

TRANSPORTATION IS THE HEART OF WISCONSIN'S ECONOMY



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INTRODUCTION

In the 1800's, rail and water transportation helped build our state from frontier and wilderness into a thriving economy. In the 1900's, air and highway transportation opened the door to new found freedom and accessibility for the movement of people and goods. In this century, Wisconsin needs all modes to provide the competitive edge it needs in a global economy.

Transportation is not just a vital necessity for the movement of goods and people – it is also a key indicator of our overall quality of life. An efficient, effective network of infrastructure and services provides the choices we desire to live, work and play as we choose.

Whether we are a commuter riding a bike to work in Madison ... or a family driving to a medical appointment in Marshfield ... or a farmer shipping grain from a railroad spur in Milton ... or a salesperson taking a plane from Milwaukee to anywhere in the world ... transportation plays a major role in our everyday lives.

As we seek to create a vision for our state's economic future, we must remember our history, and see that transportation is at the heart of Wisconsin's economy. This fact will not change, as transportation will remain as a driving factor for future economic growth in the state.

In considering transportation and the economy over the next 50 years, there are two key points to consider:

- First, the world of e-commerce and virtual networks will not replace the need for physical movement of people and goods. Instead, just the opposite is true: our changing economy is actually creating greater demands on transportation.
- Second, meeting the ever-increasing demands on transportation will require a variety of innovative solutions and investments to ensure that transportation works in harmony with our public values.

1. MOVING PEOPLE AND GOODS – THE DEMAND STILL GROWS

In an era of e-mail, fax machines, pagers, and satellite communications, the need to move people and goods from one physical location to another is still growing. Key to e-commerce is the development of new logistical sites and intermodal connections to accommodate the demands placed on the supply-chain distribution network. Consider how our e-commerce and our economic growth creates greater demand for transportation:

- Electronic retail shopping requires on-demand, just-in-time shipments from factory to warehouse, and from warehouse to consumer – and often the “warehouse” is actually the transportation vehicle itself.
- Worldwide communications requires a transportation system that can easily facilitate worldwide shipment of goods and international travel.

- Aggressive marketing of travel destinations creates regional, national and international demand for good tourist routes to – and within – Wisconsin.
- Our overall economic prosperity results in greater opportunities and options for people to travel, especially for recreation and tourism.
- Our state needs good transportation to help attract and retain all levels of workers to maintain a quality workforce amidst global competition.

Transportation serves a vital link in the economy

Transportation is a vital element to ensure the health and future growth of the statewide economy. Wisconsin's manufacturers and distributors ship large quantities of freight in trucks, trains, ships and planes. Millions of commuters use highways and transit systems to get to work each day. Tourists that spend nearly \$7.7 billion in Wisconsin arrive at train stations, airports and harbors, or drive to their destinations on quality highways.

Wisconsin's transportation system includes a variety of services and infrastructure that meet the needs of many different elements of our economy, and also foster competition among modes and services to the benefit our economy:

- Wisconsin has a **highway** network that includes 11,800 miles of the State Highway System, and over 100,000 miles of local streets and county roads. Combined, Wisconsin highways handled over 56 billion vehicle miles of travel in 1998 – enough to make 800 round trips from the earth to the planet Mars!
- There are 12 freight **railroads** operating over 4,500 miles of track in the state. In 1998, these railroads combined to move over 1 million carloads – totaling 94 million tons – of coal, grain, paper, ores, lumber and other freight. Amtrak intercity passenger rail service carried over 400,000 passengers to and from the state in 1998.
- Wisconsin's **airports** allow fast and reliable transportation to all points on the globe. The nine commercial service airports in Wisconsin enplaned almost 4.4 million passengers in 1998, and handled nearly 120,000 tons of high-value air cargo. The state's 720 public and private use airports handle general aviation and corporate air travel throughout Wisconsin. Overall, aviation generates over \$2.1 billion in economic activity in our state.
- **Ports** along the Great Lakes and Mississippi River handle about 50 million tons of freight with a value of more than \$7 billion. Typical cargo includes coal, concrete, farm products, and other heavy raw materials and finished products.
- Over 77 million passengers used **public transit** service in Wisconsin last year. The state has 68 public transit systems in communities of all sizes. Transit provides vital links for workers to access jobs, shopping, school, and other destinations.

Development and growth are centered on transportation

The manner in which businesses locate in our state displays the evidence of Wisconsin's link between transportation and the economy. Studies by the Wisconsin Department of Transportation (WisDOT) have consistently shown that new or expanding firms locate to take advantage of transportation services:

- Over 85 percent of all new or expanding manufacturers have located in close proximity to the Corridors 2020 highway network of core state highway routes in Wisconsin.
- Over 70 percent of new or expanding manufacturers located operations close to a public use airport capable of handling corporate jets.
- Wisconsin has provided almost \$47 million in Transportation Economic Assistance (TEA) grants to fund improvements for 209 businesses to build or expand in the state since 1987.

Despite the growth of e-commerce, development will still seek access to good transportation services in the future. A May 1999, survey by *Site Selection* magazine reveals that corporate site seekers require access to both skilled labor and to global markets, or to specific regions outside their home market. These factors clearly show the desire to locate near major transportation facilities.¹

Site Selection also notes that companies are increasingly considering multi-national locations, meaning that Wisconsin's transportation infrastructure must stand up to global standards to attract new or expanding firms. In southeast Wisconsin, for example, some companies seek commuter and passenger rail services to help recruit skilled workers from a wider geographic area, and especially to meet the needs of international recruits accustomed to rail transit services in other countries.

Transportation demand is on the rise

Transportation is the heart of Wisconsin's economy, but the link between the two provides some challenges for the future. In particular, it is very apparent that economic growth in Wisconsin creates exponentially higher demands on the transportation system. In other words, as the economy grows, the need for transportation will grow at an even greater rate.

As an economy prospers, people have more resources to spend on travel, goods, and services. Other factors come into play, such as the growth in two-income households, the growth in auto ownership per household, and the general increase in social activities for all members of households – the “soccer mom and dad” as prime examples.

Statistics reveal this concept. From 1990 to 1998, demand for almost all transportation services outpaced growth of both population and employment in Wisconsin. The only service that did not see overall growth in the decade – public transit – has seen six straight years of ridership growth from 1994-1999 after sharp declines early in the 1990's.

¹ Mark Arend, “Survey Reveals New Factors Behind Site Location Decisions,” *Site Selection* magazine, May, 1999, <<http://www.conway.com/sshighlights/0599/p384/>>.

Factor (in Wisconsin)²	Percent growth, 1990-98
Population	7%
Employment	19%
Highway travel (passenger)	25%
Highway travel (trucks)	40%
Rail freight (tons)	62%
Rail passengers	40%
Air passengers	26%
Public transit passengers	-1%

2. MULTI-FACETED NEEDS REQUIRE MULTI-MODAL SOLUTIONS

The challenge, then, is clear for Wisconsin: we need a quality transportation infrastructure to meet the growing demands created by our economic prosperity, and to provide the services necessary to sustain our future growth.

However, meeting the challenge will not be simple. There are a number of key factors to consider as Wisconsin maintains its existing transportation system, and creates and improves on that system to meet future needs:

- First, we cannot meet the challenge with any single solution. Wisconsin's economy relies on a variety of modal solutions to meet various freight and passenger travel needs, and will continue to need a multi-modal system.
- Second, the state faces financial challenges to provide adequate transportation infrastructure. We need strong partnerships between local, state and federal government, along with the private sector, to ensure adequate investment in transportation.
- Finally, Wisconsin will need to provide transportation options that meet economic demands, but also work in harmony with the quality of our natural and social environments that make our state a great place to live and work.

WisDOT is working to meet these challenges through initiatives that address the multi-faceted needs of the present and future economy with a variety of multi-modal solutions.

State highways are the backbone of the transportation system

With over 112,000 miles of state and local roadways, highways remain as the predominant form of travel in Wisconsin, whether for people or goods. However, the state has reached a critical juncture. Much of Wisconsin's state and local roadway facilities are reaching the end of their physical and functional lives, and cannot keep up with growing travel demand. The challenge is not whether to fix the system, but how to fix it responsibly and cost-effectively.

² Population data from Wisconsin Department of Administration; employment data from Wisconsin Department of Workforce Development; transportation data collected by Wisconsin Department of Transportation.

The State Highway System – 11,800 miles of state, US and Interstate highways – in particular faces critical needs. Although accounting for only 11 percent of the state’s roadway mileage, the system carries 60 percent of all traffic. The State Highway System handles the bulk of all freight and passenger services in the state, and connect Wisconsin to regional, national and international markets.

In February of 2000, WisDOT released the *Wisconsin State Highway Plan 2020* after months of research, analysis, and public review. This plan identified a number of needs for the State Highway System based on three areas of emphasis:

- Preservation – Since much of the system is old and deteriorating, Wisconsin must increase efforts to preserve the system by using tested techniques to ensure that roads and bridges continue to provide adequate service.
- Traffic movement – As traffic volumes continue to increase, the state must make greater efforts to meet drivers’ demands not only through capacity expansions where needed, but also through using technological solutions, managing access to roadways, and considering land use initiatives.
- Safety – Wisconsin needs to reduce crash rates and severity by improving roadway design, enhancing driver education, and targeting enforcement efforts.

The *Wisconsin State Highway Plan 2020* calls for a total of \$20.4 billion of investment in the State Highway System from now through the year 2020. Of this total, the plan designates about 65 percent for rehabilitation of existing facilities that include safety improvements. The remaining 35 percent is targeted for the highway expansion program (although about half of that program includes rehabilitation work).

State Highway Plan 2020 21-year Investment Levels	(billions of 1999 dollars)
Rehabilitation program	
Pavement / bridge preservation and safety	\$11.64
Minor capacity expansion	0.39
Rail grade crossings	0.16
Interchanges	0.73
Bicycle accommodations	0.06
Passing lanes	0.08
Urban amenities	0.15
Sub-total	\$13.21
Major capacity expansion program	
Additional lanes	\$3.77
Rehabilitation of existing lanes / bridges	3.35
Urban amenities	0.09
Sub-total	\$7.21
TOTAL INVESTMENT	\$20.42

WisDOT's plan also includes two key components – Intelligent Transportation Systems (ITS) and land use / access control – that in particular address the need for cost-effective solutions that work in harmony with community and environmental values.

- ITS solutions include freeway ramp metering, electronic signs to warn of congestion, quick identification and clearing of crashes or other incidents, and other initiatives. By using ITS solutions, Wisconsin can achieve great improvements in overall traffic flow without adding additional capacity to a highway.
- WisDOT understands that transportation is a key element in land use and development patterns, and that efficient and effective local land use strategies can reduce demands on the State Highway System and other transportation facilities.

Finally, as WisDOT maintains and improves the State Highway System, it does so with an emphasis on “context sensitive design.” This strategy provides for a fully functional highway facility, but with aesthetic and other features that help it blend better with its surrounding social and natural environments, and is reflected in part in the “urban amenities” investment levels for the State Highway Plan 2020.

Funding the State Highway Plan 2020 remains a challenge. While the plan calls for \$20.4 billion of investment, current revenue trends indicate only \$15.3 billion is available in the 20-year plan period. New funding options will be needed from the federal and state levels to meet plan commitments.

Funding is a particular challenge for the Southeast Wisconsin freeway system that is estimated to have \$5.4 billion of improvement needs through 2020. However, dependence on the southeast freeway system extends beyond the 2 million people living in the immediate geographic area. The freeways are a gateway to Wisconsin's manufacturing, tourism, and commercial markets in all of eastern Wisconsin.

Local roads form a symbiosis with state highways

In addition to the State Highway System, Wisconsin needs an efficient system of local roads to access all of the markets that contribute to our economy. Although falling under different jurisdictions, both state highways and local roads actually combine to form a complete, interdependent highway network.

Local roads and state highways have a symbiotic relationship: without each system playing its role, both systems will fail. While state highways provide arterials for long-distance and regional movements, local roads provide vital access into communities, factories, and workplaces that produce goods and services. A local road ought not handle thousands of trucks handling long-distance freight movements; neither should a rural Interstate freeway have multiple exit ramps every mile.

WisDOT administers fifteen programs to provide funding for local road and bridge projects to ensure the vitality of the entire highway network. Counties and municipalities currently receive about 40 percent of all state and federal roadway improvement dollars in Wisconsin.

In addition, WisDOT is partnering with local governments through the Local Roads and Streets Council. A key initiative for the council is the development of the Wisconsin Information System for Local Roads (WISLR). When completed, WISLR will provide a comprehensive database of conditions on all local roads in the state. This tool will be invaluable to identifying and prioritizing improvement needs on local roads.

Bicycle and pedestrian transportation play roles

Our state's highway infrastructure serves more than just automobiles and trucks. Bicyclists and pedestrians also use streets and roads. Bicycle and pedestrian traffic represent alternative transportation options, especially in urban areas, and especially for commuters or other travelers who do not own a car. Bicycle and pedestrian facilities can also help increase the attractiveness of areas or communities for tourists and visitors.

WisDOT recently completed a statewide bicycle plan that calls for two key goals: (1) to increase levels of bicycling throughout Wisconsin, doubling the number of trips made by bicycles by the year 2010; and (2) to reduce crashes involving bicyclists and motor vehicles by at least 10 percent by the year 2010. WisDOT is also undertaking a 20 year plan that will consider pedestrian needs and concerns throughout the state.

Midwest Regional Rail Initiative to create a world-class passenger rail system

Regional passenger rail service is an integral component of a multi-modal transportation system, especially for travel between urban areas.. WisDOT is developing the Midwest Regional Rail Initiative to create a 3,000 mile regional rail system in the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio and Wisconsin.

Midwest Regional Rail Initiative



Wisconsin Governor Tommy Thompson is a national leader in passenger rail, serving as chair of the Amtrak Board of Directors. The Governor's 25-member Blue Ribbon Task Force on Passenger Rail Services, recently gave unanimous approval to an interim report on intercity passenger rail, including an endorsement of the Midwest Regional Rail Initiative. In the report, the Task Force called for use of \$50 million in state bonding for Midwest Rail, a commitment reiterated by Governor Thompson in his 2000 State-of-the-State address.

Wisconsin is moving ahead to implement Midwest Rail. The state is conducting a preliminary engineering and environmental analysis on the Madison-Milwaukee segment, to determine specific infrastructure improvements needed for 110 MPH service to be operational by December of 2003.

Estimates indicate that Madison-Milwaukee will require \$119 million of infrastructure improvements, and \$65 million for new train equipment. Overall, the entire Midwest Rail initiative requires \$3.4 billion for infrastructure, and \$652 million for trains.

Wisconsin is not alone in implementing regional passenger rail systems. Nationally, there are 33 states that are part of federally designated high speed rail corridors, and several other states that are making significant planning and financial investments in regional passenger rail. Wisconsin has

organized a coalition called States for Passenger Rail, through which nineteen states are speaking with one voice to call for federal support of passenger rail.

Federal funding is an absolute necessity to implement Midwest Rail and other similar regional initiatives around the country. At the time of this paper, Congress is still considering passage of the High Speed Rail Investment Act to create a \$10 billion, 10-year bonding program that would provide an 80 percent federal share for passenger rail projects. This legislation has bi-partisan support, and eventual passage appears likely in either 2000 or 2001.

State Rail Plan to address passenger, freight and safety issues

WisDOT is also in the midst of developing a State Rail Plan with a 20-year focus on all passenger, freight and rail safety issues throughout the 4,500 mile state rail network, over 600 miles of which is owned by the public. The plan will define the rail system's role in the movement of people and goods within the context of Wisconsin's multi-modal transportation system. The plan will assess the rail system's current condition and determine a course for the future considering performance objectives, needed improvements, and funding alternatives.

In particular, the plan will focus on safety at the nearly 4,400 rail-highway grade crossings in Wisconsin. As our economy grows, and as both highway and rail traffic increase, the state must carefully determine improvements and actions necessary to ensure safety at rail crossings. Although Wisconsin's safety record at crossings is improving, train-vehicle crashes still represent a serious concern, especially since the severity of crashes is high.

The condition of Wisconsin's rail system is important to the economy. Contrary to being a dying industry, freight railroads are thriving in Wisconsin, and are carrying all types of cargo. Railroads also provide intermodal options of carrying truck containers on rail cars for long-haul routes, potentially relieving heavy truck demands on the highway system.

As with the State Highway System, Wisconsin's railroads reflect a varied, but interdependent, network of lines. Large Class I railroads operate main line routes with large amounts of through-traffic. Regional railroads carry a mix of national freight along with locally generated cargo. Short-line railroads provide vital links into smaller cities and rural areas.

Primarily in the 1970's and 1980's, Wisconsin preserved about 600 miles of abandoned rail corridor to insure adequate access to small-city and rural communities. In addition to providing funds for public ownership, WisDOT provide loans and grants to rehabilitate freight rail lines to provide more efficient and effective rail service.

Aviation improvements will ensure access to global markets

Whether it is by commercial or general aviation, access to aviation plays a key role in the conduct of day-to-day business throughout the state. Close proximity to airports increases opportunities for corporations and industries doing business in Wisconsin by permitting safe, efficient and cost-effective travel for business passengers and freight.

Demands are growing in immense proportions on Wisconsin's air system. For instance, since 1992, the total value of corporate turbine jets purchased in Wisconsin increased fourfold. This kind of growth shows the corporate sector's need for air transportation, but it also places demands on landing, taxiway and aircraft maintenance facilities throughout the state.

The Wisconsin State Airport System Plan 2020 provides a framework for the preservation and enhancement of a system of public-use airports to ensure the state's full participation in the global economy. Trends show that airport use will indeed reach new heights in the future:

- Commercial passenger travel from Wisconsin airports is forecast to increase 85 percent between 2000 and 2020.
- Commercial air cargo shipments are expected to increase by over 125 percent between 2000 and 2020 in Wisconsin.
- Total general aviation operations at Wisconsin airports will increase by 13 percent, according to forecasts.

In response to activity trends and infrastructure needs at airports, the State Airport System Plan outlines \$1.1 billion of investment from 1999 to 2020 for three key purposes:

- To upgrade substandard features of certain airports, including the widening of existing runways and taxiways to meet federal and state standards;
- To preserve the airport system, such as through replacement of existing pavements and lighting systems to meet federal and state standards; and
- To enhance the system through measures including construction of runway extensions and new runways to meet forecast increases in aviation demand.

Harbor improvements maintain a vital shipping service

WisDOT's Harbor Assistance Program funds improvements that provide significant benefits to businesses and communities that use Great Lakes or Mississippi River waterways. The state's ports are true multi-modal distribution centers, linking ships and barges with land-based systems of highways and railroads. Harbors will continue to be a vital component future economic growth as they link Wisconsin to regional, national and global destinations.

Since 1995, the Harbor Assistance Program has funded improvements that are estimated to generate \$250 million in cumulative transportation benefits by 2020. These benefits represent decreased production, transportation and handling costs for the businesses and commodities using the harbor facility.

Transit services fill travel and labor needs

By providing trips for over 77 million passengers last year, Wisconsin's 68 public transit systems provide a vital option for people who do not own, or choose not to use, a car. Transit service in Wisconsin varies widely, from large, fixed route bus systems in major urban areas, to smaller van and shared-ride taxi service in smaller towns and rural counties.

Transit services contribute greatly to the quality of life in Wisconsin. They provide options for travel in urban areas for those who prefer not to use a car. They provide vital services for those in urban or rural areas who do not own a car. Transit helps students, the elderly, persons with disabilities, and people of all economic means to maintain their mobility and enjoy personal freedom of travel.

Transit also serves the economy by bringing workers to jobs. With businesses of all types clamoring for skilled and unskilled labor, innovative transit options must meet commuting needs of both businesses and workers. To meet these needs, WisDOT works with the Department of Workforce Development in a cooperative effort called the Wisconsin Employment Transportation Assistance Program (WE-TAP).

Through WE-TAP, the two agencies combine funding from a variety of local, state and federal sources into a single, coordinated program and award process. This year, the WE-TAP program provided over \$6 million to 24 communities and organizations to provide lower income families additional access to jobs.

Transit in Wisconsin may also have a new face in the future as some regions are giving serious consideration to rail transit options:

- In Southeast Wisconsin, a consortium of counties and cities is examining the feasibility of commuter rail service from Kenosha to Milwaukee, along with other transit options.
- Milwaukee is studying options for a downtown circulator transit service that may include a fixed-route light rail system.
- In Dane County, public officials are also considering a variety of regional transit options that could include light rail or commuter rail service.

Governor Thompson's Blue Ribbon Task Force on Passenger Rail Service, in addition to reviewing intercity initiatives, will issue a report that addresses commuter rail transit by the end of the year. The Task Force is studying options for governance, operation, funding, and other aspects of proposed commuter rail service in Wisconsin.

TRANSPORTATION REMAINS AT THE HEARTBEAT OF THE ECONOMY

In conclusion, it is readily apparent that transportation services and infrastructure remain at the heartbeat of Wisconsin's economy. This fact has not diminished in the increasingly electronic world; quite the contrary, transportation is playing a greater role as Wisconsin competes in a global economy.

This is not to say that the transportation system of tomorrow will look or operate the same way that it has for the past century. As Wisconsin strives to meet the demands placed on its transportation systems, we will see new methods to address highway congestion, futuristic high speed rail service, a greater reliance on aviation, growth in rail and port usage, and innovations in transit services to meet labor needs and ensure mobility for all. Our challenges for the future are to provide adequate investment for transportation, and to provide services that protect the natural and social environments.

Transportation helped build Wisconsin into a state, and into a thriving economy with a high quality of life for all citizens. Transportation will continue to be a vital part of Wisconsin's future economic growth.

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