholders, including state DOTs, to develop the final NMFN by December of 2017. States may propose additional designations to the network after considering nominations from MPOs, freight advisory committees (FAC), ports, airports, and rail and pipeline operators. The United States DOT must redesignate the network at least every five years.

The purpose of the NMFN is to inform planners and the public of national interest relative to major freight flows and direct special attention to freight issues as warranted. Many important freight opportunities will occur off the NMFN routes, including first- and last-mile links in urban and rural areas. However, the proposed version of the NMFN does not reflect the importance of Wisconsin's key corridors and connecting roads that are essential for multimodal freight mobility. With some small exceptions, the NMFN only includes Interstate Highways. Within the context of Wisconsin, the NMFN does not include a majority of the state's critical highways, such as US 53 (Eau Claire – Superior), US 151 (Dubuque – US 12/18 in Madison and I-94 in Madison to Fond du Lac), US 10 (Menasha – Stevens Point), US 41 (north of Green Bay), and STH 29 (entire length from Chippewa Falls to Green Bay).

National Multimodal Freight Network

The FAST Act directs the United States DOT to establish a NMFN designed to:

- Assist states in strategically directing resources toward improved system performance for the efficient movement of freight on the network
- Inform freight transportation planning
- Assist in the prioritization of federal investment
- Assess and support federal investments to achieve the goals of the National Multimodal Freight Policy and of the National Highway Freight Program

Railroad Classes

As identified in Chapter 5, *Wisconsin's Transportation System Assets*, the Association of American Railroads (AAR) and Surface Transportation Board (STB) classify United States railroads based on a combination of operating revenues and carrier characteristics. The railroads currently operating in Wisconsin are as follows:

- **Class I** – United States-based, line-haul railroads with operating revenue exceeding $447.6 million (as of 2017)[4]
- **Regional (Class II)** – line-haul railroads below the Class I revenue threshold that operate at least 350 miles of road and earn at least $20 million in revenue, or earn revenue between $40 million and the Class I revenue threshold regardless of mileage; note: AAR and the STB define Regional/Class II railroads' revenue levels differently[5]
- **Short Line (Class III)** – railroads with operating revenue of less than $35.8 million (as of 2017)[6]

[3] Federal Highway Administration, "Fixing America's Surface Transportation Act or 'FAST Act'."
[4] Surface Transportation Board, "FAQs."
[5] American Short Line and Regional Railroad Association, "Railroad Definitions."
[6] Surface Transportation Board, "FAQs."

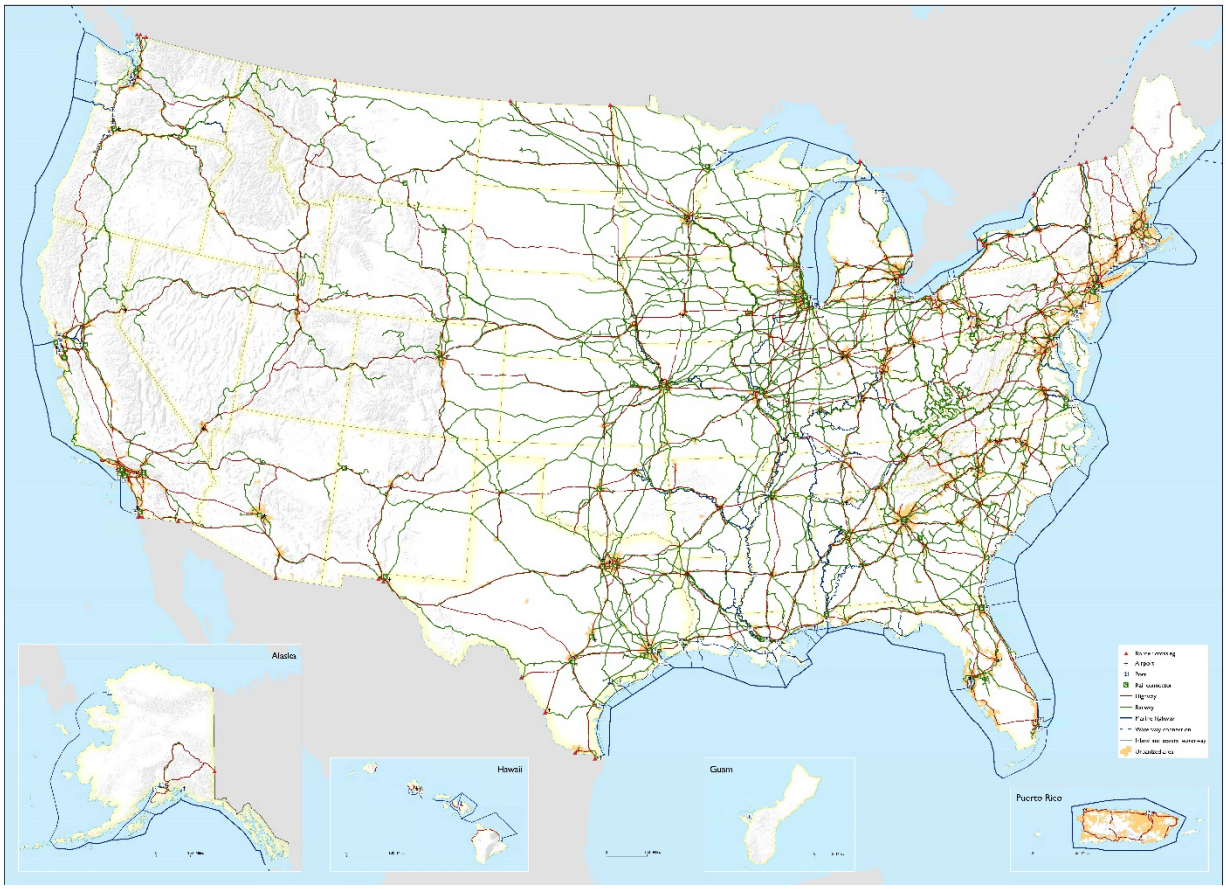
As it is currently proposed, the NMFN does not reflect the economic importance of Wisconsin's Backbone and Connector routes. As identified in Chapter 5, *Wisconsin's Transportation System Assets*, first designated as Corridors 2020 in 1988 and more recently updated as part of the state's long-range multimodal plan *Connections 2030* in 2009, Corridors 2030 is a state designation of critical highways statewide. As of 2016, these highways encompass approximately 3,930 centerline miles of federal and state highways that link all Wisconsin communities with populations greater than 5,000.[7] These roads are considered vital to mobility and economic development in the state. The Corridors 2030 system is divided into two route types:

- **Backbone Routes** – include approximately 1,590 miles of Interstate and other multi-lane divided highways interconnecting all regions and major state economic centers, with links to the national system outside Wisconsin. Routes include Interstates 39, 41, 43, 90, and 94; US Highways 10, 41, 51, 53, and 151; and State Highway 29.
- **Connector Routes** – include approximately 2,340 miles of predominantly two-lane highways connecting all other significant economic centers to the Backbone system.

The current version of the NMFN includes approximately 900 Interstate and highway routes, all Class I Railroads (including those out-of-service), General Mitchell International Airport, the Mississippi River (M-35) and Great Lakes (M-90) Marine Highways, and the Ports of Superior, Green Bay, and Milwaukee. It does not include any Class II or Class III lines (no Wisconsin & Southern lines are included) and it does not include either of Wisconsin's rail-truck intermodal facilities (Chippewa Falls or Arcadia). Figure 9-3 displays the overall interim NMFN and Figure 9-4 displays the portions of the interim NMFN in Wisconsin.

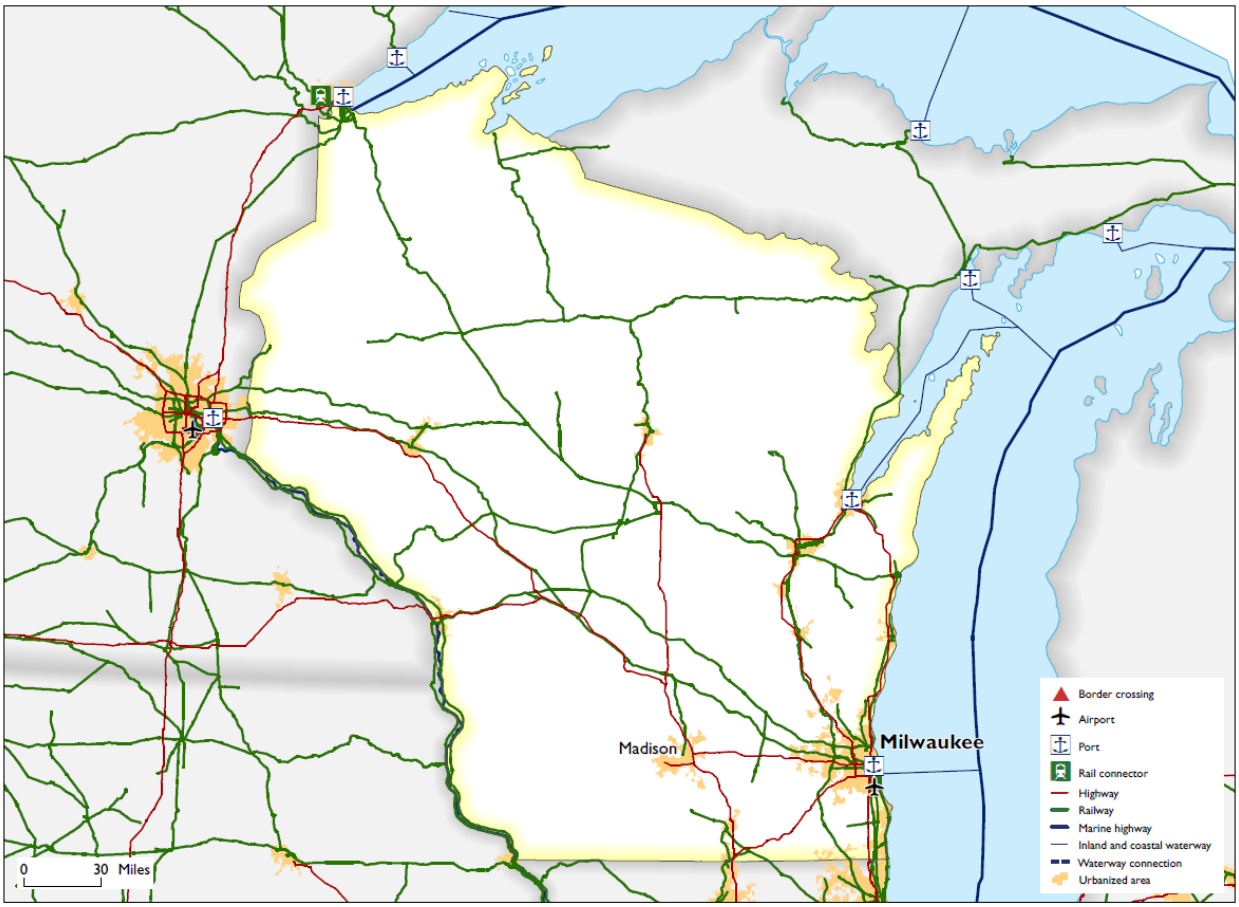
[7] Calculated using WisDOT State Trunk Network data.

Figure 9-3: Interim National Multimodal Freight Network



Source: U.S. Department of Transportation

Figure 9-4: Wisconsin's Interim Multimodal Freight Network



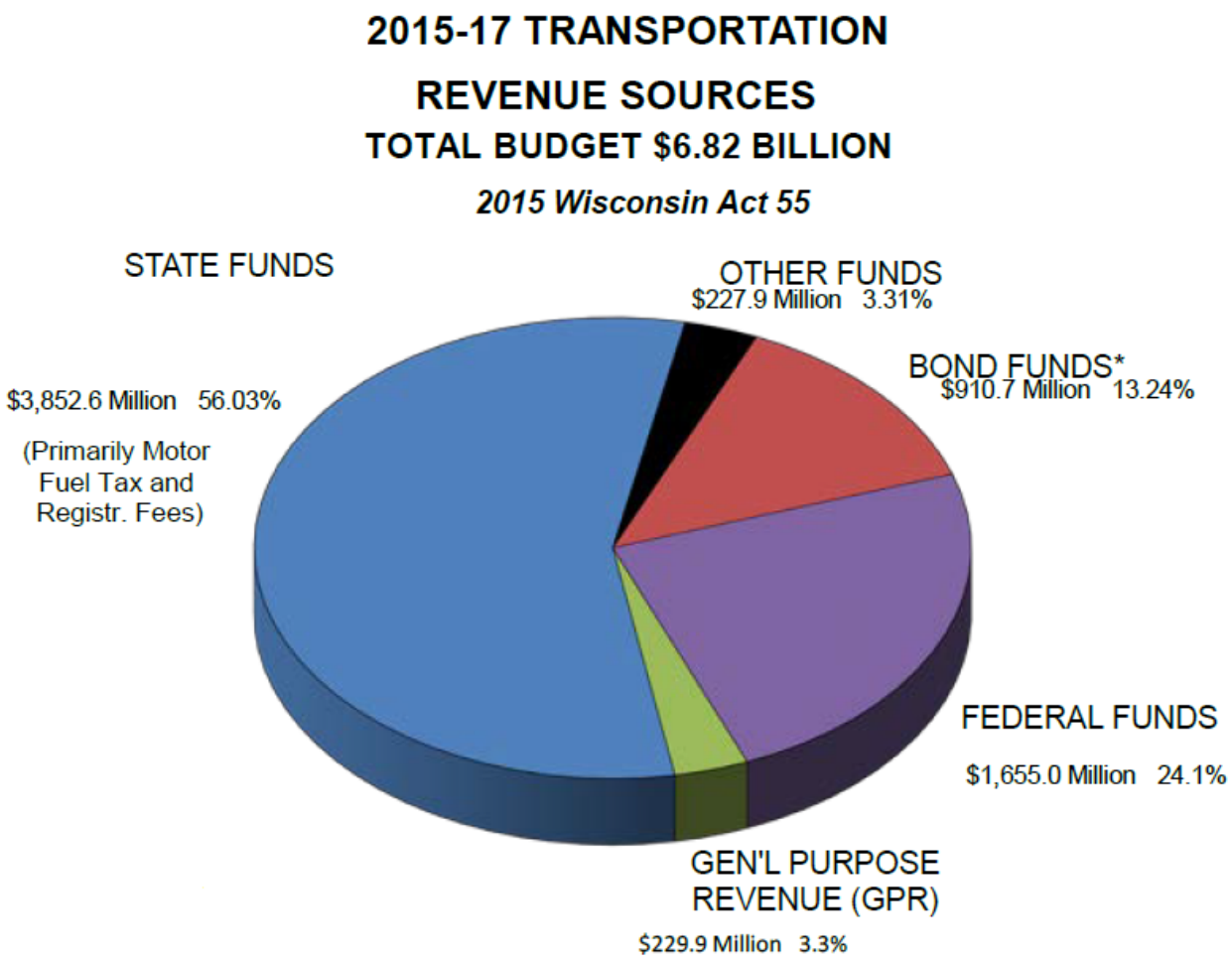
Source: U.S. Department of Transportation

9.2 Funding and Freight Plan Investment

Funding for Wisconsin's transportation system comes from several sources:

- Federal
- State
- Bonding
- Other funds, local and service funds, program, and general purpose revenue

Figure 9-5: 2015-2017 Transportation Revenue Sources



Source: 2015 Wisconsin Act 55

The following provides an overview of the available funding sources depicted in Figure 9-5, as well as financing mechanisms available to support freight-related projects. This section also discusses alternative funding and financing sources, and it identifies next steps after completion of the freight investment plan.

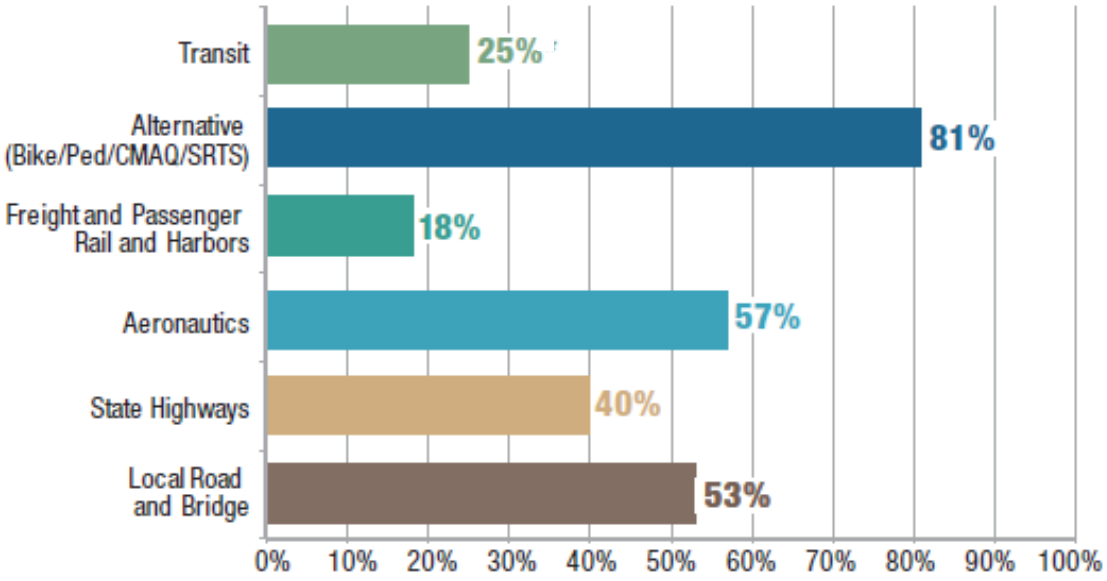
Federal Transportation Funding

Federal funds make up about 24 percent of the state's transportation dollars (Figure 9-5). Federal funds are governed by federal reauthorization legislation. The most current federal reauthorization legislation is the FAST Act. The FAST Act has increased the emphasis on addressing freight mobility issues and has provided funding in support of these directives.

The dedicated revenue sources for transportation at the federal level are similar to those in Wisconsin. More than half of transportation user fee revenues are derived from federal motor fuel taxes and are used to fund the federal Highway Trust Fund (HTF). Since 1993, federal motor fuel tax revenues have experienced a loss of purchasing power—about 40 percent since 1993 when the federal motor fuel tax was last raised.[8] Since 2008, transportation user fee revenues deposited into the HTF have been insufficient to cover authorized federal transportation program funding levels. As a result, Congress has transferred funds from the federal General Fund to the HTF to bridge the gap between spending and revenues.

Federal funds provide approximately 24 percent of current revenues to support transportation spending in Wisconsin. Figure 9-6 shows how Wisconsin's transportation programs rely on federal funding for a source of revenue based on the mode. For example, the primary federal sources of transportation funding are excise taxes on motor and aviation fuels. Other federal revenue sources include excise taxes on tires, heavy truck and trailer sales, heavy vehicle use taxes, and an air passenger ticket tax.

Figure 9-6: 2011 Federal Funding Contribution to each Transportation Mode in Wisconsin



Source: Wisconsin Transportation Finance and Policy Commission, "Keep Wisconsin Moving: Smart Investments, Measurable Results"

For some transportation programs, federal dollars represent a significant portion of the annual budget for their respective efforts, particularly for pass-through grants to other entities or units of government. As an example, 40 percent of the state's highway funding comes from federal sources.

Financing and funding programs available through the federal government are described in Table 9-1. Table 9-1 also includes program information regarding applicable transportation modes that may be funded with federal resources. All of these programs are administered by the U.S. DOT. The programs identified in Table 9-1 are programs that WisDOT utilizes to support freight-focused transportation needs.

[8] Congressional Budget Office, "Testimony - The Status of the Highway Trust Fund and Options for Paying for Highway Spending." (June 17, 2015).

Table 9-1: Federal Financing and Funding Programs

Federal Program Name	Mode	Project Eligibility Criteria
Highway Safety Improvement Program (HSIP)	Highway, Local Roads and Rail	Projects must be highway or local road safety improvement projects that can include any strategy, activity, or project on a public road that is consistent with the data-driven State Strategic Highway Safety Plan (SHSP) and corrects or improves a hazardous road location or feature or addresses a highway safety problem.
Airport Improvement Program (AIP)	Air	Eligible projects include improvements for safety, capacity, security, and environmental issues at public-use airports on the National Plan of Integrated Airport Systems. This includes most airfield capital improvements or repairs as well as some specific situations for terminals, hangars, and non-aviation development. Operations and revenue-generating improvements and costs are not eligible.
Congestion Mitigation and Air Quality Improvement (CMAQ) Program	Highway, Rail, Port and Intermodal Facilities	Projects must: 1) contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution, 2) be identified in an applicable MPO's current transportation plan and transportation improvement program (TIP) or the current state transportation improvement program (STIP) in areas without an MPO.
Surface Transportation Block Grant (STBG) Program (formerly known as Surface Transportation Program [STP])	Highway	Projects must preserve and improve the conditions and performance on any Federal-aid highway, bridge, and tunnel projects, and on any public road, pedestrian, and bicycle infrastructure, and transit capital projects, including intercity bus terminals. Projects may not be located on local or rural minor collectors.

Note: Additional U.S. DOT programs can be found at https://www.transportation.gov/livability/grants-programs

Fostering Advancements in Shipping and Transportation for the Long-term Advancement of National Efficiencies Grant Program

The FAST Act established the Fostering Advancements in Shipping and Transportation for the Long-term Advancement of National Efficiencies (FASTLANE) grant program to provide financial assistance – grants or credit assistance – to nationally- and regionally-significant freight and highway projects that align with the program goals to:

- Improve safety, efficiency and reliability of the movement of freight and people
- Generate national or regional economic benefits and an increase in global economic competitiveness of the United States
- Reduce highway congestion and bottlenecks
- Improve connectivity between modes of freight transportation
- Enhance the resiliency of critical highway infrastructure and help protect the environment
- Improve roadways vital to national energy security
- Address the impact of population growth on the movement of people and freight
- Mitigate the impacts of freight movements on communities

In 2016, WisDOT submitted two FASTLANE Grant Applications to improve regional mobility for freight. WisDOT was awarded $40 million for a portion of the I-39/90 project.[9]

[9] U.S. Department of Transportation, "FASTLANE 2016 Annual Report."

FASTLANE Grant – Eligible Projects
• Highway freight projects on the NHFN; • Highway or bridge projects on the National Highway System, including: o A project to add capacity to the Interstate system to improve mobility; or o A project in a national scenic area; • Freight projects that are: o A freight intermodal or freight rail project; or o A project within the boundaries of a public or private freight rail, water (including ports), or intermodal facility and that is a surface transportation infrastructure project necessary to facilitate direct intermodal interchange, transfer, or access into or out of the facility, o Provided that the project will make a significant improvement to freight movements on the NHFN, that the Federal share of non-highway portions of the project funds only elements of the project that provide public benefits, and that the total of Federal FASTLANE grants for non-highway portions of these projects does not exceed $500 million for fiscal years 2016 through 2020; or o Railway-highway grade crossing or grade separation projects

State Revenue and Funding

Similar to the structure of the HTF, state funding for transportation projects in Wisconsin originates from the state's Transportation Trust Fund. The Transportation Fund provides funding for state highways and bridges, local roads and bridges, operation and maintenance of the state and local highway system, airport and harbor improvements, and freight rail facilities. In addition, the Transportation Fund supports the safety and enforcement duties of the Division State Patrol, the Division of Motor Vehicles, and the administrative operation of WisDOT. In 2015, a State Constitutional amendment protecting the state's Transportation Trust Fund became law. The amendment requires revenue generated by use of the state transportation system to only be expended for transportation-related purposes.[10] The amendment passed the legislature twice and then passed a state-wide referendum in fall 2014.

Wisconsin's Biennial Budget Process
The State of Wisconsin's budget covers a 2-year period from July 1 of one odd-numbered year through June 30 of the next odd-numbered year. Development of the biennial budget involves a nearly year-long process. In the fall of the even-numbered year, state agencies submit budget requests to the Department of Administration. Requests are compiled by the State Budget Office for review by the Governor. The Governor is required by law to deliver the budget message to the new legislature on or before the last Tuesday in January, although the legislature can extend the deadline at the Governor's request. To meet the state's budgetary cycle, the budget should be signed and effective by July 1 of the odd-numbered year. If there is a delay, state agencies operate at their appropriation authority from the prior budget until the new budget is in effect.

[10] Wisconsin Department of Transportation, "Transportation Finance Issues - How does Wisconsin fund transportation?"

Transportation funding levels generally account for less than ten percent of Wisconsin's overall biennial budget. State transportation funding comes from federal and state sources (see pages 326-329 for more information on federal funding sources), but there may be some nuances associated with certain programs as cost sharing may be required. State sources include, but are not limited to, the statewide fuel sales tax, state motor fuel excise tax, vehicle registration fees, vehicle title fees, motor carrier permits and fees, and rental car fees.

Revenue

Motor fuel taxes, driver license fees, and vehicle registration fees generate the majority of state transportation revenue. These fees are combined with federal funding, proceeds from bonds, and revenue generated from communities (when they share in the costs), to fund state transportation projects. The state has taxed motor vehicle fuels since 1925 and over time it has experienced a few modifications and increases. Fuel tax is a critical funding source for transportation. In 2005, Wisconsin eliminated the annual indexing adjustment. The last adjustment occurred on April 1, 2006, when the motor vehicle fuel tax rate was raised to its current level of 30.9¢ per gallon.[11] In addition to motor fuel taxes, automobile registrations have been in place since 1905 and license fees have been in place for all Wisconsin drivers since 1939.

Bonding

Wisconsin uses two types of bonds to fund transportation projects:

- General obligation bonds
- Transportation revenue bonds

The state has used general obligation bonds since the late 1960s. Most recently, general obligation bonds helped finance the construction of highway projects; harbor and railroad projects; and various state highway rehabilitation projects. These bonds are repaid from the Transportation Fund or the state's General Fund.

Since 1983, transportation revenue bonds – bonds that are repaid from specific, pledged Transportation Fund revenue sources – have been used to pay for the Major Highway Development program. All vehicle-related registration and titling fees have been pledged for transportation bond revenue debt service since 2004. Previously, automobile and truck registration fees were the only pledged sources of revenue for these debt service payments. The biennial budget established by the state legislature and governor limit the amount of transportation revenue bond proceeds used to finance projects.

Historically, transportation revenue bonds have provided as much as 72 percent (in the 1992 fiscal year) of Major Highway Development Program funding, before decreasing to 57 percent in 1998. During the past decade, transportation revenue bonds have funded about 55 percent of allocated major highway program dollars.

Existing State Financing and Funding Mechanisms for Freight-Related Projects

WisDOT administers a number of programs that not only address transportation system needs, but also act directly as a catalyst for economic development in Wisconsin. These programs fund transportation projects at the state and local levels in the form of direct funding, grants, and loans to businesses and local communities for their transportation-related needs. Currently these programs include:

- Major Highway Development Program
- State Highway Rehabilitation (SHR) Program
- Southeast Wisconsin Freeway Megaprojects Program (Southeast Megaprojects)
- Major Interstate and High-Cost Bridges

[11] Wisconsin Department of Revenue, "Motor Vehicle Fuel Tax Information." (March 2015).

- State Highway Maintenance and Traffic Operations
- Local Roads Improvement Program
- General Transportation Aids
- Local Bridge Improvement Assistance (Local Bridge Program)
- Transportation Facilities Economic Assistance and Development (TEA) Program
- Surface Transportation Program – Rural
- Surface Transportation Program – Urban
- Surface Transportation Program – Freight
- Freight Rail Infrastructure Improvement Program
- Freight Rail Preservation Program
- Harbor Assistance Program
- Airport Improvement Program

The next several sections discuss the state's modal transportation programs identified above, which comprise the majority of the state's transportation spending.

Statewide Transportation Improvement Program (STIP)

The STIP is a four-year listing (program) of highway and transit projects for the State of Wisconsin. Revised annually, the STIP adopts the Transportation Improvement Programs prepared by the state's fourteen MPOs (see Chapter 2, *Transportation Stakeholders and Institutions*). The STIP is approved by FHWA and the Federal Transit Administration (FTA).

The STIP is prepared in accordance with FHWA/FTA regulations outlined in MAP-21 and carried forward in the FAST Act enacted in 2015. The STIP includes current project fund commitments anticipated by WisDOT during the current four calendar-year period.

The STIP is based on anticipated state and federal funds. This overall multi-modal STIP reflects WisDOT's currently approved state and local projects within the limits of apportioned federal aid. Any subsequent changes in the project listing involving the addition or deletion of projects or significant changes in project schedule or estimated cost are processed in accordance with the STIP amendment process prior to requesting obligation of federal funds on the project.

Metropolitan Planning Organizations (MPOs)

MPOs, established under 23 CFR 450, are federally mandated transportation planning organizations comprised of private citizens, state and federal representatives, and representatives from local government and governmental transportation authorities. MPOs are responsible for the planning and programming decisions within their designated urbanized areas of 50,000 or more population.[12] Federal funding for transportation projects and programs within the urbanized planning areas are channeled through the MPO planning process.

State Trunk Highway Program Financing and Funding Mechanisms

The management of the state highway program requires WisDOT to invest wisely and use federal funds efficiently. WisDOT's program and project delivery efforts are primarily focused on preserving the existing highway system. A smaller portion of funding is dedicated to projects that expand the highway capacity to improve safety and mobility.

[12] Statewide and metropolitan planning processes are governed by federal law (23 USC §§ 134-135).

The state's highway programs are:

- State Highway Rehabilitation (SHR)
- Major Highway Development
- Southeast Wisconsin Freeway Megaprojects
- State Highway Maintenance and Traffic Operations

The Department manages two separate bridge programs:

- The major interstate bridge improvement program, for projects involving a bridge that crosses a border of the state for which the state's share of the cost is at least $100,000,000[13]
- The high-cost bridge program, for bridge improvement projects with an estimated cost of at least $150,000,000 if the bridge improvement is not a major interstate bridge or part of a southeast Wisconsin freeway megaproject[14]

Planning, Programming, Design, and Construction in the Highway Improvement Program

The state highway program components involving construction projects (all components identified above except the state highway maintenance and traffic operations program) are sometimes collectively referred to as the highway improvement program. This program can be divided into four stages of development: planning, programming, design, and construction. This section describes these stages.[15]

Planning involves both the identification of long-term transportation needs and goals and the monitoring of conditions, such as pavement condition, traffic patterns, and safety.

In order to be eligible for federal transportation aid, the state must have a long-range highway plan covering a period of at least 20 years that outlines the state's broad policy goals for transportation and that establishes performance goals for the highway system. In developing a transportation plan, WisDOT must consider a range of planning factors, which are listed in federal transportation law. For instance, the plan must aim to promote economic vitality, safety, system preservation, transportation system security, and the accessibility and mobility of people and freight. It must also seek to protect the environment and promote energy efficiency and the connectivity between different transportation modes.

In addition to the requirements that are included in federal transportation law, the federal Clean Air Act requires WisDOT's transportation plan be coordinated with the state's implementation plan, developed by the Wisconsin Department of Natural Resources, which designates how the state intends to control emissions of pollutants in ozone nonattainment areas.

In addition, as a condition of using federal transportation aid, WisDOT must consult with the state's MPOs in developing the statewide plan. Federal transportation law requires each metropolitan area with a population greater than 50,000 to have a designated MPO representing local governments. Each MPO develops a metropolitan transportation plan in consultation with local governments in the region.[16]

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[13] Statewide and metropolitan planning processes are governed by federal law (23 USC §§ 134-135).
[14] Ibid.
[15] Ibid.
[16] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).

WisDOT's current, long-range transportation plan, *Connections 2030*, addresses all transportation modes, including state highways. In addition to providing an overview of the extent and condition of the various transportation modal systems, the report establishes 37 policy statements, designed to guide future decisions. Those statements are organized around these seven broad themes: preserve and maintain Wisconsin's transportation system; promote transportation safety; foster Wisconsin's economic growth; provide mobility and transportation choice; promote transportation efficiencies; preserve Wisconsin's quality of life; and promote transportation security. For the state trunk highway system, the plan makes a number of policy recommendations, particularly under the themes related to system preservation and economic growth.[17]

One aspect of the plan is the identification and update of the Corridors 2030 highway system. This system consists of approximately 3,930 miles of the most critical highways in the state. Within the Corridors 2030 system are two subsystems: the Backbone system and the Connector system. The Backbone system, totaling 1,588 miles, consists of the following primary segments over 50 miles in length, plus several shorter segments: (a) STH 29 from I-94 west of Chippewa Falls to Green Bay; (b) USH 53 from Superior to Eau Claire; (c) USH 151 between Fond du Lac and the southwestern border of the state; (d) USH 41 from the Milwaukee area to Marinette in northeastern Wisconsin; (e) USH 10 between the Fox Cities and Stevens Point; and (f) the entire Interstate system.

Most of the Backbone system consists of multi-lane freeways or expressways. Only one segment, USH 14 between I-39 and I-43 in Rock and Walworth counties, remains a two-lane highway. This segment is currently under study for improvements. The Connector system consists of about 2,309 miles of highway linking significant economic and tourism centers to the Backbone system. Most of the system consists of high-quality, two-lane highways, although there are several segments that are multi-lane freeways or expressways.

The programming stage involves selecting and scheduling improvement projects based on available funding and policy priorities. In developing this schedule, decisions must be made on which projects should be given highest priority, relying, in part, on the adopted highway plan, which outlines the broad policy goals of the highway program.

The task of programming projects is either done by staff in the transportation regions or by WisDOT's central office staff, depending upon the type of project. Major highway development projects, large or costly bridge projects, and rehabilitation of multi-lane highways outside of WisDOT's Southeast Region are programmed by the central office, while other rehabilitation projects are programmed by the regional transportation offices. The portion of the rehabilitation budget that is used for the more routine highway and bridge projects is allocated to the regions based on an estimate of the total rehabilitation needs within each region. Regional offices develop project schedules based on system priorities and the amount allocated to the region.

The WisDOT central office, in consultation with the regional offices, compiles program schedules for the following six years for the highway improvements programs into a comprehensive, six-year program. Updated periodically, the six-year highway improvement program provides a listing of all anticipated projects that indicates the type of project, the location, estimated cost, and scheduled construction date. The first two years of the six-year program are based on funding levels provided by the most recent biennial budget. The other years are generally based on

[17] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).

this funding level, although the schedule for projects in the later years is more likely to change, since funding levels may be changed in subsequent biennial budgets.

The design process typically begins several years in advance of actual construction. For major highway projects, the design stage may take eight to 10 years, beginning with concept development.[18] Simple resurfacing projects may take one to two years. In part, the length of the design process is dictated by the amount of data that must be collected to complete required environmental reviews and to create the detailed plans for construction. Furthermore, because highway construction affects private landowners, as well as the driving public, WisDOT uses a public involvement process to receive and respond to multiple concerns regarding proposed projects.

In addition to the design work that is directly related to the construction of the highway, there are numerous other preconstruction activities that lengthen the process. For instance, WisDOT frequently must purchase land for the construction of a new highway or the expansion of an existing highway. This requires negotiation with affected landowners.

For many highway projects the design stage includes environmental studies and mitigation. If an initial environmental assessment on a project determines that the impacts of the project on the environment could be significant, federal and state laws require WisDOT to prepare an environmental document.

The construction stage involves the preparation of projects for bidding and the oversight of the construction work typically done by contractors. The receipt and award of bids is done within WisDOT's central office, while the management of project construction is done by staff in the regional transportation offices.

Once construction begins, a project manager monitors the work done by the contractor. Project managers may be WisDOT staff from the regional office or engineering consultants hired by the Department. Project oversight typically involves the monitoring of construction materials and techniques for quality and may involve making minor modifications to the design of the project to account for unanticipated contingencies. For some projects, the extent of WisDOT monitoring may be limited because the contracts contain warranty provisions that require the contractor to repair any defects that appear within a specified number of years after the completion of the construction.

State Highway Rehabilitation Program

WisDOT allocates funding in the state highway rehabilitation program between three subprograms: (1) existing highway improvement; (2) Backbone rehabilitation; and (3) state bridges.[19] The purpose of each of these subprograms is to preserve and make limited improvements on the state highway system.

Existing Highway Improvement and Backbone Rehabilitation

The existing highway and Backbone rehabilitation components of the program are responsible for highway surface improvement projects. The existing highway component is responsible for projects on state highways that are not Corridors 2030 Backbone routes. Highway rehabilitation projects can generally be divided into three main types: resurfacing, reconditioning (further classified as major or minor), and reconstruction.

[18] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).
[19] Ibid.

The selection of specific projects is based on an evaluation of surface pavement condition, the number and severity of hills and curves, accident numbers and rates, and traffic congestion. This process, which is also used in preparation of the six-year highway improvement program, allows WisDOT to identify existing conditions and improvement needs.

In addition to these main highway rehabilitation types, the existing highway and Backbone rehabilitation components of the rehabilitation program fund a number of other activities, including: (a) pavement maintenance work that is less extensive than full resurfacing, but more extensive than the pavement repair normally done in the maintenance component of the highway program; (b) additions or deletions to the state trunk highway system through jurisdictional transfer agreements with local governments; (c) improvements to permanent weigh scale facilities; (d) construction projects at rest areas; (e) hazard elimination safety projects; (f) noise barriers; and (g) wetland mitigation projects.[20]

State Highway Bridges

State highway bridge improvement projects are funded under different programs, depending upon their location and scope. The state bridges component of the state highway rehabilitation program is responsible for bridge projects that are not on Backbone highways (which are funded from the Backbone rehabilitation subcomponent) and are not classified as a major interstate highway bridge or a high-cost bridge project under the statutory definitions for those programs.

Within the bridge program subcomponent, bridges are divided between routine projects and "large" bridge projects (distinct from the high-cost bridge program, which funds bridges with a cost over $150,000,000).[21] Most bridge projects fall into the first category. Large bridges in the state highway rehabilitation program are bridges with a deck area greater than 40,000 square feet.

Bridges

The state trunk highway system includes approximately 4,900 bridges and similar structures, as well as a variety of ancillary structures such as retaining walls, culverts, sign structures, noise barriers, and high-mast light structures.

By FHWA definition, a bridge has a minimum clear span length of 20 feet between the faces of abutments. A culvert can resemble a bridge with similar features and characteristics, but is less than 20 feet long from abutment to abutment. Culverts can also be fixed metal or precast/concrete pipes or chutes. Culverts, unlike bridges, are not inventoried or even inspected in the same manner as state, county and local bridges.

[20] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).
[21] Ibid.

Major Highway Development Program

The major highway development program provides for the development and construction of new or significantly altered highway projects. Throughout the program's history, a major highway project has typically been defined in relation to certain cost and capacity expansion thresholds. The 2011-13 biennial budget, however, expanded the definition to include certain rehabilitation projects that do not meet those thresholds, but that do exceed a separate cost threshold.[22] Consequently, a major highway project is any improvement project (with certain exclusions, described below) that either:

- Has a total cost in excess of $83,500,000
- Has a total cost in excess of $33,400,000 and that expands capacity in at least one of the following ways:
    - Construction of a new highway of 2.5 miles or more in length
    - Relocation of 2.5 miles or more of existing roadway
    - Addition of one or more lanes at least five miles in length
    - Improvement of 10 miles or more of an existing divided highway to freeway standards

Projects that meet either of these definitions are excluded from the definition of a major highway project if the project:

- Meets the definition of a southeast Wisconsin freeway megaproject
- Involves an approach to a bridge over a river that forms a boundary of the state
- Meets the statutory definition of a high-cost bridge project or of a major interstate (across state lines) bridge project

Criteria for southeast Wisconsin freeway megaprojects and projects in the two bridge programs are described in separate sections later in this chapter.

Major Highway Project Definition (State Statute 84.013(1))

"Major highway project" means a project, except a project providing an approach to a bridge over a river that forms a boundary of the state, a high-cost state highway bridge project (state statute 84.017), or a southeast Wisconsin freeway megaproject (state statute. 84.0145), that satisfies any of the following:
 	
• The project has a total cost of more than $33,400,000, subject to adjustment under the Department of Transportation Price Index, Yearly Moving Average, and involves any of the following:
  o Constructing a new highway 2.5 miles or more in length
  o Reconstructing or reconditioning an existing highway by either relocating 2.5 miles or more of the existing highway or adding one or more lanes 5 miles or more in length to the existing highway
• Improving to freeway standards 10 miles or more of an existing divided highway having 2 or more lanes in either direction
• The project has a total cost of more than $83,500,000, subject to adjustment under the Department of Transportation Price Index, Yearly Moving Average

[22] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).

Major Highway Project Selection Process

The Transportation Projects Commission (TPC) was created to review major project proposals and make recommendations for study and project enumeration. The TPC includes the Governor, who acts as the chairperson, five Wisconsin State Senators, five Wisconsin State Assembly Representatives, three public members appointed by the Governor, and the Secretary of Transportation (a nonvoting member).

A project that meets the capacity expansion threshold in the major highway project definition must be enumerated in the statutes before WisDOT can proceed with construction. Although enumeration is accomplished through an enactment of the Legislature, a statutory provision prohibits the enumeration of a project unless the TPC has recommended the project for approval. In addition, TPC approval is required before WisDOT can start an environmental impact statement (EIS) or environmental assessment (EA) on a project. Studies must also be enumerated in statute.

Transportation Projects Commission
Created in 1983, the fifteen-member TPC reviews major highway project candidates and makes recommendations to the Governor and Legislature regarding projects to be enumerated or included in the next two-year state budget. The TPC includes five Wisconsin State Senators, five Wisconsin State Assembly Representatives and three citizen members. The Governor serves as the Commission Chairman. The WisDOT Secretary serves as a non-voting member. Typically, the Commission considers major highway project candidates on a two-year cycle. In the fall of odd-numbered years, the TPC begins the process by looking at projects to advance to the environmental study stage. In the fall of even numbered years, the Commission reviews, and can recommend for enumeration, projects that have successfully completed the environmental review phase. State law prevents the TPC from recommending projects for enumeration unless funding is available to begin work within six years.

There are two statutory restrictions on the TPC's recommendations for capacity expansion projects. First, the TPC is prohibited from recommending a project for enumeration unless the project, along with all other enumerated projects, can be started within six years following the project's enumeration, assuming a constant, real-dollar program size throughout the period. The Commission, however, may recommend a project that could not otherwise be started within the six-year time period if it also recommends a funding proposal for the major highway development program that would allow the project to be started in six years. Second, the TPC is prohibited from recommending a project for enumeration unless a final EIS or EA has been approved by FHWA. This requirement is intended to ensure that potential projects can be completed within a reasonable time of enumeration and that the TPC has reasonably complete information on the cost and impacts of the project.

A highway improvement project that does not meet the major highway project capacity expansion thresholds, but is considered a major highway project because it exceeds the $93.5 million cost threshold (adjusted from original $83.5 million, based upon the Department of Transportation Price Index, Yearly Moving Average) does not need to

be individually enumerated in the statutes.[23,24] Instead, WisDOT may proceed with construction on this type of project once the TPC has approved the project, upon request of the Department. The USH 18/151 Verona Road/Madison Beltline project in Dane County and the STH 50 project from I-94 to 43rd Avenue in Kenosha County are the only projects that have been approved by the TPC under this provision.

The TPC may also designate an otherwise non-qualifying project if it receives a petition for such designation from a city or village for a project that is within its corporate limits and is estimated to cost $2 million or more, provided that the project is not a freeway.[25] No projects have been approved by the TPC under this provision.

Enumeration gives WisDOT the authority to build a project, but does not establish a statutory priority or timetable, or require a specific design. It also does not require WisDOT to actually construct the project. Consequently, WisDOT has the authority to begin an enumerated project either before or after the date indicated in TPC or legislative discussions.

Per state statute, WisDOT publishes a TPC report twice each year providing an update on the estimated cost of each enumerated project.

Southeast Wisconsin Freeway Megaprojects

Since the 2001-2003 biennium, most capacity expansion and rehabilitation projects on the southeast Wisconsin freeway system (freeways in Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, or Waukesha counties) have been funded separately from the major highway development and state highway rehabilitation programs. With the enactment of 2011 Wisconsin Act 32, the 2011-13 budget, the southeast Wisconsin freeway rehabilitation was replaced with the southeast Wisconsin freeway megaprojects program. A southeast Wisconsin freeway megaproject is defined as an improvement project with an estimated cost exceeding $558,800,000 in 2014 dollars (indexed annually to the cost of construction inflation).[26] Any rehabilitation or capacity expansion project on those freeways with a cost below that threshold is the responsibility of the state highway rehabilitation or major highway development programs, as applicable.

Any southeast Wisconsin freeway megaproject must be enumerated in state statute prior to the start of construction. Both the I-94 North South project and the Zoo Interchange project are enumerated.

[23] Wisconsin Department of Transportation, “Major Highway Development subprogram.”
[24] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).
[25] Ibid.
[26] Ibid.

Southeast Wisconsin Freeway Megaprojects Program (State Statute 84.0145)
Southeast Wisconsin freeway megaprojects definitions: • "Southeast Wisconsin freeway" – means a state trunk highway, located in Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, or Waukesha county, that has four or more lanes of traffic physically separated by a median or barrier and that gives preference to through traffic by limiting access to interchanges only. • "Southeast Wisconsin freeway megaproject" means any project on a southeast Wisconsin freeway having a total cost of more than $558 million, subject to annual adjustment. The department may not encumber or expend any moneys for construction of a southeast Wisconsin freeway megaproject unless the project is enumerated under state statute 84.0145 (3) (b) Southeast Wisconsin freeway megaprojects projects: • "I 94 North-South corridor" – means the Mitchell interchange of I 43, I 94, and I 894 in Milwaukee County, I 94 from the Illinois-Wisconsin state line in Kenosha County proceeding northerly through the Mitchell interchange to Howard Avenue in Milwaukee County, I 43/894 from the Mitchell interchange proceeding westerly to 35th Street in Milwaukee County, the STH 119 Airport Spur Parkway between I 94 and General Mitchell International Airport in Milwaukee County, and all freeways, roadways, shoulders, interchange ramps, frontage roads, and collector road systems adjacent or related to these routes or interchanges. • "Zoo Interchange" – means all freeways, including related interchange ramps, roadways and shoulders, and all adjacent frontage roads and collector road systems, encompassing I 94, I 894, and USH 45 in Milwaukee County within the area bordered by I 894/USH 45 at Lincoln Avenue to the south, I 94 at 70th Street to the east, I 94 at 124th Street to the west, and USH 45 at Burleigh Street to the north.

Major Interstate Bridge and High-Cost Bridge Programs

A provision of the 2009-11 biennial budget created the major interstate bridge program, for projects involving the construction or reconstruction of a bridge crossing a river that forms the boundary of the state, for which the state's share of costs is estimated to exceed $100 million. The 2011-13 biennial budget created an additional, separate program for high-cost bridges, defined as a bridge with an estimated cost exceeding $150,000,000 that is not a major interstate bridge or part of a southeast Wisconsin freeway megaproject. Construction work on a bridge (including approaches) that qualifies as a high-cost bridge may not be funded from other highway improvement programs, unless specifically authorized by the legislature.

Major Interstate (84.016) and High-Cost State Highway (84.017) Bridge Projects
"Major interstate bridge project" means a project involving the construction or reconstruction of a bridge on the state trunk highway system, including approaches, that crosses a river forming a boundary of the state and for which this state's estimated cost share is at least $100,000,000 (state statute 84.016). "High-cost state highway bridge project" means a project involving the construction or rehabilitation of a bridge on the state trunk highway system, including approaches, that has a total estimated cost of more than $150,000,000, but does not include any major interstate bridge project or any project involving a bridge that is part of a southeast Wisconsin freeway megaproject (state statute 84.017).

State Highway Maintenance and Traffic Operations

The final component of the state highway program is the state highway maintenance and traffic operations program. This program is responsible for a variety of activities related to the upkeep of state highways and highway rights-of-way. Unlike the other state highway program components, the activities performed under the maintenance and traffic operations program generally do not require extensive planning and design. The maintenance programs are divided into two program areas: (a) highway maintenance; and (b) highway traffic operations.[27]

Highway Maintenance

The majority of state trunk highway maintenance activities are performed by county workforces under contract with the state. Generally, the counties perform the actual maintenance activities and WisDOT sets statewide maintenance policies and (primarily through the regional offices) oversees their work. This arrangement has existed in its current form since 1932, although counties were involved in some way in the maintenance of state roads prior to that time. Two areas of general maintenance are performed primarily by private contractors: (a) vegetation management, including plantings, inventory, and the spraying of herbicides along roadsides; and (b) the maintenance of year-round rest areas by disabled citizens participating in sheltered workshops.

Highway maintenance can generally be separated into two types of activities: winter maintenance and general maintenance. Winter maintenance involves the maintenance and upkeep of state trunk highways during the winter season. The principal activities performed under this program are snowplowing, drift control, and application of de-icers. These activities are performed almost entirely by county workforces under contract with the state. The state, however, purchases de-icing salt directly and provides it to the counties for use on state highways.

This program funds the refurbishment, repair, cleaning, painting, re-lamping, etc. of existing traffic control devices (TCDs). Although state crews do most of the routine maintenance on TCDs, the nature of some of the work and/or the sheer volume of it requires outside help. The biggest items are sign refurbishment of the large freeway guide signs, cleaning and re-lamping of the highway lighting units, and traffic control signals on the system.

Pavement maintenance costs rise as pavement conditions worsen. For instance, chip sealing is a common treatment used to seal and stabilize the upper layer of pavement. Chip sealing or other minor repairs might cost as little as $10,000 per mile.[28] If the needs are greater, the highway might require a thin overlay, which could cost as much as $120,000 a mile.[29]

Preservation is one of WisDOT's core performance goals. Specific measures monitor the condition of state bridges and highways. Over 85 percent of state construction costs are typically for preservation-related improvements while less than 15 percent of the costs involve capacity expansion.[30]

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[27] Wisconsin Legislative Fiscal Bureau, "State Trunk Highway Program - Informational Paper 40." (January 2015).
[28] Wisconsin Department of Transportation, "Better, Faster, Lower Cost." (January 2015).
[29] Ibid.
[30] Ibid.

WisDOT uses a level-of-service model to estimate funds needed for maintenance activities provided by counties. Every year, the gap between estimated needs and available funding represents a funding shortfall. In part, the shortfall is caused by:

- Location-specific system growth combined with reconstruction projects that have included wider shoulders, longer ramps, added lane miles, new lighting and decorative features, all requiring more maintenance
- County crews performing night work in high traffic areas, which is more expensive due to wage premiums and the need for lighting
- Installation of median barriers along divided highways (critical for safety), also requiring maintenance

General maintenance involves the daily or periodic repair and upkeep of state trunk highways, including the following activities:

- Mowing and weed control, brush and tree removal, trash pickup, and recycling
- Maintenance of rest areas, tourist information centers, waysides, scenic overlooks, and historical markers, including parking, picnic, and toilet facility improvements
- Surface, base, and shoulder repair
- Minor bridge repair
- Plantings and landscaping in rest areas and other areas
- Emergency repairs and accident cleanup
- Drainage, culvert landscaping, erosion control measures, and guard fence repairs
- Lift bridge and ferry operation
- Repair of damaged traffic signs

Counties are reimbursed for state maintenance work based on three criteria: (a) county labor costs; (b) county machinery costs; and (c) materials supplied by the county.[31] WisDOT uses a reimbursement formula that is based on all counties' actual machinery costs, averaged over a period of five years, and each county's employee wage rates. Due to variable county labor contracts, some counties receive a higher hourly reimbursement rate than others.

Highway Traffic Operations

Highway traffic operations involve the installation of traffic control and safety devices designed to enhance the orderly and efficient flow of vehicles on existing state trunk highways. Highway traffic operation functions include: (a) pavement marking activities, such as centerline and edge line painting, channelization lines, stop lines, curb and crosswalk lines, and/or the installation of raised centerline reflectors; (b) highway signing activities; (c) traffic signalization activities; and (d) highway lighting activities.

The traffic operations program works to improve safety, manage congestion, mitigate delays, enable transportation emergency response, warn and guide motorists, and optimize operational performance of the transportation infrastructure. This subprogram includes all the repair and operation of pavement markings, traffic signs, traffic operation improvements, freeway detours, and the Freeway Service Team. Traffic control and intelligent transportation systems (ITS) improvements are integral to highway safety. Improvements to traffic control systems are typically addressed as part of specific improvement projects.

[31] Wisconsin Department of Transportation, "Better, Faster, Lower Cost." (January 2015).

In terms of all traffic crashes (passenger vehicles and commercial motor vehicles) in Wisconsin, the state experienced a rise in the number of crashes each year from 2012 (109,385 crashes) to 2016 (129,051 crashes). During this timeframe Wisconsin averaged over 550 traffic fatalities and a little less than 3,200 serious injuries per year. The state had 601 fatalities in 2012, but experienced a drop in traffic fatalities in 2013 (527 fatalities) and 2014 (498 fatalities). However, the state experienced a rise in traffic fatalities in 2015 (555 fatalities) and 2016 (588 fatalities).[32] Even though Wisconsin has experienced some fatality-free days in recent years, there are still far too many needless and preventable deaths on our roadways. In many instances, drivers and passengers have been ejected from the vehicle because they were not wearing safety belts. Each crash potentially creates a loss of life, debilitating injuries, or lost income and productivity for crash victims. Crashes have a secondary economic impact by restricting traffic flow and the timely movement of goods and people to their destinations.

The department's Strategic Highway Safety Plan (SHSP) establishes long-term goals adopted by the department to increase automobile, bicycle, and pedestrian safety on all public roadways in the state.[33] The plan outlines strategies implemented by the department to reduce the number of fatal and serious injury crashes over a three-year period. Progress toward meeting these goals is measured against the department's annual Safety Performance Measure Targets submitted to FHWA. In addition to federal performance measure targets, the department maintains state performance measure targets through its MAPSS Performance Improvement Program.

The WisDOT State Traffic Operations Center (STOC) handles traffic management for Wisconsin. It is staffed 24 hours per day, seven days per week, and communicates regularly with the Wisconsin State Patrol, County Sheriff Departments, fire departments, and police departments, as well as media outlets and construction project managers. The actual operations center is located in southeastern Wisconsin in the City of Milwaukee. From the STOC Advanced Traffic Management System (ATMS), it is possible to use various traffic management tools such as closed circuit television cameras, ramp meters, variable message signs, highway advisory radio, roadway sensors and other tools. It is designed to improve the safety and efficiency of the freeway system by reducing incidents and relieving traffic congestion.

Wisconsin Traffic Incident Management Enhancement (TIME) Coalition: Crashes, spilled loads, and stalled vehicles are all examples of traffic incidents. In Wisconsin and throughout the nation, these situations and the traffic congestion caused by them account for approximately one-fourth of all delays on our highway system.[34] Traffic incidents also significantly impact the safety of both motorists and emergency responders.

Traffic Incident Management (TIM), a collaborative effort of public safety and transportation agencies, consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims, and emergency responders.

[32] Wisconsin Department of Transportation, MAPSS.
[33] Wisconsin Department of Transportation, "Safety Documents and Publications."
[34] Wisconsin Department of Transportation, Statewide Traffic Operations Center.

Wisconsin recognizes the importance of TIM in maintaining the operational safety and efficiency of the state's roadways. The Traffic Incident Management Enhancement (TIME) Program is a comprehensive multi-agency, multi-discipline program, led by WisDOT, dedicated to:

- Improving responder safety
- Enhancing the safe, quick clearance of traffic incidents
- Supporting prompt, reliable, interoperable communications

The program, initiated in 1995, is a sustained initiative for assessing needs, developing solutions and strategies, and fostering the transportation-public safety partnerships that are essential for effective TIM.[35]

Great Lakes Regional Transportation Operations Coalition: The Great Lakes Regional Transportation Operations Coalition (GLRTOC) collaborates to improve cross-regional transportation operations in support of economic competitiveness and improved quality of life.[36] This is a mega-region transportation operational approach that can lead to addressing the challenges of economic competitiveness, quality of life, traffic congestion and aging transportation infrastructure. The members of the coalition include ten states (Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) and one Canadian province (Ontario).

The goal of this collaboration is to leverage joint funding, compete more effectively for national resources and funding, share and expand best practices to improve travel time and economic competitiveness of the region, benchmark efficient operating models and, ultimately, improve transportation operations for freight movement and travelers throughout the Great Lakes Region.[37]

Lake Michigan Interstate Gateway Alliance: The Lake Michigan Interstate Gateway Alliance (LMIGA) is a voluntary organization with active member participation from WisDOT, the Illinois Department of Transportation, the Illinois Tollway, the Indiana Department of Transportation, the Indiana Toll Road Concession Company LLC, the Michigan Department of Transportation and the Skyway Concession Company LLC.[38] The goal of LMIGA is to focus on operations along major corridors to ensure that traffic moves safely and efficiently. This goal is realized by interagency communication and coordination, improvement projects, training efforts and region-wide planning. The LMIGA Intelligent Transportation System (ITS) Priority Corridor Program operates through a structure of working groups and subcommittees that meet on a regular basis.[39]

Local Roads and Bridges Financing and Funding Mechanisms

As discussed in Chapter 5, *Wisconsin's Transportation System Assets*, Wisconsin's locally-owned and maintained road and bridge system serves as a critical link in the state's total transportation network. With over 103,000 miles of county, town, and municipal roads and nearly 9,000 bridges, the local road network accounts for approximately 90 percent of Wisconsin's public road mileage. Typically, these are local roads owned and operated by local jurisdictions.

The local road system offers connections not only to local activity centers, but also to state and national facilities of importance such as ports and economic business centers. Local roads connect to the state trunk highway network,

[35] Wisconsin Department of Transportation, "Programs - Traffic Incident Management Enhancement."
[36] Great Lakes Regional Transportation Operations Coalition, "About."
[37] Great Lakes Regional Transportation Operations Coalition, "Partnership Statement." (May 9, 2017).
[38] Lake Michigan Interstate Gateway Alliance.
[39] Travel Midwest, "Travel Midwest - History."

airports, rail stations, and bus and ferry terminals. They are the first and usually last link in the state's farm-to-market commerce and offer critical links for area businesses and tourists.

Several transportation programs, administered by the state, provide local units of government with funding to support roadway improvements.

General Transportation Aids

General Transportation Aids (GTA) is the only state transportation program that provides funding directly to all 1,925 local units of government. Under GTA, a portion of state-collected transportation revenues from fuel taxes, vehicle registration and other fees is returned to local governments. GTA payments cover a portion of local highway transportation costs, including maintenance, operation and construction of local roads, streets and highways. Funds are distributed based on a legislatively determined share-of-costs (SOC) or rate-per-mile (RPM) formula. Counties are paid under the SOC formula and municipalities under either the SOC formula or the RPM formula, whichever yields a greater share.

The Legislature set the rate per mile for calendar years 2016 and 2017 at $2,202. The share-of-costs percentage floats from year to year based on costs reported and funds remaining after rate-per-mile entitlements are deducted. In calendar year 2017, municipalities received a total of $321.3 million and counties shared in the distribution of $98.4 million in state aid. Because of their generally lower costs, almost all town governments receive GTA on the RPM formula, whereas cities and villages typically receive SOC payments. The rate-per-mile payments are made first, and funds left over in the appropriation are distributed to municipalities using the SOC formula. This typically results in municipalities on the RPM system receiving reimbursement for a much larger percentage of their costs.

In calendar year 2017, counties were reimbursed for 17.5 percent of their eligible expenses, and municipalities an average of 21.1 percent.

Municipalities are limited to receiving state aid equal to no more than 85 percent of their three-year average eligible costs under either the RPM or SOC formula. The minimum and maximum cushions in the formula ensure that local governments can receive increases from their previous year's payments up to fifteen percent, with payment reductions limited to ten percent of the previous year's payment. The statutory intent is to provide a measure of predictability and stability to GTA payments.

In addition to GTA, WisDOT funds local highway and bridge improvements on 103,000 miles of county highways, city and village streets, and town roads using a combination of federal and state funds. All local improvement projects funded by WisDOT must be built to appropriate roadway standards based on state and federal requirements and must adhere to program requirements. In some cases, federal rules and regulations mandate additional requirements.

Local Bridge Improvement Assistance (Local Bridge Program)

The Local Bridge Improvement Assistance Program was established to rehabilitate and replace, on a cost-shared basis, the most seriously deteriorating existing local bridges on Wisconsin's local highway and road systems.

Projects are located on a locally-owned public roadway (not on a connecting highway) and the structure must have a clear span of greater than 20 feet in length to be eligible for funding. In addition, the bridge must not have been constructed or reconstructed in the last ten years regardless of the funding source. The decision of whether or not to apply for local bridge funds is the responsibility of the local unit of government. Both federal and state funds for local bridges are allocated by formula to each county based on its statewide proportional share of bridge

replacement costs. Wisconsin receives roughly $24.4M from the federal government for the Local Bridge Program annually. In state fiscal years 2016 and 2017, the Program received roughly $8.5 million in state funding each year.

Surface Transportation Program

Wisconsin's urban and rural Surface Transportation Programs (STP-U and STP-R), which utilize federal Surface Transportation Block Grant Program funding, fund improvements on federal-aid eligible highways—roads and streets in urban areas and highways outside of urban areas, primarily county trunk highways. This includes projects on higher functioning local roads not on the state highway system, and local safety improvements. The STP-R and STP-U programs are currently administered on a six-year programming cycle.

STP projects include 80 percent federal funding, though urbanized areas of 50,000 or more in population frequently pay more than the required 20 percent share. STP and local bridge improvements are generally made on existing roads and bridges, though new facilities or logical connections are sometimes allowed. STP projects typically address higher level projects that require a significant funding commitment. WisDOT's five regional offices solicit and approve STP projects in odd-numbered years.

STP – Rural - The Surface Transportation Program - Rural (STP-R) - allocates federal funds to complete a variety of improvements to rural highways (primarily county highways). The objective of STP-R is to improve federal aid-eligible highways outside of urban areas. Projects must meet federal and state requirements. Communities are eligible for funding on roads classified as major collectors or higher. In state fiscal years 2016 and 2017, STP-Rural received roughly $12.9 million and $13.8 million in funding, respectively.

STP – Urban - The Surface Transportation Program - Urban (STP-U) allocates federal funds to complete a variety of improvements to federal aid-eligible roads and streets in urban areas. In state fiscal years 2016 and 2017, STP-Urban received roughly $31.2 million and $48.5 million in funding, respectively.

Requests for project funding may be for design or construction, but design projects could not be requested or approved without their corresponding construction projects.

STP – Freight - The Surface Transportation Program - Freight (STP-Freight) - a pilot program provided federal funds over two years to complete projects that improve freight connections. STP-Freight was a pilot initiative that grew out of the Governor's Second Annual Freight Summit in 2012. Seven projects totaling $9.5 million were funded within the pilot program. While no longer available, the program demonstrated the potential and need for a locally-focused, freight-supporting fund source.

STP-Freight rating criteria focused on projects associated with multimodal and intermodal facilities, warehousing and distribution centers, projects that improved local freight connections to the state highway network, and projects that provided many-to-one and one-to-many connections. Projects that were able to be completed quickly (preferably within two years) received priority in the rating process.

Local Roads Improvement Program

The Local Roads Improvement Program (LRIP) assists local governments in improving county highways, town roads, and city and village streets. LRIP is a reimbursement program, which pays up to 50 percent of total eligible costs with local governments providing the balance.

Eligible project costs include reconstruction and rehabilitation costs. Only work on existing county trunk highways, city and village streets, and town roads under authority of the local government is eligible. Maintenance, new

construction, and improvements to alleys or parking lots are not reimbursable. Projects must be included in a local improvement plan and have a projected design life of at least ten years.

LRIP entitlement funds are available in three areas: the County Highway Improvement Program (CHI); the Municipal Street Improvement Program (MSI), and the Town Road Improvement Program (TRI). The 2015-2017 biennial budget provided $32.4 million in LRIP entitlement funds and $23.7 million in LRIP discretionary funds, which includes state and local contributions. LRIP projects are generally lower in cost than STP projects. The local and regional governments set their own priorities for funding a wide range of projects under their jurisdictions, from gravel and dirt roads to multi-lane paved highways and streets.

The revenue for local funding of transportation projects comes mainly from two sources: the local property tax, including both the general property tax and special assessments; and debt through bonding or borrowing.

Transportation Facilities Economic Assistance and Development

The Transportation Facilities Economic Assistance and Development (TEA) program provides grants to governing bodies for road, rail, harbor and airport projects that help attract employers to Wisconsin, or encourage business and industry to remain and expand in the state. Grants of up to $1 million are available for transportation improvements essential to an economic development project. The project must begin within three years of the approved application, have the local government's endorsement and benefit the public through job creation or retention. The program is designed to implement an improvement more quickly than normal state programming processes allow. TEA grants require a 50 percent local match, which can come from any combination of private, local or federal funds, as well as in-kind services. One hallmark of the TEA program is that transportation facilities can be approved and built quickly in response to rapidly changing business needs.

Since its beginning in 1987, the TEA Program has invested $74 million in 305 businesses in 179 communities across the state. This investment has directly and indirectly created more than 66,000 jobs.[40]

Railroad Financing and Funding Mechanisms

Wisconsin's approximately 3,300 miles of railroad system makes up about two percent of the nation's rail network. The state's rail system is owned and operated by ten active, privately-owned freight railroads and the State of Wisconsin. The private railroads each hold Surface Transportation Board (STB) freight carrier certificates and operate over a network of mainlines, branches, industrial leads, spurs, rail yards, and terminals.[41]

In 2013, nearly 207 million tons of freight (36 percent of the state total), valued at nearly $180 billion (28 percent of the state total) were transported into, out of, within, and through Wisconsin by rail. Primary commodities by weight, moved by rail included coal, crude and petroleum oil, natural gas, chemicals and allied products, nonmetallic minerals, and farm products.[42]

As mentioned in Chapter 7, *Freight Transportation Trends, Issues, and Forecasts*, the mileage on the state's rail system peaked in the early 1900s with roughly 7,600 miles of rail corridors. Changes in industry demand and the construction of better roads led to a decline in the rail system to about 3,300 miles today.

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[40] Wisconsin Department of Transportation, Bureau of Planning and Economic Development.
[41] Wisconsin Department of Transportation, Bureau of Transit, Local Roads, Railroads and Harbors.
[42] 2013 IHS Transearch Database, 2 digit STCC Codes used.

Wisconsin's original rail assistance program was created in 1977 to help communities and shippers preserve freight rail service during an era when widespread railroad bankruptcies and line abandonments threatened the availability of rail service in Wisconsin. The program was amended in 1992 to include railroads in the list of internal improvements state money could fund. In addition, the original rail assistance grant program was replaced by the current Freight Rail Preservation Program (FRPP), which provides grants to local units of government, industries, and railroads for the purpose of preserving essential rail lines and rehabilitating them following purchase. Statutory information about Wisconsin freight railroad assistance can be found in Wis. Stats. 85.08.

Freight Rail Infrastructure Improvement Program

The Freight Rail Infrastructure Improvement Program (FRIIP) is a loan program for construction of facilities that increase the use of a rail line. Loans are made to private industries, railroads, and local governments to improve rail infrastructure and to construct new facilities, with the overall goal of supporting economic development and jobs. Principal and interest is repaid to a revolving fund for subsequent loans. Created in 1992, the FRIIP loan program enables the state to encourage a broader array of improvements to the rail system, particularly on privately-owned lines. It also provides funding for other rail related projects such as loading and trans-loading facilities. The program provides up to 100 percent of loans for rail projects that:

- Connect an industry to the national railroad system;
- Enhance transportation efficiency, safety, and intermodal freight movement;
- Rehabilitate a rail line; or
- Assist with economic development.

Freight Rail Preservation Program

The Freight Rail Preservation Program (FRPP) provides grants to local units of government, industries, and railroads to preserve rail lines and rehabilitate them following purchase. Under FRPP, the state purchases the underlying real estate and typically provides 80 percent of the cost of track and other improvements. Rail Transit Commissions (RTC) provide the remaining 20 percent. The FRPP provides grants up to 80 percent of the cost:

- To purchase abandoned rail lines in an effort to continue freight service, or for the preservation of the opportunity for future rail service
- To rehabilitate facilities, such as tracks or bridges, on publicly-owned rail lines

The state's goal is to rehabilitate publicly-owned rail lines to meet FRA Class 2 Track Safety Standards and operate at speeds up to 25 miles per hour and carry rail cars with a gross weight of 286,000 pounds.

Harbors and Waterways Financing and Funding Mechanisms

As identified in Chapter 5, *Wisconsin's Transportation System Assets*, in 2013, more than 28 million tons,[43] or approximately five percent of Wisconsin's freight by weight, worth over $2 billion (less than one percent of the total state freight value) was transported by and through ports and waterway facilities.[44] As mentioned in Chapter 7, *Freight Transportation Trends, Issues, and Forecasts*, investing in Wisconsin's commercial ports is critical. A strong waterway system and corresponding infrastructure support the state's ability to attract and retain industries that rely on efficient bulk freight movement. The state's commercial ports are a critical source of economic development.

[43] 2013 IHS Transearch Database.
[44] 2013 IHS Transearch Database.

The original objective of the Harbor Assistance Program (HAP), described below, was to assist local governments in maintaining publicly-owned commercial harbor facilities. Eligibility to participate in HAP was expanded in 2007 to include owners of private commercial harbor facilities. To receive grant funding, owners of privately-owned facilities must agree to hold their facilities open for public use for at least ten years following completion of a harbor improvement or project. Some commercial ports in Wisconsin are owned and operated by municipalities. The port's land may be owned by a municipality and leased to others for daily operations. Other ports are privately owned. Municipalities, with navigable waters within their boundaries, may also raise funds through special assessments, bonding, use of available state funds, or local government taxation.

Harbor Assistance Program

In 1979, Wisconsin's Legislature created HAP to assist harbor communities along the Great Lakes and Mississippi River in maintaining and improving waterborne commerce. Port projects typically include dock reconstruction, mooring structure replacement, dredging, and the construction of facilities to hold dredged material. There are 29 ports in the state that are potentially eligible for funding through the HAP. To be eligible for funding:

- The project must benefit facilities that are used for cargo transfer, ship building, commercial fishing, or regular ferry service
- The applicant must be a local unit of government or a private owner of a harbor facility
- The project must pass a rigorous benefit-cost analysis
- The project must have been identified in a current Three-Year Harbor Development Plan

Project selection criteria are spelled out in Section 85.095, Wis. Stats. and Wis. Admin. Code TRANS 28 and include the following: economic impact of the project; type and urgency of the project; and priority of the project.

Air Financing and Funding Mechanisms

Wisconsin airports serve commercial passengers; charter, private, and corporate operations; mail and other cargo services; and agricultural, recreational, and emergency responders. All federal and state airport development funds are channeled through WisDOT.

Airport Improvement Program

The Federal Aviation Administration's (FAA's) federal Airport Improvement Program (AIP) funds 72 percent of Wisconsin's program through individual federal grants. The FAA provides federal aid grants to Wisconsin in two ways:

1. Individual grants to commercial service airports
2. A block grant to the department

WisDOT then administers the funds to construct projects at eligible general aviation airports. Wisconsin is one of ten states that receive federal financial aid through the federal block grant program.

Primary Commercial Service Airports

A primary commercial service airport is an airport that has scheduled air carrier service and enplanes 10,000 or more passengers annually. These airports receive individual grants from the FAA through the Bureau of Aeronautics based on the number of annual enplanements, and the landed weight of cargo handled at that airport. The airport owner may use these funds for any federally eligible work to be undertaken on the airport.

Airports in this category can also compete for additional funds, called discretionary funds. These funds are awarded using a national priority rating system. The amount of discretionary funds that flow into Wisconsin varies each year based on the national priority for funding of projects requested.

The federal share on individual grants issued to primary commercial service airports is generally 90 percent. Exceptions include 80 percent for noise projects and 75 percent for development projects at General Mitchell International Airport. The state and the airport owner usually divide equally the remainder of eligible project costs.

General Aviation Airports

General aviation airports comprise the largest single group of airports in the United States airport system. General aviation airports host a wide range of aviation activities and include all segments of the aviation industry except scheduled airline activity. Activities range from pilot training through sport, recreation, and personal flying to business related corporate and charter flying. Aircraft used at general aviation airports range from single-seat, single-engine piston aircraft to long-range corporate jet aircraft.

Federal financial aid for general aviation airports is awarded to the state annually through a block grant. The state distributes these funds for airport improvement projects through individual funding allocations. These funds are used to hire engineers, planners, and contractors to accomplish the project. Under the block grant program, the distribution of funds within the state reflects statewide aviation priorities.

The types of funding included in the block grant are:

- General aviation entitlement
- General aviation discretionary funding
- General aviation apportionment

General Aviation (Non-Primary) Entitlements are federal funds provided for eligible airport improvement and development projects at airports in the Federal Aviation Administration (FAA) National Plan of Integrated Airports (NPIAS). Wisconsin State Airport System Plan airports are a part of the NPIAS. General Aviation Airports in the NPIAS are entitled to $150K per year, providing the United States Congress appropriates at least $3.5B for the Federal Airport Improvement Program (AIP) to trigger the Non-Primary Entitlement apportionment availability. There is a 20-year airport obligation and related grant assurances that need to be adhered to.

Federal AIP funds are typically first apportioned into major entitlement categories such as primary (commercial service) and general aviation airports. The remaining and unspent funds are distributed to a discretionary fund. These funds are then applied to priority airport projects and/or projects that may need additional funding.

Another source of FAA funding is General Aviation Airport Apportionment. As a Block Grant State, Wisconsin annually receives apportionment funding used to backfill priority projects due to critical project enhancements or needs that may not have enough programmed General Aviation Non-Primary Entitlement funds to complete.

Pipeline Financing and Funding Mechanisms

Wisconsin's pipeline system is used to move pipeline commodities into and through the state. The location of Wisconsin relative to large regional refining hubs, east coast markets and active gas and oil fields in North Dakota and Alberta results in significant pipeline capacity being allocated to commodities (e.g. crude and petroleum oil) traveling through the state. Additionally, Wisconsin's location results in the state being impacted by national and international crude oil and natural gas trends.

Pipelines are regulated primarily by federal and state institutions outside WisDOT, such as the state-level Public Service Commission and federal-level Pipeline and Hazardous Materials Safety Administration (Chapter 2, *Transportation Stakeholders and Institutions*). WisDOT may be involved in the approval of pipeline siting within

department highway right-of-way. Additionally, WisDOT identifies pipelines during the roadway construction process to ensure the proper plans and supporting equipment are available in the event construction equipment hits a pipeline. The pipeline transportation system is privately owned, maintained, and operated. As such, WisDOT does not have a role in capacity, operational choices, and infrastructure investment.

Transportation System Funding and Finance

Wisconsin's economic future and the safety of all of its residents and visitors depend on a quality transportation network that can safely and efficiently move people to jobs, raw materials to factories, finished products to markets, and tourists to their destinations. This section examines some of the funding and finance trends, and key topics of interest to Wisconsin's transportation system.

Federal and state transportation revenues rely heavily on the gasoline and diesel tax. These taxes are not indexed to inflation or, like the sales tax, linked to the price of goods purchased. The current federal gasoline tax (unchanged since 1993) is 18.4 cents per gallon, and the current state tax collected at the gas pump is 32.9 cents per gallon, of which 30.9 cents is the motor vehicle fuel tax and goes to the Transportation Fund, and two cents of which serves as the petroleum inspection fee.[45]

Between 1985 and 2007, consumption of taxable motor fuel grew at a rate of about 1.6 percent annually, and motor fuel revenues grew at an average rate of 4.7 percent annually. These growth rates were partly sustained by Wisconsin's expanding working age population; generally rising incomes; increasing industrial production; relatively low unemployment and inflation; relatively low and stable gasoline prices; and stagnant to declining fuel efficiency within the light vehicle fleet. These trends have supported increasing motor vehicle fuel consumption and, in turn, rising motor vehicle fuel revenues.

Looking forward to 2040, the growth rates that have sustained Wisconsin's transportation revenue base may be eroded by several trends affecting motor vehicle fuel consumption.

- Although Wisconsin's population will continue to expand, much of this growth is expected in segments of the population beyond the peak driving years of 18 to 64 years old (also see Chapter 7, *Freight Transportation Trends, Issues, and Forecasts*)
- Changes in fuel prices are expected to have an effect on consumption
- The introduction of new technologies that improve motor vehicle fuel efficiency

Over time, the state's transportation infrastructure deteriorates. Like a car, home or any depreciating physical asset, the transportation infrastructure requires periodic maintenance and rehabilitation. Road wear and tear is not simply related to vehicle miles traveled; Wisconsin's climate—from mid-summer heat to the snow, ice and salt of winter—puts additional demands on infrastructure. Roadways, runways, and railways all need repair and improvement.

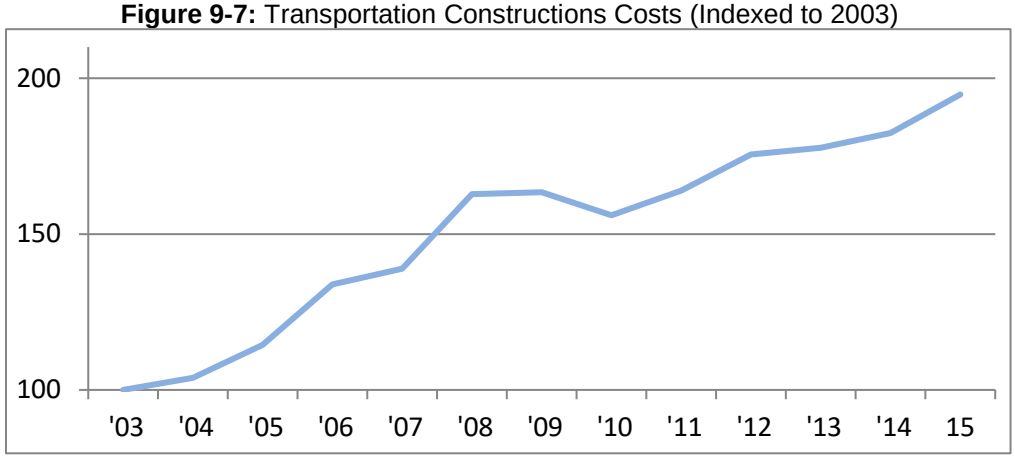
Also like a home or car, a transportation facility needs maintenance and repair on a timely basis. Without proper maintenance, safety can be compromised and the roadway may need to be replaced sooner and at greater expense. The department and local governments address infrastructure needs through regular maintenance and preservation activities throughout its useful life. As the system ages, maintenance and preservation activities typically change. Costs tend to increase – particularly those related to real estate, energy, and construction

[45] Wisconsin Department of Revenue, "Motor Vehicle Fuel Tax Information." (March 2015).

materials. Asset management strategies and tools have enabled the department to consider appropriate times to address needs and slow infrastructure deterioration.

Increasing transportation costs, particularly costs related to energy, real estate, and construction materials, can impact the scheduling of transportation projects. When indexed to 2003, construction costs have nearly doubled, growing 94.5 percent by 2015. Figure 9-7 shows the construction cost trend.

Figure 9-7: Transportation Constructions Costs (Indexed to 2003)



Source: Federal Highway Administration, "National Highway Construction Cost Index (NHCCI) 2.0"

WisDOT is committed to providing the safest, most efficient, and highest quality transportation system that best serves the needs of the state. In order to maximize return-on-investment, WisDOT is working to make the best use of funding available by implementing performance measures (see Chapter 6, *Transportation System Condition and Performance*).

As discussed throughout the plan, throughout the 20-year plan implementation period, WisDOT will use an asset management approach to evaluate the broad range of priorities and analyze potential trade-offs among the actions to address the transportation system.

As identified in Chapter 7, *Freight Transportation Trends, Issues, and Forecasts*, demographics and lifestyles are changing. Wisconsin's population is growing and demographic shifts were identified in the 2010 United States Census report. The most significant change is the percentage of the state's population age 60 and over, which increased from 16.9 to 19.2 percent from 2000 to 2010. This increase has implications for the transportation network, primarily for services to older drivers who transition from cars to public transportation or paratransit services. The availability of multiple mobility options are a challenge in the rural parts of the state where non-driving options are more limited. Other trends related to driving could also impact transportation investment decisions. For example, more workers are telecommuting and young people are waiting longer to apply for driver licenses.

9.3 Freight Plan Implementation

Freight plan implementation will be focused on several key areas:

- Support WisDOT's overarching freight priorities for the transportation system through 2040
- Implement mode-specific freight policies and strategies (identified in Chapter 8, *Freight Policies and Strategies*)
- Use performance measures
- Use data and tools to deliver plan policies and strategies
- Identify Wisconsin-specific freight projects
- Coordinate with public and private sector freight stakeholders
- Serve as a resource for freight information

Each of these items is further described in the following sections.

State Freight Plan Updates

WisDOT anticipates updating the plan on a five year cycle, in accordance with federal requirements, including an update to the fiscally-constrained project list in Appendix 9-2. Other elements of the plan such as the freight forecasts and economic analysis will be updated on an as needed basis dependent on changing economic conditions. WisDOT will update other modal and multimodal plans in the future, which may prompt updates to the SFP outside of the anticipated schedule.

Support WisDOT's Overarching Freight Priorities for the Transportation System Through 2040

WisDOT will continue to work to deliver a safe and efficient transportation system. Ongoing efforts include, but are not limited to, managing and delivering the state's multimodal transportation system, addressing safety concerns, and integrating proven best practices to improve department processes. Implementation will focus on priorities and initiatives that:

State Freight Plan Vision
WisDOT envisions a multimodal freight transportation system that enhances the state's economic productivity, competitiveness, and quality of life through the movement of goods safely, reliably, and efficiently, while minimizing impacts to the natural environment.

- Enhance safety, security, and resiliency
- Ensure system preservation and enhancement
- Enhance system mobility, operations, reliability, efficiency, and connectivity

Implement Mode-Specific Freight Policies and Strategies

Policies presented in this plan were developed using previous planning documents such as *Connections 2030*, stakeholder feedback, input from the Freight Advisory Committee, and data analysis by WisDOT staff. As identified in Chapter 8, *Freight Policies and Strategies*, the following is a summary of the recommended policies categorized by mode:

Highways

Identified in Chapter 5, *Wisconsin's Transportation System Assets*, Wisconsin's State Trunk Highway Network (STH) consists of approximately 11,800 centerline miles of Interstate highways, United States highways, and state trunk highways, including more than 5,200 bridges. The STH system carries about 58 percent of the vehicle miles

traveled, while comprising just over ten percent of the total roadway network. Over the life of the plan, the department will focus on the following freight specific highway policies:

- Use a performance-based approach to identify state trunk highway system preservation needs, including development of a bridge asset management system
- Refine and expand a state-of-the-art process for prioritizing needs and identifying cost-effective state trunk highway construction alternatives
- Monitor national best practices and other initiatives related to reducing freight's impact on the environment
- Review and revise the Facilities Development Manual (FDM) to include freight considerations
- Monitor existing state trunk highway conditions to set priorities
- Improve the department's existing maintenance management tools
- Implement work zone and lane-closure management strategies and tools to maintain safety and minimize impacts on travelers
- Complete the currently enumerated Major Highway Development projects
- Complete currently enumerated Southeast Wisconsin Freeway Megaprojects Program
- Complete corridor and studies approved by the Transportation Projects Commission
- Monitor the state trunk highway network and respond to operational needs
- Improve motor carrier efficiency
- Explore approaches to improve motor carrier enforcement
- Investigate ways to simplify, streamline, and provide more permitting options
- Identify and preserve a sub-system of state highways that accommodate over-height (up to 20 feet), over-weight and over-size loads
- Work with other states to identify harmonization opportunities
- Support communications along state highway corridors of freight significance, to ensure drivers can remain informed of changing conditions
- Support greater use of technologies to improve the safety and efficiency of operations along corridors with high freight movement frequencies
- Support an increase in the availability of truck parking at state-owned facilities and raise the awareness of its availability
- Improve standards for infrastructure
- Improve emergency response
- Identify freight-specific safety concerns and develop strategies for solutions

Local Roads

As discussed in Chapter 5, *Wisconsin's Transportation System Assets*, Wisconsin's locally-owned and maintained road and bridge system serves as a critical link in the state's total transportation network. With over 103,000 miles of county, town, and municipal roads and nearly 9,000 bridges, the local road network accounts for approximately 90 percent of Wisconsin's public road mileage. Typically, these are local roads owned and operated by local jurisdictions.

As a critical companion to the state highway system, the local road system offers connections not only to local activity centers, but also to state and national facilities of importance such as ports and economic business centers. Local road policies that will be implemented include:

- Assist in providing asset management strategies and tools for local governments to ensure that selected system preservation improvements provide cost-effective service life extension
- Work with local entities to identify and address key safety issues on the local system
- Partner with local governments to manage and invest in the local road and bridge network

Rail

As identified in Chapter 5, *Wisconsin's Transportation System Assets*, rail provides a low-cost alternative transportation mode for industry transport of freight. Low-value, high-volume commodities are typically handled by rail. Rail cars transport millions of tons of coal for the state's energy generating plants. Train cars serve as rolling warehouses, which reduces inventory and warehousing costs, making Wisconsin manufacturers and producers more competitive in the global marketplace. Heavy machinery, manufacturing, auto assembly, and pulp and paper product manufacturing are some of the state's key industrial sectors that are dependent upon rail to deliver finished goods to domestic and foreign markets. Rail policies that will be implemented include:

- Preserve rail corridors, including rights-of-way, for freight service
- Work with stakeholders to facilitate a discussion to develop an intermodal strategy for Wisconsin
- Maintain state-owned rail lines to allow service levels to continue uninterrupted and without additional restrictions
- Acquire rail lines into public ownership, when appropriate, to preserve essential railroad service
- Fund track upgrades for publicly-supported rail lines to meet changing industry standards

Ports and Waterways

As identified in Chapter 5, *Wisconsin's Transportation System Assets*, in 2013, more than 28 million tons,[46] or approximately five percent of Wisconsin's freight by weight, worth over $2 billion (less than one percent of the total state freight value) was transported by and through ports and waterway facilities.[47] Despite the amount of freight transported by and through ports and waterway facilities, the waterways that surround Wisconsin, the Mississippi River and the Great Lakes are underutilized as a means to move freight. Recent estimates indicate that the Great Lakes System is operating at about half its potential capacity. Reasons for underutilization have to do with the type of commodities traditionally transported by water and the lack of intermodal connections.

Bulk commodities (e.g. grain, fertilizer, and iron ore) have different service requirements than goods shipped by trucks or air, which typically need to be shipped faster. While Wisconsin's waterways are connected to an extensive waterway network, that network is not well integrated into the road and rail systems (see Chapter 7, *Freight Transportation Trends, Issues, and Forecasts*). Port and waterway policies that will be implemented include:

- Explore the development of a maritime strategy for Wisconsin
- Provide state assistance programs for harbor improvements
- Advocate for federal funding of navigation and environmental improvements for the Upper Mississippi River-Illinois River Waterway, Soo Lock System, the Great Lakes, and the St. Lawrence Seaway
- Encourage comprehensive harbor and waterfront land use planning
- Examine roadway issues at ports

[46] 2013 IHS Transearch Database.
[47] Ibid.

Air

As identified in Chapter 5, *Wisconsin's Transportation System Assets*, Wisconsin businesses use air freight to ensure the availability and freshness of products with short shelf lives, aid in just-in-time manufacturing and expand market reach. In 2013, almost 105,000 tons of air freight cargo was loaded onto planes, with a total value exceeding $10 billion.[48]

Cargo that moves by air tends to be items that are high-value, low weight/bulk, time-sensitive, or highly specialized. The most common commodity types include small packaged freight, transportation equipment, electrical equipment, machinery, instruments, photo equipment, and optical equipment, miscellaneous manufacturing products, and chemicals and allied products.[49] Air policies that will be implemented include:

- Use the Airport Improvement Program to help Wisconsin airports accommodate business planes
- Support the needed airport system infrastructure, including inclement weather capability, to enable and sustain jet aircraft and related activity

Pipeline

Wisconsin's pipeline system is used to move pipeline commodities into and through the state. The location of Wisconsin relative to large regional refining hubs, east coast markets and active gas and oil fields in North Dakota and Alberta results in significant pipeline capacity being allocated to commodities traveling through the state. Additionally, Wisconsin's location results in the state being impacted by national and international crude oil and natural gas trends.

Wisconsin is not a producer of natural gas or crude oil, but relies on natural gas and refined petroleum products to fuel economic activity. Wisconsin's privately-owned pipeline system is used primarily for the transmission and distribution of natural gas, petroleum products, and to move crude oil through the state. Wisconsin's over 74,800 miles of pipelines transported more than 29 million tons of natural gas and petroleum products, valued at almost $16 billion in 2012 (Chapter 5, *Wisconsin's Transportation System Assets*).

Pipeline commodities are a key economic input into Wisconsin's economy. Pipelines are the preferred method to transport large volumes of liquids and gases over longer distances, due in part to lower costs relative to rail or trucking. Commodities transported via Wisconsin pipelines (e.g., crude oil, natural gas, propane, gasoline, fuel oil, and petroleum products) are key inputs for transportation, commercial and residential heating, energy production, manufacturing, refining, petroleum-derived products, and agricultural sectors.

The pipeline transportation system is privately-owned, maintained, and operated. As such, WisDOT does not have a role in capacity, operational choices and infrastructure investment. Pipelines are regulated primarily by federal and state institutions outside WisDOT. WisDOT may be involved in the approval of pipeline siting in department right-of-way. Additionally, WisDOT identifies pipelines during the roadway construction process to ensure the proper plans and supporting equipment are available in the event construction equipment hits a pipeline. While no

[48] 2013 IHS Transearch Database.
[49] 2013 IHS Transearch Database, 2 digit STCC Codes used.

policies were identified for pipelines as part of the freight plan, a few strategies have been identified for implementation. WisDOT's recommended strategic approach for pipelines is:

- Apply the Utility Accommodation Policy to all types of pipelines in Wisconsin
- Monitor trends in crude oil movements and their impact on other transportation users
- Coordinate with natural gas pipeline construction and participate in emergency response
- Enable modal connections, diversity and provide system resiliency for petroleum product pipelines

Use Performance Measures to Monitor the Freight System

The long-range, system-level plan reflects a number of policies and strategies developed to be meaningful, reasonable, and practical. Monitoring the state's transportation system performance will help validate and verify the plan's proposed policy direction over time. The plan's performance monitoring has two objectives: support existing performance measures and implement federally-required performance measures.

Support Existing Performance Measures

As discussed in Chapter 6, *Transportation System Condition and Performance*, WisDOT's MAPSS Performance Improvement program focuses on five core goals: Mobility, Accountability, Preservation, Safety, and Service, and associated performance measures that guide in achieving the department's mission *to provide leadership in the development and operation of a safe and efficient transportation system*.

The quarterly publication reports on 26 separate measures (shown in Table 9-2) that define and monitor the direction and degree with which WisDOT is meeting the goals. Of those already tracked by WisDOT, there are fifteen measures that, either in full or in part, reflect factors that affect freight movement (bolded).

Table 9-2: WisDOT MAPSS Performance Improvement Program Measures

Mobility	Accountability	Preservation	Safety	Service
• **Delay** • **Reliability** • Transit availability • Bicycling conditions on rural highways • **Incident response** • **Winter response**	• **TEA Grants** • Timely scheduling of contracts • **On-time Performance** • On-budget performance • Surplus property management	• Program effectiveness • **State highway pavement condition (backbone and non-backbone)** • **State bridge condition** • **State-owned rail line condition** • **Airport pavement condition** • **State highway maintenance** • Material recycling	• **Fatalities** • **Injuries** • **Crashes** • **Safety belt use**	• DMV wait times • DMV electronic services • DMV driver license road test scheduling • DMV phone service

Source: Wisconsin Department of Transportation, MAPSS

WisDOT will continue to use the MAPSS Performance Improvement Program Measures and will consider development of additional potential freight performance measures, including implementing Federally-Required Freight Performance Measure

MAP-21 required that FHWA establish performance measures, "Freight movement on the Interstate System." The Final Rulemaking selecting the performance measure that will be used to measure freight movement on the Interstate System was published January 2017. FHWA selected the percent of Interstate System mileage providing for reliable truck travel time as the performance measure used to assess freight movement.

Each state is required to monitor and report on the performance metrics for this measure. WisDOT will implement the freight performance measure. The first performance reporting period for the freight-related measure will begin January 1, 2018.

Use Data and Tools to Deliver Plan Policies and Strategies

As discussed in Chapter 8, *Freight Policies and Strategies*, the department's freight data analysis framework was used to identify Wisconsin's freight dependent critical corridors and facilities. Initially, this statewide identification of corridors and facilities will assist the department and freight stakeholders in:

- Building consensus on the most critical freight assets in Wisconsin
- Identifying "first and last mile" connections between facilities and corridors
- Identifying freight infrastructure needs
- Managing the transportation system to meet current freight demand

There are likely many other ways this freight data analysis framework could be used. In the coming years, WisDOT will continue to refine the data and processes employed in the framework so that WisDOT and other freight partners can receive the full spectrum of benefits of its development. The following sections provide detail by mode on how the freight data analysis framework was used to identify Wisconsin's critical freight corridors and facilities.

FAC Input: Critical Factors Shaping Supply Chains
WisDOT sought to build upon previous discussions on supply chains and logistics – which were examined during the 2014 Governor's Freight Industry Summit – to explore concerns including critical facility location, factors shaping supply chains, data and technology needs. At the April 14, 2016 FAC meeting, members were asked to offer their views on what WisDOT's role should be in that area, and their suggestions are captured in the following: • The FAC suggests WisDOT should measure reliability and predictability for its corridors and seek to improve those with wide variabilities in travel time. The committee cited rail service as a challenge in many parts of Wisconsin, as the state lacks sufficient market demand for consistent service. Connections between railroads are also a concern. • The FAC suggests WisDOT needs better awareness of logistics and supply chain metrics/operations, and the private sector stakeholders need to share the analytical tools they use to make supply chain decisions with WisDOT, including data collection and analysis. • The FAC marked a shift away from the just-in-time emphasis on speed previously prioritized by industry and instead, stressed the importance of consistency and reliability. • Members also emphasized the need for better collaboration between the public and private sectors (especially on data collection, analysis and education). • Technology was identified as a theme of growing importance to logistics. • In general, the FAC suggests WisDOT needs to be more proactive in understanding and working with the freight sector, and with informing legislative decision-makers.

Highway Data Analysis

In line with the strategy of using data and tools to deliver the plan's policies and strategies, the following data were used to identify the important freight-related highway facilities. All segments of the 11,800 mile STH were evaluated. Table 9-3 identifies the data used to develop the state highway score, the source of that data, and how

each element is weighted to reflect the importance of that factor. Weighting is important because it allows for normalization of asset characteristics. For example, the North Central region of the state will see less total vehicles traveling on their roadways than the Southeast region, but some North Central roads have a much higher truck percentage of traffic than found in Southeast region. It is important that each segment, regardless of its location, be identified for its importance to the movement of freight in Wisconsin. Only data related to freight and specifically its movements were considered, which is why data related to other key characteristics such as safety and total traffic were not weighted.

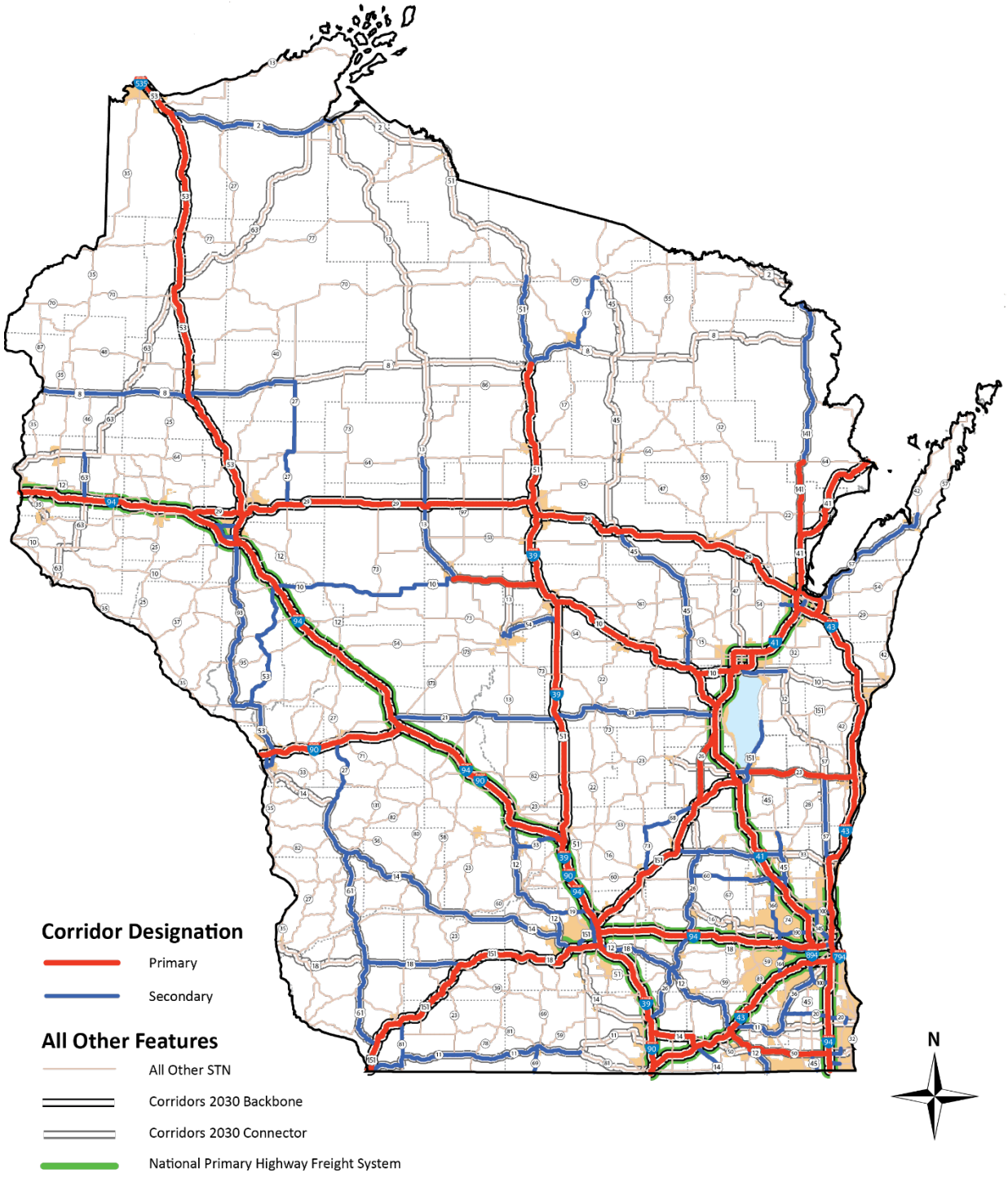
Table 9-3: Highway Freight Data Weighting

Criteria	Importance	Weighting of Importance
Daily Trucks Per Lane	The number of trucks indicates how heavily a given segment is being utilized by freight-moving vehicles	35%
Truck Percentage	The percent of trucks indicates how heavily a given segment is being utilized by freight-moving vehicles	25%
OSOW Permit Frequency	Reflects actual permits issued and associated routes taken when moving OSOW loads in Wisconsin.	15%
Truck Commodity by Value	Commodities by value removes bias towards heavy goods	10%
Truck Commodity by Weight	Commodities by weight data are indications of segments being used for freight movements.	10%
NHS Intermodal Connectors (Freight Airports and Ports)	Provide multimodal connectivity	5%

Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

The number and the percent of trucks based on all vehicles, were the two major criteria used for determining the freight scores. The number and correlating percent of trucks indicates how heavily a given segment is being utilized by freight-moving vehicles. Privately-owned vehicles that move goods, but do not receive fees for such movements are not technically considered freight, and therefore are not captured in commodity data. An example of such movements is a private truck moving merchandise from one distribution center to another. These vehicles do have similar infrastructure needs and impacts as vehicles moving goods for a fee. Tons and value of commodities data are good indications of freight movements, but do not capture private trucks or local trips, so those criteria were not weighted as high as the truck count and percent data. Highways that provide connections to freight moving airports and ports also received an increased score due to their multimodal connectivity. Figure 9-8 shows the state highway system with segments weighted with freight data. The scores were then normalized over a scale from 1 to 99, with the higher number indicating facilities with the greatest amount of importance to freight-related movements taking place in Wisconsin. As shown in Figure 9-8, the highest scoring segments on Wisconsin's highway system are also on WisDOT's Backbone system (the interstate system and multilane divided state trunk highways). Applying this analysis, the department assessed and defined a primary and secondary highway freight system. The corridors have been prioritized and those scoring above 85 are identified as Wisconsin Primary Freight Highway Corridors, and those within the second tier of scores between 75 and 84 threshold are defined as Wisconsin Secondary Freight Highway Corridors.

Figure 9-8: 2016 Highway Freight Mobility Analysis



Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Designation of Federally Recognized Critical Urban and Rural Freight Corridors in Wisconsin

The goal of identifying Wisconsin's critical corridors and routes is to develop a freight orientated system where the infrastructure promotes the safe, efficient, and reliable movement of goods through the entire supply chain.

As discussed earlier in this chapter, pursuant to federal legislation, Wisconsin may designate a maximum of 150 miles of highway as CRFCs and a maximum of 75 miles of highway as CUFCs. The designation of these corridors is intended to supplement the nationally designed NHFN.

There is no deadline for designating and certifying CRFCs and CUFCs. These designations may occur at any time, may be full or partial designations of the CUFCs or CRFCs mileage, and the two types do not need to be designated at the same time. Designations and certification may be provided to FHWA on a rolling basis. FHWA recommends that the DOT's State Freight Plans are updated to include these routes once designated and certified, but a state does not need to wait to submit an initial State Freight Plan for compliance if no CUFC or CRFC routes have been designated. A CRFC or CUFC must be designated and certified before authorizing the use of NHFP funds on the route.

Based on the FAST Act, aside from WisDOT, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) is the one MPO in the state (with a population greater than 500,000) with the ability to designate CUFC corridors, in collaboration with WisDOT. In addition to collaborating with SEWRPC on the urbanized area CUFC designation, the department will facilitate CUFC and CRFC designations with all Wisconsin MPOs to determine the appropriate distribution of mileage (and subsequent funds) to all urban and rural areas in the state.

To put these designations into perspective, in terms of the 150 miles of CRFCs, three critical routes from the Corridors 2030 Backbone – US 53, US 151, and STH 29 – together comprise around 500 miles, more than three times the mileage available for designation. None of these routes (US 53, US 151, and STH 29) are included as part of the NHFN. As a result, WisDOT will work with MPOs, RPCs, the FAC, and other stakeholders to designate CUFCs and CRFCs. WisDOT will not designate CUFCs and CRFCs until after the Wisconsin State Freight Plan has been published and consultation with freight industry stakeholders is complete.

Local Road Data Analysis

Local roads connect to the STH, airports, rail stations, and bus and ferry terminals. They are the first and usually the last link in the state's farm-to-market commerce, as well as providing critical links to other freight generators, and they offer critical links for area businesses and tourists.

To evaluate the freight-based importance of local roads, every section of the state's local road system was assigned a score using a defined set of criteria. Although all local roads were evaluated regarding their value to freight shipments, only the roads that had data in the statewide freight model were able to be scored (Chapter 7, *Freight Transportation Trends, Issues, and Forecasts*).

In contrast to decisions made for the STH, WisDOT does not have a direct role in the planning, construction, maintenance, or operation of the local road system. Therefore, the information provided in Table 9-4 is designed not to prioritize needs on local roads, but rather it is a way to inform stakeholders about the identification of potential corridors that may be more heavily used than others and therefore might warrant more investment.

Table 9-4: Local Road Freight Data Weighting

Criteria	Importance	Weighting of Importance
Daily Trucks	The number of trucks indicates how heavily a given segment is being utilized by freight-moving vehicles	30%
Truck Percentage	The percent of trucks indicates how heavily a given roadway is used by commercial vehicles	20%
Connection to a Major Freight Generator	Major freight generators are any facility that generate over 200,000 annual tons.	15%
Truck Commodity by Value	Commodities by value removes bias towards heavy goods	10%
Truck Commodity by Weight	Commodities by weight data are indications of segments being used for freight movements.	10%
Connection to an intermodal or transload facility	Provides multimodal connectivity	5%
Connection to Port	Provides multimodal connectivity	5%
Connection to Airport	Provides multimodal connectivity	5%

Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Like with the highway scoring, truck data was the highest weighted criteria for identifying the freight score for local roads because the number and correlating percent of trucks indicates how heavily a given segment is being utilized by freight-moving vehicles. The tons and value data was also used for scoring, but, again, not to the same degree.

A 15 percent weighting was assigned to local roads that connect to major freight generators because these roads are used for critical first- and last-mile deliveries of goods. Major generators include one of the following:

- A warehouse or distribution center with a minimum size of 40,000 square feet. This dataset was created from a business dataset based on Standard Industrial Codes (SICs). Individual facilities were analyzed and confirmed with aerial imagery.
- A business that ships and/or receives over 200,000 annual tons. The 2015 IHS Freight Finder data provides tonnage estimates for all freight generators and receivers in the state.

Local roads serve a vital connection between our highway system and other modes. Additional weighting was given to roads that connect to intermodal or transload facilities, ports, and airports that track freight shipments (see Chapter 5, *Wisconsin's Transportation System Assets*).

The local road freight analysis will allow the department and its local partners to understand what infrastructure is important to the movement of freight. This will also help identify bottlenecks (as described in Chapter 6, *Transportation System Condition and Performance*) and efficient truck routes. Additionally, it will be possible to identify critical first- and last-mile connections and any infrastructure improvements needed for efficient deliveries. Although WisDOT does not direct or prioritize local investments, the data and analysis could be valuable to local governments as they invest in their system.

Local road data (by municipality) will be made available to communities so they may conduct their own analyses. Requests for maps can be directed to: FreightWIinfo@dot.wi.gov.

Rail Data Analysis

The data for analyzing railroad corridors is based on tonnage and value from the Surface Transportation Board (STB) Waybill Sample. Although train frequency data could have also been used, existing freight investment decisions already take train numbers into consideration. All railroad lines designated as main lines (rather than spurs or sidings) received scores if they shipped freight in 2014.

Although tonnage may be considered a more important criteria than value for the rating of railroad lines, they are considered equal to ensure that higher valued shipments that moved with less frequency made an impact on the score (Table 9-5).

The criteria separate rail shipments into four types: outbound (leaving Wisconsin), inbound (entering Wisconsin), internal (starts and stop in Wisconsin), and total (all shipments including overhead). By not counting overhead shipments by itself, a slight advantage in scoring was given to lines that had a direct impact on serving Wisconsin businesses.

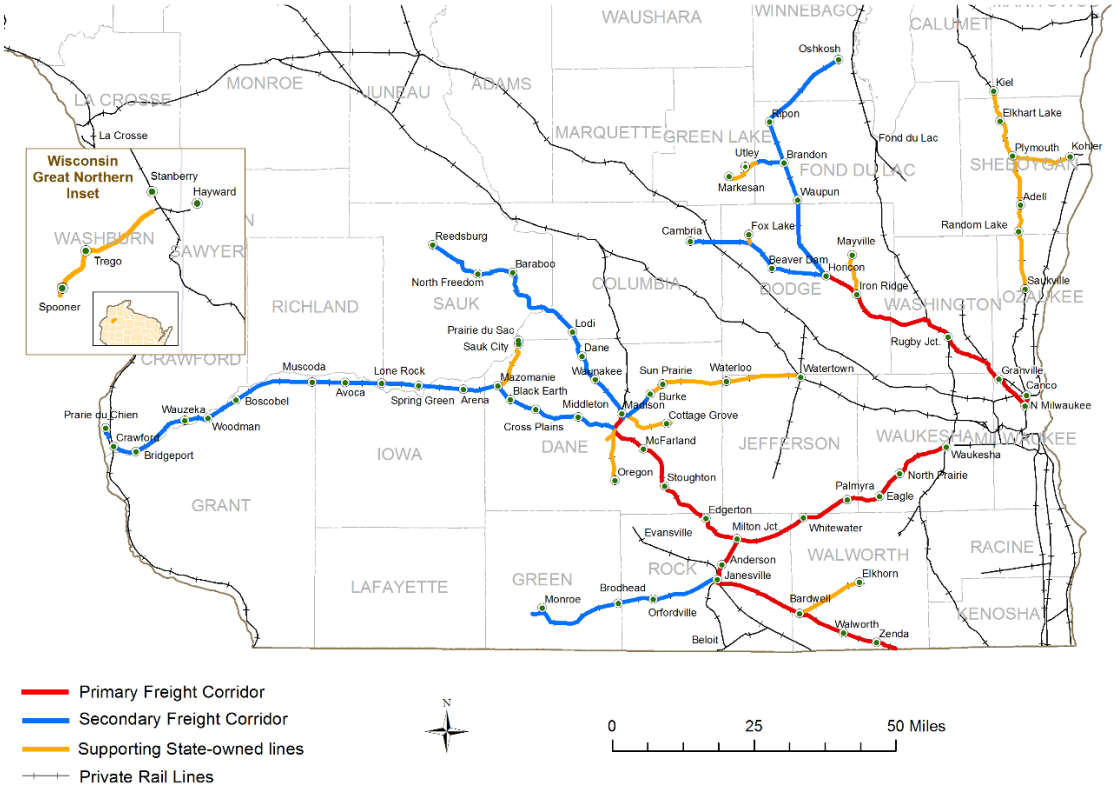
Table 9-5: Railroad Freight Data Weighting

Criteria	Importance	Weighting of Importance
Outbound Commodity Tons	Indicates how heavily a segment is utilized for the movement of freight	10%
Outbound Commodity Value		10%
Inbound Commodity Tons		10%
Inbound Commodity Value		10%
Internal Commodity Tons		10%
Internal Commodity Value		10%
Total Commodity Tons		10%
Total Commodity Value		10%
Connection to a port or intermodal container facility	Provides multimodal connectivity	10%
Connection or proximity to a rail yard	Provides multimodal connectivity	7%
Connection or proximity to a transload facility	Provides multimodal connectivity	3%

Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Like the other modal analysis, railroad lines received additional scoring if they provide intermodal connections. Connecting to a port or intermodal container facility is considered to be a very important role for a rail line. The importance of the rail yard as a property where trains can be built, and as a potential interchange location with other carriers, led to a seven percent weighting. Although many of Wisconsin's transload locations may not receive high volumes of traffic, the potential of those locations as a truck-rail connection is reflected in the scoring. The analysis was conducted as a way to identify what corridors have the greatest freight movement impacts, and assess where critical needs are on a statewide basis. WisDOT does not direct or prioritize investments off of the state-owned corridors, but understanding critical system needs is important for the overall efficient movement of freight in Wisconsin. Figure 9-9 shows state-owned rail lines rank as primary and secondary.

Figure 9-9: 2016 Railroad Freight Mobility Analysis



Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Port and Waterways Data Analysis

Although tonnage and value were the largest factors for scoring port and harbor facilities in Wisconsin, intermodal connectivity also played a significant role in evaluating port and waterways data (see Chapter 5, *Wisconsin's Transportation System Assets*) (Table 9-6). Ports were evaluated based on their connection to an existing railroad. Ports were also awarded a score based on connections to an out-of-service rail line, or a line in the Rails-to-Trails Program, a ten point bonus (half of the weighting for ports with active rail service) because of their potential to have intermodal connectivity at some point in the future. The seven ports that provide ferry service each received 10 points (the equivalent of a 99 score with a 10% weighting). Also, the closer a port is to the STH, the more points it received.

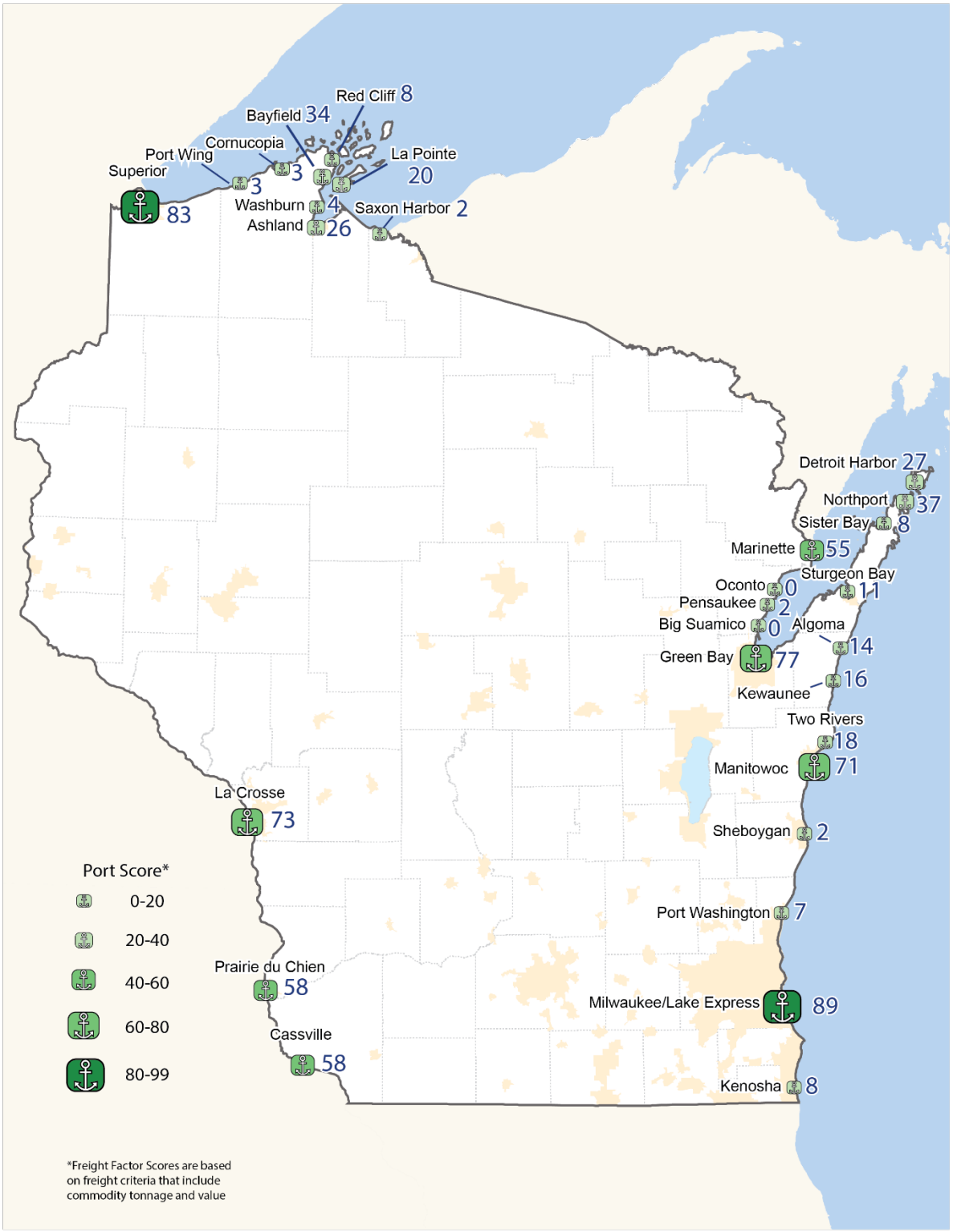
Understanding the volume and connectivity of ports and harbors in the state allows for analysis of supporting infrastructure, such as rail lines and roads, to identify critical needs on the transportation system as a whole. Not only can the data analysis be used in identifying important maritime assets, but it can capture trends over time as freight movement changes. Ensuring that supporting infrastructure can facilitate the movement of goods entering or leaving ports and harbors is critical for overall efficiency, resiliency and predictability (Figure 9-10).

Table 9-6: Port and Waterway Freight Data Weighting

Criteria	Importance	Weighting of Importance
Total Commodity Tons	Weight data is the most obvious way to compare one port vs. another	30%
Total Commodity Value	Commodities by value removes bias towards heavy goods	30%
Connection to a railroad, or potential connection to rail	Provides multimodal connectivity	20%
Ferry Service	Existing ferry service provides a means to ship freight, or to move trucks with freight	10%
Distance to/from STH	Provides multimodal connectivity	10%

Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Figure 9-10: 2016 Port and Waterway Freight Mobility Analysis



Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Note: The port at Cassville scores high on non-commodity variables, which is the primary driver of its high score. Cassville recently had the power plant that received coal via the waterway close.

Air Data Analysis

The value and tonnage of commodities moving to or from Wisconsin airports were the two factors used to create the airport freight factor score (Table 9-7). Tonnage and value were weighed equally for the other modes, but for air travel, commodity value was considered to be a more important attribute than weight. Air freight generally is used for high-value or highly perishable goods.

Connections between airports and other modes were identified, but they were not chosen as a basis for scoring. Air cargo is typically made up of light, perishable, and time-sensitive goods, which is nearly the absolute opposite of cargo shipped via rail and water. There is currently no logistical relationship between airports that support freight transport and either freight rail service or ports. Distance from the highway system was also not used in the scoring criteria because all of the airports that ship freight are within five miles of the highway system, and any score based on the distance would not provide a meaningful benefit to the ranking. Goods moved via air require predictable logistics which include methods for initial and final delivery. Very few goods moved via air reach their initial loading point, or final destination by plane. It is important that the road and rail infrastructure can support a predictable delivery time table. WisDOT can identify critical needs on the multimodal transportation system that is moving freight by analyzing the airport freight data (Figure 9-11).

Table 9-7: Air Freight Data Weighting

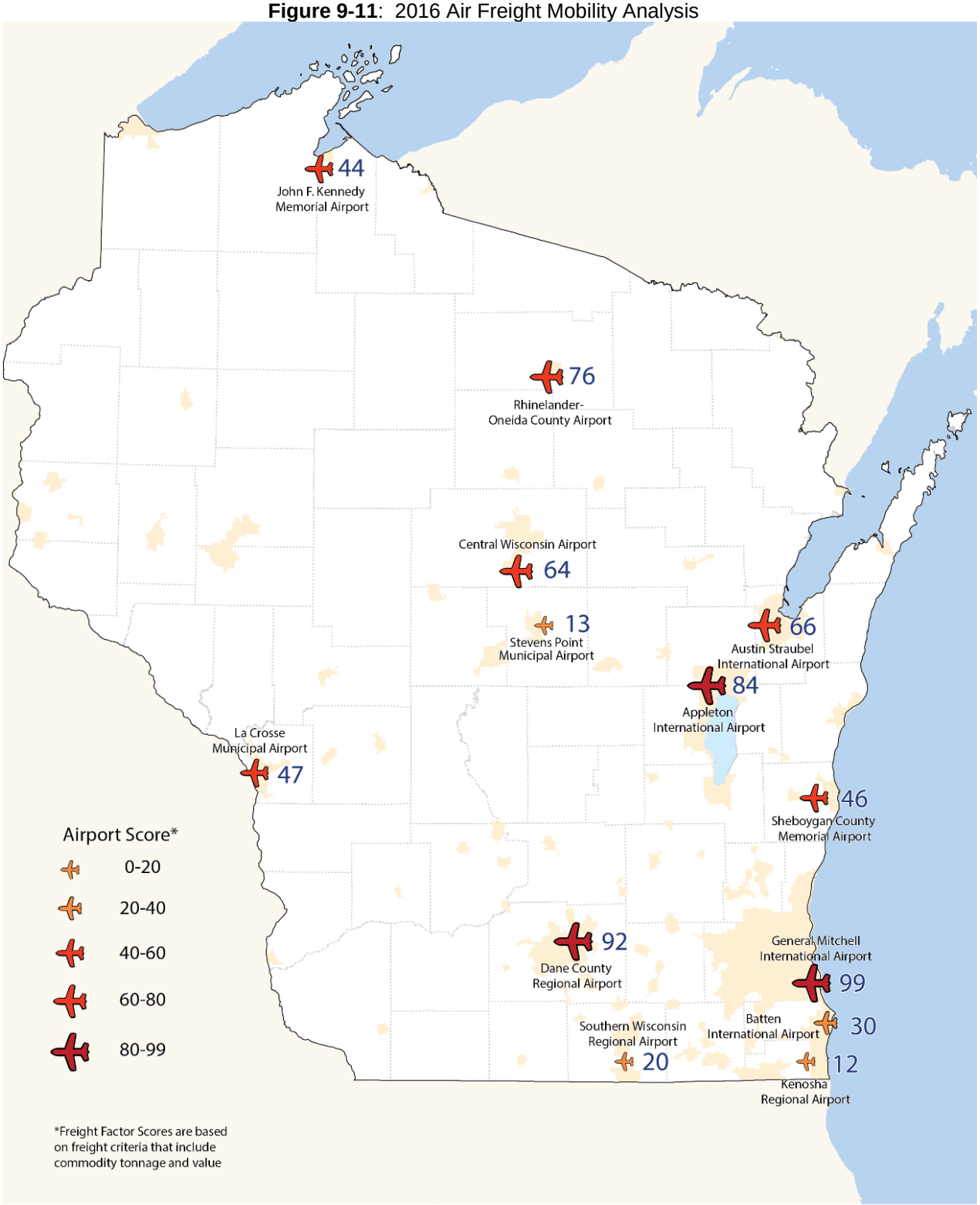
Criteria	Importance	Weighting of Importance
Total Commodities by Weight	Commodities by weight data are indications of segments being used for freight movements	40%
Total Commodities by Value	Commodities by value removes bias towards heavy goods	60%

Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Air freight data is difficult to collect. For belly cargo, much of what is transported simply does not get weighed separately from passenger baggage. Although parcel delivery services do have dedicated air freight operations, these are typically privately owned and are not defined as freight due to its inter-organization movement and lack of fee. Accurate air freight data remains, and is expected to continue to be, a challenge for analysis.

It is important to understand where freight assets are throughout the state. It is unlikely that WisDOT will have any direct funding mechanisms to impact air freight movements.

Figure 9-11: 2016 Air Freight Mobility Analysis



Source: Wisconsin Department of Transportation, Bureau of Planning and Economic Development

Identify Wisconsin-Specific Freight Projects

Wisconsin's long-range plans and corridor plans typically are implemented through programming decisions (scheduling and financing of projects in the next four to six years), which align infrastructure needs with available funding and staff resources. WisDOT administers a variety of programs involving federal, state, and local funds that support all modes of transportation. These programs were described in the preceding sections of this chapter. These funds are allocated across various transportation modes based upon analysis of needs. This analysis uses a range of data sources, known priorities, and funding availability, as well as statutory and regulatory requirements. In general, each program and funding decision is mode-specific.

FAST Act State Freight Plan Requirements

To receive funding under the NHFP, the FAST Act requires each state to develop a state freight plan, which must comprehensively address the State's freight planning activities and investments (both immediate and long-range). A state may develop its freight plan either separately from, or incorporated within, its statewide strategic long-range transportation plan. Among other requirements, a state freight plan must:

- Cover a five-year forecast period
- Be fiscally constrained
- Include a "freight investment plan" with a list of priority projects
- Describe how the State will invest and match its NHFP funds

The state must update its freight plan at least every five years, and may update its freight investment plan more frequently than the overall freight plan.

In terms of freight, the FAST Act requires state freight plans to include a "Freight Investment Plan," which contains a list of priority projects. In addition to the four projects listed on the following pages which received NHFP funds in federal fiscal years 2016 and 2017, Appendix 9-2 constitutes the list of projects programmed to use NHFP funds in federal fiscal years 2018-2020, i.e. the "Freight Investment Plan." Federal formula dollars may be spent only on the projects found on the NHFN, which is a highway-only network. These freight-specific funds are used to improve the movement of freight on the NHFN. Up to ten percent of state federal formula dollar apportionments can also be used for freight rail and intermodal freight projects.

WisDOT has a role in managing various freight-related programs that influence highway or Interstate projects (see Chapter 2, *Transportation Stakeholders and Institutions)*. The projects identified in Appendix 9-1 are all improvements associated with highway or Interstate projects. Appendix 9-1 was created because the FAST Act focuses primarily on the highway system and establishes a new NHFP to fund improvements to support the efficient movement of freight on the designated NHFN. While not all projects in Appendix 9-1 are on the NHFN, the listing constituted a starting point for deciding which projects in Wisconsin will receive NHFP funding. The NHFP distributes funding to states for highway freight-related projects. Generally, NHFP funds must contribute to the efficient movement of freight on the NHFN and be identified in a "Freight Investment Plan" included in the state's freight plan. In addition, a state may not use more than ten percent of its total NHFP apportionment each year for freight intermodal or freight rail projects. Appendix 9-1 exceeds the FAST Act requirements for a five-year forecast period by listing the state's six-year program from state fiscal year (SFY) 2018 through 2023.

The Freight Investment Plan identifies projects that:

- Have the largest impact on freight needs
- Best address the goals and objectives of the Wisconsin State Freight Plan

The set of projects listed in Appendix 9-2 was drawn from WisDOT's current six-year project program (Appendix 9-1). Per the FAST Act, a state may update a Freight Investment Plan more frequently than every five years. This is particularly important because funding for state projects are funded each biennium. As a result, WisDOT will

update Appendix 9-2 each biennium, as required, and ensure projects are included within the current four-year STIP before requesting authorization of federal funding.

The projects listed in Appendix 9-2 are funded with federal and state funds. This is particularly important because the FAST Act requires the "Freight Investment Plan" to include a list of priority projects and describe how federal freight funds made available to carry out the NHFP will be invested and matched. As of 2016, freight program funds, as described in the FAST Act, that WisDOT anticipates to receive between federal fiscal years 2016 and 2020 is as follows (before post-apportionment set asides; before penalties; before sequestration):

- FY 2016 - $21,960,555
- FY 2017 - $21,005,748
- FY 2018 - $22,915,361
- FY 2019 - $25,779,782
- FY 2020 - $28,644,202

In line with WisDOT's biennial funding cycle, NHFP funds for FY 2016 and 2017 are being used on the four projects listed below. The State of Wisconsin is using state funds to provide match for the projects. For Projects 5 through 11, highlighted in Appendix 9-1 and listed in Appendix 9-2 (as of February 14, 2018), WisDOT plans to let the projects on the dates listed. All projects are currently programmed. WisDOT has chosen not to share our current engineer's estimate as that information is confidential. The projected NHFP funding amount and a cost range for other funding sources is listed for each project. Appendix 9-2 may be updated following the biennial funding cycle, to ensure WisDOT meets both federal requirements and is in alignment with the state budgetary cycle.

Freight Project 1 - USH 10, I-41 Interchange Bridges and LLBDM Bridge B-70-61 Redeck

- Project ID: 1517-07-77
- Funding
    - NHFP Funds: $20,745,332 (33%)
    - Other Federal Funds: $30,271,244 (47%)
    - State Funds: $13,004,144 (20%)
    - Total Funds: $64,020,720 (100%)

Freight Project 2 - I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1003-10-84
- Funding
    - NHFP Funds: $1,324,138 (7%)
    - Other Federal Funds: $12,800,000 (72%)
    - State Funds: $3,759,237 (21%)
    - Total Funds: $17,883,375 (100%)

Freight Project 3 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1005-10-76
- Funding
    - NHFP Funds: $2,813,793 (7%)
    - Other Federal Funds: $27,237,949 (70%)
    - State Funds: $8,869,614 (23%)
    - Local Funds: $391 (<1%)
    - Total Funds: $38,921,747 (100%)

Freight Project 4 – I-39 Madison – Portage Rehabilitation

- Project ID 1010-02-85
- Funding
    - NHFP Funds: $7,536,818 (89%)
    - Other Federal Funds: $118,091 (1%)
    - State Funds: $850,545 (10%)
    - Total Funds: $8,505,454 (100%)

As mentioned previously, a state may not use more than ten percent of its total NHFP apportionment each year for freight intermodal or freight rail projects. Neither Appendix 9-1 or Appendix 9-2 includes any freight intermodal or freight rail projects. The projects identified in Appendix 9-1 are programmed projects utilizing a mix of state and federal funds. Projects listed in Appendix 9-1 that are on the NHFN could be considered for NHFP funding if WisDOT reprioritizes its projects. The projects listed are in compliance with federal law, and thus do not reflect all modes of transportation.

Coordination with Freight Stakeholders

As mentioned in Chapter 2, *Transportation Stakeholders and Institutions*, many freight transportation decisions involve multiple stakeholders, such as WisDOT, the federal government, local governments – including Regional Planning Commissions and Metropolitan Planning Organizations – Tribes, the private sector, operators, and other stakeholders. Since no single entity has authority over the entire transportation system, implementing the Wisconsin State Freight Plan will take coordination and cooperation among many interests and business areas.

As a result, the responsibility for the safety, maintenance, operation, planning, and funding of the state's multimodal transportation system is shared by a full range of stakeholders and institutions, including the federal government, state government, local governments, and private entities. Therefore, the operation of a seamless transportation system requires coordination, collaboration, communication and cooperation. Chapter 2, *Transportation Stakeholders and Institutions*, describes the key responsibilities and functions of the critical entities involved in addressing freight transportation.

WisDOT

The department's three executive offices and five divisions are organized according to function, with most staff operating from a central office located in Madison, and the remainder operating from regional offices throughout the state. This structure helps to preserve the customer-focused approach to transportation development and better serve stakeholder needs.

Implementing the State Freight Plan requires that staff continue to work together to communicate plan policies, engage stakeholders in transportation discussions, and integrate plan recommendations into project-level activities. Implementation responsibilities will vary depending on the item, issue, or activity.

Government entities, such as local units of government and Tribes

Implementation of the State Freight Plan requires coordination with government units such as local governments and Tribes that own and operate their own transportation services. Over the planning period, WisDOT will continue to work with its partners to address system priorities and continue to coordinate resources and activities through existing partnerships and agreements.

Private sector, operators, and others

WisDOT is responsible for decisions regarding the state trunk highway system. For all other modes of transportation, the infrastructure or service is owned or operated by someone else – the local government, Tribe, or private sector. If there is any federal or state funding assistance, WisDOT may be one of a few agencies that administers the funding and provides technical assistance.

Sometimes decisions on policy or project funding are shared and WisDOT can act as a catalyst for local or private transportation investment. In this way, stakeholders and WisDOT will collaborate to meet the State Freight Plan vision.

A critical forum for discussion of freight plan implementation strategies is the state's FAC. WisDOT will continue to support and convene the FAC into the future. The FAC has performed a valuable role in advising and prioritizing the concerns of various freight-related industries, and in offering detailed information on policies and operations. As WisDOT identifies and modifies its freight policies and prioritizes its list of freight-related projects, the Department will continue to convene the FAC as a forum for developing consensus on those policies and projects, and to identify future projects and policies for consideration.

Serve as a Resource for Freight Information

Drafting the State Freight Plan required WisDOT to collect new data and information, develop analytic tools, consult a myriad of public and private sector freight system stakeholders, and look inward to define the future roles and responsibilities of the state in advocating, facilitating, planning, and investing in the freight transportation system. While this document will serve as a resource to WisDOT and the stakeholders that helped to develop it, WisDOT's exploration of the state's freight transportation system, its needs, issues, and opportunities will continue. As such, WisDOT will continue to provide tools and other materials that communicate and educate industry and the general public on pertinent freight topics and issues.

During outreach, stakeholders suggested WisDOT could serve in an ongoing educational role and be a conduit for providing critical information to freight stakeholders and the general public, such as: how to use the freight system, when updates to freight analysis or modal-components are made, and notification of future freight-related meetings. WisDOT will continue to explore other ways in which the DOT can serve as a resource, as well.

Chapter 9, Appendix 9-1 – Freight Projects

1. Wisconsin's Highway/Interstate (Freight) Projects

Chapter 9, Appendix 9-2 – Freight Projects Programmed to Use NHFP Funds

1. Wisconsin's Highway/Interstate (Freight) Projects Programmed to Use NHFP Funds

2. Summary Table

Appendix 9-1: Wisconsin's Highway/Interstate (Freight) Projects

Source: Wisconsin Department of Transportation, Bureau of State Highway Programs

Note: Appendix 9-1 includes WisDOT's Backbone, Majors, and Southeast Megaprojects programs out to SFY 2023. WisDOT is aware not all of these projects are on the NHFN. Projects highlighted in yellow constitute the projects listed in Appendix 9-2 as of February 14, 2018.

WisDOT Program	SFY	DOT Region	Project ID	County	Hwy	Project Title	Project Length	Project Worktype
BACKBONE	2018	NC	1009-45-66	MARATHON	029	VARIOUS STRUCTURES MARATHON COUNTY	0.61	Bridge Preservation
BACKBONE	2018	NC	1166-12-80	PORTAGE	039	PLAINFIELD - STEVENS POINT	11.08	Resurfacing
BACKBONE	2018	NC	1176-15-71	LINCOLN	051	WAUSAU - MERRILL	0.00	Bridge Rehabilitation
BACKBONE	2018	NE	1009-33-22	BROWN	HWY	REGION WIDE DECK SEALING FY18	0.00	Bridge Rehabilitation
BACKBONE	2018	NE	1130-32-71	BROWN	041	GREEN BAY - OCONTO	4.75	Resurfacing
BACKBONE	2018	NE	1210-05-60	BROWN	172	IH 41 - IH 43	0.61	Bridge Preservation
BACKBONE	2018	NW	1020-03-81	ST. CROIX	094	HUDSON - BALDWIN	5.27	Resurfacing
BACKBONE	2018	NW	1020-11-82	ST. CROIX	094	NW REGION VAR CTYS INTERSTATE 94	31.10	Bridge Preservation
BACKBONE	2018	NW	1020-11-83	DUNN	094	NW REGION VAR CTYS INTERSTATE 94	24.96	Bridge Preservation
BACKBONE	2018	NW	1020-11-84	EAU CLAIRE	094	NW REGION VAR CTYS INTERSTATE 94	30.13	Bridge Preservation
BACKBONE	2018	NW	1020-11-85	JACKSON	094	NW REGION VAR CTYS INTERSTATE 94	45.14	Bridge Preservation
BACKBONE	2018	NW	1022-08-72	DUNN	094	HUDSON - MENOMONIE	4.65	Pavement Replacement
BACKBONE	2018	NW	1050-00-72	CHIPPEWA	029	CHIPPEWA FALLS - THORP	0.82	Resurfacing
BACKBONE	2018	NW	1190-09-65	CHIPPEWA	053	CHIPPEWA FALLS - NEW AUBURN	0.12	Bridge Preservation
BACKBONE	2018	NW	1190-10-70	CHIPPEWA	053	CHIPPEWA FALLS - RICE LAKE	0.38	Resurfacing
BACKBONE	2018	NW	1195-06-61	BARRON	053	RICE LAKE - SPOONER	0.09	Bridge Preservation
BACKBONE	2018	NW	1196-00-70	WASHBURN	053	MINONG - SOLON SPRINGS	5.31	Resurfacing
BACKBONE	2018	NW	1198-02-82	DOUGLAS	053	SOLON SPRINGS - SUPERIOR	8.87	Resurfacing
BACKBONE	2018	NW	1198-02-83	DOUGLAS	053	SOLON SPRINGS - SUPERIOR	9.94	Resurfacing
BACKBONE	2018	SE	1100-34-70	MILWAUKEE	894	IH 894	3.59	Bridge Rehabilitation
BACKBONE	2018	SE	1228-16-71	MILWAUKEE	043	NORTH SOUTH FREEWAY	0.01	Bridge Replacement
BACKBONE	2018	SE	2010-14-70	MILWAUKEE	041	ZOO FREEWAY	2.07	Pavement Preservation
BACKBONE	2018	SW	1002-01-71	DANE	039	C OF MADISON	0.00	Bridge Rehabilitation
BACKBONE	2018	SW	1010-02-85	COLUMBIA	039	MADISON - PORTAGE	3.72	Resurfacing
BACKBONE	2018	SW	1014-00-65	SAUK	090	WISCONSIN DELLS - PORTAGE	0.00	Bridge Preservation
BACKBONE	2018	SW	1071-02-61	MONROE	090	LA CROSSE - SPARTA	0.00	Bridge Preservation
BACKBONE	2018	SW	1071-02-62	MONROE	090	SPARTA - TOMAH	0.00	Bridge Preservation
BACKBONE	2018	SW	1071-02-63	MONROE	090	SPARTA - TOMAH	0.00	Bridge Preservation
BACKBONE	2018	SW	1111-02-63	DANE	151	MADISON - SUN PRAIRIE	0.00	Bridge Preservation
BACKBONE	2018	SW	1111-03-70	DANE	151	SUN PRAIRIE - BEAVER DAM	2.35	Resurfacing
BACKBONE	2018	SW	1112-07-60	DANE	151	MADISON - SUN PRAIRIE	0.00	Pavement Preservation
BACKBONE	2018	SW	1206-04-70	DANE	012	MADISON - CAMBRIDGE	0.38	Resurfacing
BACKBONE	2018	SW	1401-02-74	COLUMBIA	016	C COLUMBUS JAMES STREET	0.47	Reconstruction
BACKBONE	2019	NC	1058-24-60	SHAWANO	029	SHAWANO - GREEN BAY	13.20	Pavement Preservation
BACKBONE	2019	NC	1160-00-80	MARQUETTE	023	ENDEAVOR - PRINCETON	0.36	Pavement Preservation
BACKBONE	2019	NW	1020-01-77	ST. CROIX	094	HUDSON - BALDWIN	4.13	Resurfacing

BACKBONE	2019	NW	1020-03-76	ST. CROIX	094	HUDSON - BALDWIN	1.66	Bridge Replacement
BACKBONE	2019	NW	1020-03-77	ST. CROIX	094	HUDSON - BALDWIN	1.30	Bridge Replacement
BACKBONE	2019	NW	1020-03-78	ST. CROIX	094	HUDSON - BALDWIN	0.00	Bridge Replacement
BACKBONE	2019	NW	1020-03-79	ST. CROIX	094	HUDSON - BALDWIN	0.65	Bridge Replacement
BACKBONE	2019	NW	1021-03-74	EAU CLAIRE	094	EAU CLAIRE - OSSEO	0.11	Bridge Replacement
BACKBONE	2019	NW	1022-07-76	ST. CROIX	094	HUDSON - MENOMONIE	8.41	Pavement Replacement
BACKBONE	2019	NW	1050-11-80	CHIPPEWA	029	NW REGION VAR CTYS STATE HIGHWAY 29	2.89	Bridge Preservation
BACKBONE	2019	NW	1050-11-81	CLARK	029	NW REGION VAR CTYS STATE HIGHWAY 29	1.21	Bridge Preservation
BACKBONE	2019	NW	1190-02-64	EAU CLAIRE	053	EAU CLAIRE - CHIPPEWA FALLS	8.10	Bridge Preservation
BACKBONE	2019	NW	1198-00-72	DOUGLAS	053	SOLON SPRINGS - SUPERIOR	5.97	Resurfacing
BACKBONE	2019	SE	1030-43-70	MILWAUKEE	094	N-S FREEWAY CITY OF MILWAUKEE	3.57	Pavement Preservation
BACKBONE	2019	SE	1229-05-70	OZAUKEE	043	NORTH SOUTH FREEWAY	17.06	Pavement Preservation
BACKBONE	2019	SW	1111-03-72	DANE	151	SUN PRAIRIE - BEAVER DAM	15.96	Resurfacing
BACKBONE	2019	SW	1204-04-77	IOWA	151	PLATTEVILLE - MADISON	0.00	Pavement Replacement
BACKBONE	2019	SW	1206-04-79	DANE	012	C MADISON MADISON BELTLINE	1.92	Resurfacing
BACKBONE	2019	SW	1206-04-80	DANE	012	MADISON - CAMBRIDGE	6.21	Resurfacing
BACKBONE	2020	NC	1176-15-70	LINCOLN	051	WAUSAU - MERRILL	0.51	Pavement Replacement
BACKBONE	2020	NC	1510-02-72	WAUPACA	010	WAUPACA - APPLETON	0.02	Bridge Replacement
BACKBONE	2020	NC	6600-00-62	MARATHON	153	MOSINEE - ELDERON	0.19	Pavement Preservation
BACKBONE	2020	NE	1221-09-71	SHEBOYGAN	043	MILWAUKEE - GREEN BAY RD	7.47	Resurfacing
BACKBONE	2020	NW	1023-07-72	TREMPEALEAU	094	EAU CLAIRE - OSSEO	0.14	Bridge Replacement
BACKBONE	2020	NW	1190-11-82	NORTHWEST REGION WIDE	HWY	NW REGION CHIPPEWA COUNTY - USH 53	1.99	Bridge Preservation
BACKBONE	2020	NW	1190-11-83	NORTHWEST REGION WIDE	HWY	NW REGION EAU CLAIRE CO - USH 53	1.35	Bridge Preservation
BACKBONE	2020	NW	1190-11-84	DOUGLAS	053	BARRON DOUGLAS & WASHBURN COUNTIES	2.06	Bridge Preservation
BACKBONE	2020	NW	1196-00-63	DOUGLAS	053	MINONG - SOLON SPRINGS	5.31	Resurfacing
BACKBONE	2020	NW	1196-04-78	BARRON	053	NEW AUBURN - RICE LAKE	8.35	Resurfacing
BACKBONE	2020	NW	1196-05-77	BARRON	053	NEW AUBURN - RICE LAKE	7.95	Resurfacing
BACKBONE	2020	NW	1197-19-70	BARRON	053	RICE LAKE - SPOONER	0.50	Reconstruction
BACKBONE	2020	NW	1198-03-74	DOUGLAS	002	C SUPERIOR EAST SECOND STREET	2.47	Resurfacing
BACKBONE	2020	SE	1090-31-70	MILWAUKEE	043	AIRPORT FREEWAY	0.21	Bridge Rehabilitation
BACKBONE	2020	SE	1090-31-71	MILWAUKEE	041	AIRPORT FREEWAY	0.00	Bridge Replacement
BACKBONE	2020	SE	1100-35-70	MILWAUKEE	894	ZOO FREEWAY	2.53	Bridge Rehabilitation
BACKBONE	2020	SE	1100-41-70	WASHINGTON	041	MILWAUKEE - FOND DU LAC	20.92	Bridge Rehabilitation
BACKBONE	2020	SE	1228-28-70	MILWAUKEE	043	HILLSIDE INTERCHANGE	0.97	Bridge Rehabilitation
BACKBONE	2020	SE	1450-02-70	OZAUKEE	043	NORTH SOUTH FREEWAY	18.70	Bridge Rehabilitation
BACKBONE	2020	SW	1011-01-63	COLUMBIA	039	MADISON - PORTAGE	0.01	Bridge Preservation
BACKBONE	2020	SW	1016-03-61	JUNEAU	090	TOMAH - MAUSTON	0.08	Bridge Preservation
BACKBONE	2020	SW	1023-06-72	MONROE	094	BLACK RIVER FALLS - TOMAH	0.04	Bridge Rehabilitation
BACKBONE	2020	SW	1066-03-73	DANE	094	MADISON - LAKE MILLS	0.00	Bridge Replacement

BACKBONE	2020	SW	1066-06-72	JEFFERSON	094	LAKE MILLS - OCONOMOWOC	0.01	Bridge Replacement
BACKBONE	2020	SW	1067-02-72	JEFFERSON	094	MADISON - LAKE MILLS	0.02	Bridge Rehabilitation
BACKBONE	2020	SW	1067-02-74	JEFFERSON	094	LAKE MILLS - OCONOMOWOC	0.02	Bridge Replacement
BACKBONE	2020	SW	1067-02-75	JEFFERSON	094	LAKE MILLS - OCONOMOWOC	0.02	Bridge Rehabilitation
BACKBONE	2020	SW	1067-02-76	JEFFERSON	094	LAKE MILLS - OCONOMOWOC	0.01	Bridge Replacement
BACKBONE	2020	SW	1071-02-71	MONROE	090	SPARTA - TOMAH	0.01	Bridge Replacement
BACKBONE	2020	SW	1071-07-78	LA CROSSE	090	LA CROSSE - SPARTA	0.00	Bridge Preservation
BACKBONE	2020	SW	1077-02-70	MONROE	090	SPARTA - TOMAH	11.69	Resurfacing
BACKBONE	2020	SW	1077-02-73	MONROE	090	SPARTA - TOMAH	10.34	Resurfacing
BACKBONE	2020	SW	1204-05-72	IOWA	018	DODGEVILLE - MOUNT HOREB	13.69	Resurfacing
BACKBONE	2021-23	NC	1053-07-76	MARATHON	029	WAUSAU - WITTENBERG	4.86	Resurfacing
BACKBONE	2021-23	NC	1058-16-70	SHAWANO	029	WITTENBERG - SHAWANO	0.76	Resurfacing
BACKBONE	2021-23	NC	1160-00-78	WAUSHARA	039	PACKWAUKEE - PLAINFIELD	0.73	Pavement Replacement
BACKBONE	2021-23	NC	1166-00-79	PORTAGE	039	STEVENS POINT - WAUSAU	3.26	Resurfacing
BACKBONE	2021-23	NC	1166-12-78	PORTAGE	039	PLAINFIELD - STEVENS POINT	11.13	Resurfacing
BACKBONE	2021-23	NC	1170-01-76	MARATHON	051	WAUSAU - MERRILL	8.72	Resurfacing
BACKBONE	2021-23	NC	1176-02-79	LINCOLN	051	TOMAHAWK - MINOCQUA	9.02	Resurfacing
BACKBONE	2021-23	NC	1176-22-72	LINCOLN	051	WAUSAU - MERRILL	6.75	Resurfacing
BACKBONE	2021-23	NW	1020-00-73	ST. CROIX	094	BALDWIN - MENOMONIE	6.29	Resurfacing
BACKBONE	2021-23	NW	1020-02-83	ST. CROIX	094	HUDSON - BALDWIN	0.05	Bridge Rehabilitation
BACKBONE	2021-23	NW	1021-00-78	ST. CROIX	094	BALDWIN - MENOMONIE	0.05	Bridge Replacement
BACKBONE	2021-23	NW	1021-00-79	ST. CROIX	094	BALDWIN - MENOMONIE	0.05	Bridge Replacement
BACKBONE	2021-23	NW	1021-03-78	JACKSON	094	BLACK RIVER FALLS - TOMAH	0.05	Bridge Replacement
BACKBONE	2021-23	NW	1021-04-75	ST. CROIX	094	BALDWIN - MENOMONIE	0.05	Bridge Replacement
BACKBONE	2021-23	NW	1021-04-76	ST. CROIX	094	BALDWIN - MENOMONIE	0.05	Bridge Replacement
BACKBONE	2021-23	NW	1021-04-77	ST. CROIX	094	BALDWIN - MENOMONIE	0.12	Bridge Replacement
BACKBONE	2021-23	NW	1021-04-78	ST. CROIX	094	BALDWIN - MENOMONIE	0.04	Bridge Replacement
BACKBONE	2021-23	NW	1022-00-79	TREMPEALEAU	094	EAU CLAIRE - OSSEO	3.68	Pavement Replacement
BACKBONE	2021-23	NW	1022-08-74	EAU CLAIRE	094	MENOMONIE - EAU CLAIRE	5.84	Pavement Replacement
BACKBONE	2021-23	NW	1022-09-78	EAU CLAIRE	094	EAU CLAIRE - OSSEO	7.67	Pavement Replacement
BACKBONE	2021-23	NW	1050-01-81	CHIPPEWA	029	CHIPPEWA FALLS - CADOTT	0.05	Bridge Rehabilitation
BACKBONE	2021-23	NW	1050-01-82	CHIPPEWA	029	CHIPPEWA FALLS - CADOTT	0.00	Bridge Rehabilitation
BACKBONE	2021-23	NW	1196-04-77	BARRON	053	NEW AUBURN - RICE LAKE	16.63	Resurfacing
BACKBONE	2021-23	NW	1197-00-70	WASHBURN	053	SPOONER - MINONG	1.60	New Bridge

BACKBONE	2021-23	NW	1197-18-77	WASHBURN	053	NEW AUBURN - SPOONER	6.41	Pavement Replacement
BACKBONE	2021-23	NW	1197-18-78	WASHBURN	053	NEW AUBURN - SPOONER	6.47	Pavement Replacement
BACKBONE	2021-23	NW	1198-03-78	DOUGLAS	002	C SUPERIOR EAST SECOND STREET	2.30	Resurfacing
BACKBONE	2021-23	NW	1198-10-77	BARRON	053	RICE LAKE - SPOONER	7.83	Pavement Replacement
BACKBONE	2021-23	SE	1030-08-75	RACINE	041	NS FREEWAY	10.48	Bridge Rehabilitation
BACKBONE	2021-23	SE	1030-08-78	KENOSHA	041	NS FREEWAY	3.18	Bridge Rehabilitation
BACKBONE	2021-23	SE	1060-13-75	WAUKESHA	094	EW FREEWAY	2.04	Bridge Replacement
BACKBONE	2021-23	SE	1090-16-70	WALWORTH	043	ROCK FREEWAY	26.90	Pavement Replacement
BACKBONE	2021-23	SE	1090-36-70	WALWORTH	043	ROCK FREEWAY	0.05	Bridge Preservation
BACKBONE	2021-23	SE	1100-01-77	MILWAUKEE	045	ZOO FREEWAY	3.41	Bridge Rehabilitation
BACKBONE	2021-23	SE	1100-17-79	WASHINGTON	041	MILWAUKEE - FOND DU LAC	14.56	Bridge Rehabilitation
BACKBONE	2021-23	SE	1100-35-71	MILWAUKEE	894	ZOO FREEWAY	0.00	Bridge Rehabilitation
BACKBONE	2021-23	SE	1100-46-70	MILWAUKEE	043	AIRPORT FREEWAY	3.08	Bridge Replacement
BACKBONE	2021-23	SE	1228-22-70	MILWAUKEE	043	NORTH SOUTH FREEWAY	1.81	Bridge Rehabilitation
BACKBONE	2021-23	SE	1229-09-70	OZAUKEE	043	NS FREEWAY	10.00	Bridge Rehabilitation
BACKBONE	2021-23	SW	1010-01-77	DANE	039	MADISON - LAKE DELTON ROAD	0.01	Bridge Replacement
BACKBONE	2021-23	SW	1012-01-74	COLUMBIA	039	MADISON - PORTAGE	1.70	Reconstruction
BACKBONE	2021-23	SW	1016-05-70	JUNEAU	090	TOMAH - MAUSTON	2.26	Reconstruction
BACKBONE	2021-23	SW	1016-05-80	JUNEAU	090	TOMAH - MAUSTON	0.00	Reconstruction
BACKBONE	2021-23	SW	1017-01-71	MONROE	090	TOMAH - CAMP DOUGLAS EB	15.77	Resurfacing
BACKBONE	2021-23	SW	1067-04-71	JEFFERSON	094	MADISON - OCONOMOWOC	10.76	Resurfacing
BACKBONE	2021-23	SW	1074-00-71	MONROE	090	LA CROSSE - SPARTA	0.88	Resurfacing
BACKBONE	2021-23	SW	1077-02-74	MONROE	090	SPARTA - TOMAH	1.60	Pavement Replacement
BACKBONE	2021-23	SW	1112-06-73	DODGE	151	BEAVER DAM - FOND DU LAC	2.59	Reconstruction
BACKBONE	2021-23	SW	1204-08-70	DANE	018	MOUNT HOREB - MADISON	0.25	Pavement Replacement
MAJORS	2018	NE	1517-75-84	WINNEBAGO	010	USH 10 - USH 10/STH 441	5.63	Reconstruction
MAJORS	2018	SW	1003-10-76	ROCK	039	ILLINOIS STATE LINE - MADISON	1.71	Reconstruction
MAJORS	2018	SW	1003-10-81	ROCK	039	ILLINOIS STATE LINE - MADISON	4.30	Reconstruction
MAJORS	2018	SW	1003-10-84	ROCK	039	ILLINOIS STATE LINE - MADISON	1.19	Reconstruction
MAJORS	2018	SW	1005-10-76	ROCK	039	ILLINOIS STATE LINE - MADISON	2.82	Reconstruction
MAJORS	2018	SW	1005-10-81	ROCK	039	ILLINOIS STATE LINE - MADISON	4.37	Reconstruction
MAJORS	2018	SW	1007-11-71	DANE	039	ILLINOIS STATE LINE - MADISON	4.68	Reconstruction
MAJORS	2018	SW	1007-11-74	DANE	039	ILLINOIS STATE LINE - MADISON	7.01	Reconstruction
MAJORS	2018	SW	1007-11-76	DANE	039	ILLINOIS STATE LINE - MADISON	3.09	Reconstruction

MAJORS	2018	SW	1206-07-75	DANE	018	MOUNT HOREB - MADISON	1.19	Reconstruction
MAJORS	2018	SW	1674-01-72	SAUK	012	LAKE DELTON - SAUK CITY	2.01	Resurfacing
MAJORS	2018	SW	1674-01-73	SAUK	012	LAKE DELTON - SAUK CITY	2.02	Reconditioning
MAJORS	2018	SW	1674-01-74	SAUK	012	V WEST BARABOO PINE & LINN STREETS	0.00	Resurfacing
MAJORS	2019	NE	1440-13-76	SHEBOYGAN	023	FOND DU LAC - PLYMOUTH	7.43	Reconstruction
MAJORS	2019	NE	1440-13-77	SHEBOYGAN	023	FOND DU LAC-PLYMOUTH	7.51	New Bridge
MAJORS	2019	NE	1517-07-71	WINNEBAGO	010	USH 10 - USH 10/STH 441	0.59	Reconstruction
MAJORS	2019	NE	1517-75-73	WINNEBAGO	010	USH 10 - USH 10/STH 441	5.63	Reconstruction
MAJORS	2019	NE	1517-75-77	WINNEBAGO	010	USH 10 - USH 10/STH 441	5.21	Reconstruction
MAJORS	2019	NE	1517-75-79	WINNEBAGO	010	USH 10 - USH 10/STH 441	5.21	Reconstruction
MAJORS	2019	SW	1003-11-71	ROCK	039	ILLINOIS STATE LINE - MADISON	2.10	Reconstruction
MAJORS	2019	SW	1005-10-77	ROCK	039	ILLINOIS STATE LINE - MADISON	2.61	Reconstruction
MAJORS	2019	SW	1007-11-79	DANE	039	ILLINOIS STATE LINE - MADISON	4.68	Reconstruction
MAJORS	2019	SW	1007-11-80	DANE	039	ILLINOIS STATE LINE - MADISON	2.61	Reconstruction
MAJORS	2019	SW	1206-08-77	DANE	018	MOUNT HOREB - MADISON	1.23	Reconstruction
MAJORS	2020	NE	1440-13-72	SHEBOYGAN	023	FOND DU LAC - PLYMOUTH	7.42	Reconstruction
MAJORS	2020	NE	1440-15-72	FOND DU LAC	023	FOND DU LAC - PLYMOUTH	6.27	Reconstruction
MAJORS	2020	NE	1440-15-73	FOND DU LAC	023	FOND DU LAC - PLYMOUTH	6.27	Reconstruction
MAJORS	2020	SW	1003-10-79	ROCK	039	ILLINOIS STATE LINE - MADISON	4.41	Reconstruction
MAJORS	2020	SW	1005-10-78	ROCK	039	ILLINOIS STATE LINE - MADISON	5.84	Reconstruction
MAJORS	2021-23	NE	1146-75-71	OUTAGAMIE	015	STH 76-NEW LONDON	3.92	Reconstruction
MAJORS	2021-23	NE	1146-75-72	OUTAGAMIE	015	STH 76-NEW LONDON	3.36	Reconstruction
MAJORS	2021-23	NE	1146-75-73	OUTAGAMIE	015	STH 76-NEW LONDON	3.26	Reconstruction
MAJORS	2021-23	NE	1146-75-76	OUTAGAMIE	015	STH 76-NEW LONDON	3.92	Reconstruction
MAJORS	2021-23	NE	1146-75-77	OUTAGAMIE	015	STH 76-NEW LONDON	3.92	Reconstruction
MAJORS	2021-23	NE	1146-75-78	OUTAGAMIE	015	STH 76-NEW LONDON	3.92	Reconstruction
MAJORS	2021-23	NE	1440-15-71	FOND DU LAC	023	FOND DU LAC - PLYMOUTH	6.01	Reconstruction
MAJORS	2021-23	NE	1440-15-78	FOND DU LAC	023	FOND DU LAC - PLYMOUTH	16.81	Reconstruction
MAJORS	2021-23	SE	1310-10-70	KENOSHA	050	75TH ST C KENOSHA/V PLEASANT PRAIR	2.78	Reconstruction
MAJORS	2021-23	SE	1310-10-71	KENOSHA	050	75TH ST C KENOSHA/V PLEASANT PRAIR	1.79	Reconstruction
MAJORS	2021-23	SE	1310-10-73	KENOSHA	050	75TH ST C KENOSHA/V PLEASANT PRAIR	4.75	Reconstruction
MAJORS	2021-23	SW	1003-10-80	ROCK	039	ILLINOIS STATE LINE - MADISON	17.42	Reconstruction
MAJORS	2021-23	SW	1005-10-87	ROCK	039	ILLINOIS STATE LINE - MADISON	1.52	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1030-20-85	MILWAUKEE	094	N-S FREEWAY RYAN ROAD INTERCHANGE	2.58	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1030-24-70	RACINE	094	N-S FREEWAY STH 11 INTERCHANGE	1.23	Reconstruction

SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1030-24-74	RACINE	094	N-S FREEWAY STH 11 INTERCHANGE	1.04	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1030-24-77	RACINE	094	N-S FREEWAY CTH KR TO STH 11	1.24	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1030-24-78	RACINE	094	N-S FREEWAY CTH KR TO STH 11	1.08	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1033-02-77	RACINE	094	N-S FREEWAY STH 11 TO STH 20	0.86	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2018	SE	1033-02-78	RACINE	094	N-S FREEWAY STH 11 TO STH 20	1.14	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2020	SE	1030-20-87	MILWAUKEE	094	N-S FREEWAY	1.92	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2020	SE	1030-22-80	MILWAUKEE	094	N-S FREEWAY	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-11-72	RACINE	094	N-S FREEWAY CTH K INTERCHANGE	1.31	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-11-79	RACINE	094	N-S FREEWAY STH 20 TO CTH K	1.06	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-11-80	RACINE	094	N-S FREEWAY STH 20 TO CTH K	1.38	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-20-84	MILWAUKEE	094	N-S FREEWAY	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-23-72	KENOSHA	094	N-S FREEWAY CTH E INTERCHANGE	1.07	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-23-79	KENOSHA	094	N-S FREEWAY STH 142 - CTH E	1.70	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-24-71	RACINE	094	N-S FREEWAY STH 11 INTERCHANGE	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-24-72	RACINE	094	N-S FREEWAY STH 11 INTERCHANGE	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-24-79	RACINE	094	N-S FREEWAY CTH KR TO STH 11	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1030-25-79	RACINE	094	N-S FREEWAY CTH K TO CTH G	0.83	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1032-10-75	KENOSHA	SYS	N-S FREEWAY CTH ML TO STH 50	0.00	Resurfacing
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1033-02-71	RACINE	041	N-S FREEWAY STH 20 INTERCHANGE	2.25	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1033-02-79	RACINE	094	N-S FREEWAY STH 11 TO STH 20	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-01-72	RACINE	STR	N-S FREEWAY 7 MILE RD INTERCHANGE	0.00	Reconstruction

SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-01-74	RACINE	094	N-S FREEWAY 7 MILE RD INTERCHANGE	0.00	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-01-79	RACINE	094	N-S FREEWAY CTH G TO 7 MI RD	0.47	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-01-82	RACINE	094	N-S FREEWAY 7 MI RD TO MILW CO LN	0.48	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-01-83	RACINE	094	N-S FREEWAY 7 MI RD TO MILW CO LN	0.14	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-03-71	KENOSHA	094	N-S FREEWAY CTH KR INTERCHANGE	0.63	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-03-72	KENOSHA	094	N-S FREEWAY CTH KR INTERCHANGE	0.63	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	1035-03-79	KENOSHA	094	N-S FREEWAY CTH E TO CTH KR	2.53	Reconstruction
SE FREEWAY-I94 KEN/RAC/MIL	2021-23	SE	2265-10-71	MILWAUKEE	241	27TH STREET	0.48	Reconstruction

Appendix 9-2: Wisconsin's Highway/Interstate (Freight) Projects Programmed to Use NHFP Funds

Source: Wisconsin Department of Transportation, Bureau of State Highway Programs. Information is current as of February 14, 2018 and reflects projects for federal fiscal years 2018-2020.

Freight Project 5 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1007-11-71
- Proposed letting date January 2018
- Funding
    - NHFP Funds: $5,121,429
    - Other federal funds $0 to $5,000,000
    - State Bond Funds: $14,000,000 to $20,000,000
    - Total Funds: $20,000,000 to $25,000,000

Freight Project 6 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1007-11-76
- Proposed letting date January 2018
- Funding
    - NHFP Funds: $3,349,850
    - Other Federal Funds $0 to $4,000,000
    - State Bond Funds $8,000,000 to $12,000,000
    - Total Funds: $10,000,000 to $15,000,000

Freight Project 7 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1005-10-81
- Proposed letting date March 2018
- Funding
    - NHFP Funds: $5,048,124
    - Other Federal funds $0 to $5,000,000
    - State Bond Funds: $5,000,000 to $10,000,000
    - Other State Funds: $0 to $5,000,000
    - Total Funds: $10,000,000 to $15,000,000

Freight Project 8 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1003-10-79
- Proposed letting date June 2018
- Funding
    - NHFP Funds: $6,650,700
    - Other Federal Funds $0 to $3,000,000
    - State Funds: $5,000,000 to $8,000,000
    - Total Funds: $10,000,000 to $15,000,000

Freight Project 9 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1003-11-71
- Proposed letting date June 2018
- Funding
    - NHFP Funds: $8,224,350
    - Other Federal Funds $0 to $8,000,000
    - State Funds: $5,000,000 to $10,000,000
    - Total Funds: $15,000,000 to $20,000,000

Freight Project 10 – I-39/90 Illinois State Line – Madison Reconstruct Expansion

- Project ID 1005-10-77
- Proposed letting date December 2018
- Funding
    - NHFP Funds: $23,169,842
    - Other Federal funds $50,000,000 to $60,000,000
    - State Bond Funds: $15,000,000 to $20,000,000
    - Local Funds $0 to $50,000
    - Total Funds: $90,000,000 to $100,000,000

Freight Project 11 – Rock County Line – USH 12

- Project ID 1090-16-70
- Proposed letting date September 2020
- Funding
    - NHFP Funds: $23,628,510
    - Other Federal funds $15,000,000 to $20,000,000
    - State Funds: $10,000,000 to $15,000,000
    - Total Funds: $50,000,000 to $60,000,000

Summary Table

Federal Fiscal Year	NHFP Apportionment	Carryover NHFP Balance From Previous Federal Fiscal Year	Total Amount of NHFP Funding Available During the Federal Fiscal Year	Total Amount of NHFP Funds Programmed During the Federal Fiscal Year
FFY2018	$22,915,361	$2,916,911	$25,832,272	$28,394,453 - Freight Project 5: $5,121,429 - Freight Project 6: $3,349,850 - Freight Project 7: $5,048,124 - Freight Project 8: $6,650,700 - Freight Project 9: $8,224,350
FFY2019	$25,779,782	($2,562,181)*	$23,217,601	$23,169,842 - Freight Project 10: $23,169,842
FFY2020	$28,644,202	$47,759	$28,691,961	$23,628,510 - Freight Project 11: $23,628,510

** Negative carryover balance from FFY2018 into FFY2019 reflects utilization of Advance Construction. FFY2019 funds will not actually be spent until that fiscal year.*

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