MICHIGAN DEPARTMENT OF TRANSPORTATION

State Long Range Plan 2000-2025

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

JOHN ENGLER
GOVERNOR

GREGORY J. ROSINE
DIRECTOR

August 23, 2002

Dear Citizens of Michigan:

On behalf of Governor Engler, I am pleased to present Michigan's "State Long Range Plan 2000 - 2025 - Mobility is Security It is the culmination of several years' work, dozens of public meetings held around the state, and many hours of dedicated staff time to bring you the best possible plan.

The multi - modal State Long Range Plan provides a framework for investment in Michi - gan's transportation system for the years 2000 to 2025. The investments you trust us to make must preserve the system, but make sure that it operates efficiently, effectively, and safely. When the system functions optimally, it provides the greatest mobility and econom - ic benefit for the residents and businesses of Michigan.

Well into the course of developing the State Long Range Plan, we were confronted with the tragic events of September 11, 2001. The security of our transportation system became an issue of national concern, and of particular importance to Michigan, with our high - vol - ume border crossings with Canada. Michigan residents recognize the importance of secure transportation to every aspect of their lives, and this plan is designed to preserve the high degree of mobility and security we currently enjoy.

By setting goals, investing wisely, monitoring system performance, and providing means for accountability and responsibility, we will be able to balance competing priorities and make the best use of our resources. I encourage you to see how we accomplish this by reviewing your State Long Range Plan.

Sincerely,

Gregory J. Rosine

Director

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Introduction

In a time when tech stocks are tumbling and the Dow is down, transportation is still a good investment. Michigan's transporta - tion system supports a gross state product of $308 billion annu - ally and 5.7 million workers. In a global economy, where saving even one percent can make the competitive difference, transpor - tation investment benefits industry and consumers. One of the impacts of the terrorist attacks of September 11, 2001, has been to heighten public awareness of the need to protect the security of our vital transportation infrastructure and the mobility it pro - vides, because it is so fundamental to our continued economic and personal well - being.

"In a global economy, where saving even one percent can make the competitive difference, transportation investment benefits industry and consumers."

Investment in the transportation system must not only preserve it, but make sure it operates efficiently, effectively, and safely. A balanced and robust transportation system enhances quality of life by providing access to a broader range of jobs, and more op - tions in housing, shopping, recreation and health care. It reduc - es the costs of production and distribution by allowing business better access to labor, raw materials, supplies and larger product markets. Everything – from our daily commute, to the food we eat, to the things we purchase, to the area in which we live – is affected by transportation.

Transportation will change in the decades to come, and there will be no single solution to the challenges we face in the next 25 years. Intelligent transportation systems, alternative fuel vehicles, high speed rail, and increased use of different travel modes will impact the way we use transportation, its funding, and the mobility it provides. Changes in telecommunications, e - mail and the Internet aleady provide access that was previ - ously only possible through transportation, resulting in trends like home - based work, e - commece, e - education, aid walkable communities. Demographic changes, such as an increasing older age population, will prompt greater emphasis on connections between modes and alternatives to the automobile.

Effective transportation requires a partnership that involves federal, state, regional, and local governments working together. Transportation providers at all levels will need to manage and operate the system effectively to reduce congestion, especially in urban areas. They will need to work with each other, and with the private sector, to identify future funding.

This Executive Summary describes the highlights of Michigan's State Long Range Plan: 2000 - 2025 The plan provides guidance for the development of transportation programs at all levels.

As a result of months of public involvement and staff analysis of trends and data, the following recommendations are presented as an effective approach for achieving the goals and objectives of the state long range plan.

Recommendations:

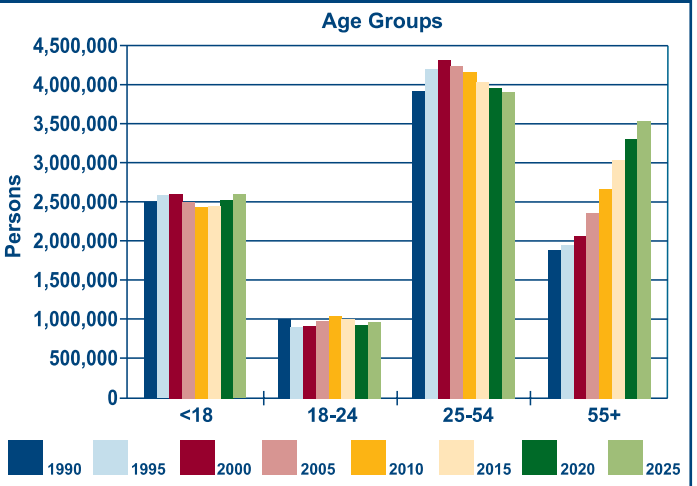
- ***Preserve our current mobility.***
- ***Modernize the transportation system.***
- ***Improve the management of our transportation assets at all levels.***
- ***Improve the safety and security of our transportation system.***
- ***Improve intermo - dal connectivity between modes of transportation.***
- ***Improve connectivity and continuity within modes of transportation.***
- ***Identify transportation revenues for the future.***
- ***Implement the State Long Range Plan throughout the MDOT Regions.***

Demographic and Economic Trends

An increasing older population means other modes and inter-modal connections will be more important. Retirees with more leisure time will be more flexible in their travel hours, choosing to avoid peak congestion times.

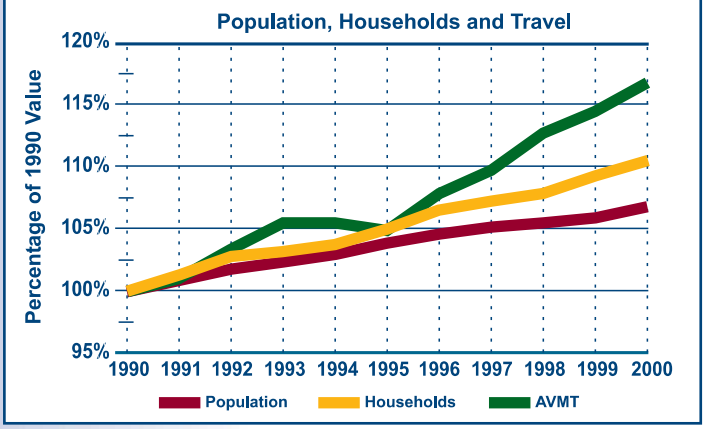
Understanding the relationship between demographics and travel allows us to assess many transportation issues that lie ahead. Increases in population, income, or employment translate into changing travel patterns for work, shopping and recreation, and for the delivery of goods and services.

STATEWIDE POPULATION 1990 - 2025



Source: US Census, MDOT - TDIS
Note: Population growth of those 55 and older will double between 1990 and 2025.

RELATIONSHIP IN GROWTH



Total travel grew faster than either population or the number of households between 1990-2000, increasing the demand on our highway system.

Population

Between 1990 and 2000, Michigan's population grew by 6.9 percent, from 9.3 million to 9.9 million. Be - tween 2000 and 2025, state population is expected to exceed 11 million, but work - ing age population is likely to decline slightly. School age population is expected to decline through 2010, then return to the 2000 level by 2025. The age group of those 55 and older is the fastest growing segment of the population, expected to increase by 70 percent be - tween 2000 and 2025.

Michigan's population is concentrated in the southern half of the lower peninsula, particularly in the greater Detroit area and its radiat - ing corridors. A second large population center is the Grand Rapids - Muskegon - Holland triad. Population between 2000 and 2025 will grow in the southern half of the lower peninsula and the western half of the northern lower peninsula as retirees continue to move to north. These trends will contribute to higher traffic volumes in corridors serving these areas.

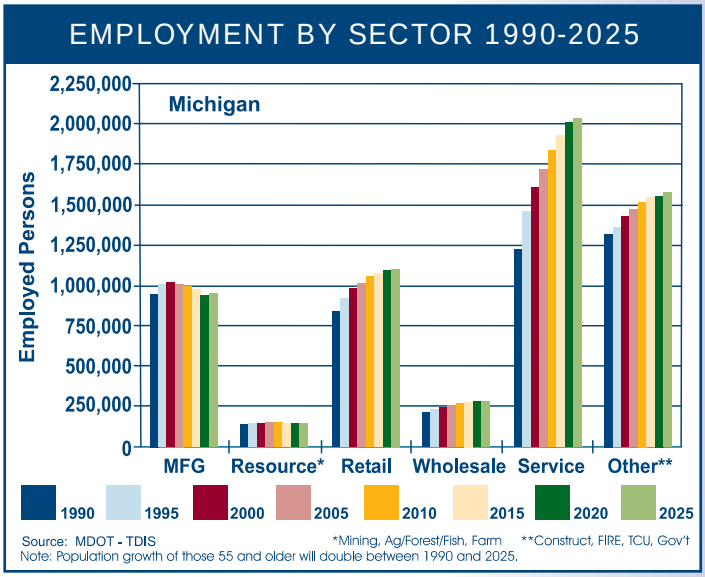
Largest Economic Sectors

Michigan's economy is more diversified than in the past, and better able to withstand national economic downturns. Still, the three largest industries in Michigan remain manufacturing, tour - ism and agriculture.

Manufacturing: Michigan leads the nation in automobile manufacturing, but we also manufacture non - electric machinery, furniture and appliances, cereal, baby food, chemicals, pharma - ceuticals, lumber and other products. Increased global competi - tiveness, the advent of just - in - time delivery, and the North American Free Trade Agreement (NAFTA) have increased manu - facturing's reliance on efficient transportation. Highway conges - tion and delays at border crossings have a more significant impact than ever before.

Tourism: Tourism contributes more than $10 billion per year to the state economy, making Michigan one of the largest travel states in the country. Once Michigan tourism was primarily a summer activity, but today our four season attractions combine to make tourism the state's second largest indus - try. Year - round travel raises transportation issues in major north - south highway cor- ridors, at airports, and near significant tourist attractions.

The greatest growth in jobs will be in the service indus- try, with some growth in re- tail and "other" employment sectors. Manufacturing, resources and wholesale trade will experience little or no growth.



Agriculture: Michigan ranks first nationally in the produc - tion of red tart cherries, dry beans, blueberries, pickling cucumbers, and potted Eas - ter lilies and geraniums; the state is also a major producer of a variety of field crops, fruits and vegetables, and milk. Frost laws, the laws that impose seasonal road and bridge load limits in some areas, impact the efficient movement of agriculturally related goods and services. If an area's all season road network is incomplete, a larger num - ber of shipments at a lower weight will be required, thus raising business costs in the agricultural sector.

Employment: Employment patterns indicate that the greater De - troit area and corridors radiating from there are the areas of high - est employment, and will continue to be in the future. The Grand Rapids - Muskegon - Holland triad also has a high concentration of employment. The highest volume of peak period work trips occurs in areas of high employment increasing highway congestion.

Michigan experienced tremendous employment growth in the 1990s. The state's economy has become diversified and better equipped to compete in the global economy. It is transporta - tion mobility – the ability of people to get to jobs – that supports Michigan's economy through good economic times and bad.

"It is transporta- tion mobility – the ability of people to get to jobs – that supports Michi- gan's economy through good economic times and bad."

Infrastructure Overview

MDOT's primary transportation asset is the state trunkline highway system. For that reason, considerable information is included here about trunkline highway and bridge condition and congestion. MDOT does not have direct jurisdiction over other parts of the system, but it can influence its partners through funding, regulation, and policy documents such as the State Long Range Plan 2000 - 2025. A description of other transportation assets is included on pages 6 and 7.

State Trunkline Highways: In 1998, the Michigan State Transportation Commission set condition goals for MDOT to achieve: a condition rating of "good" for 95 percent of freeway pavements and 85 percent of non - freeway pavements by 2007; and a condition rating of "good" for 95 percent of freeway bridges and 85 percent of non - freeway bridges by 2008. The state trunkline system is only eight percent of Michigan's road network, but it carries 54 percent of total statewide traffic. By 2025, travel on state trunkline highways is expected to grow 27 percent to 65.5 billion Annual Vehicle Miles Traveled (AVMT).

"Travel on the freeway system is expected to grow 24 percent by 2025, and travel under congested conditions is projected to increase by 46 percent."

Michigan's freeways, a subset of the state trunkline, carried 57 percent of trunkline travel in 2000, with 10 percent of freeway AVMT occurring under congested conditions. Travel on the freeway system is expected to grow 24 percent by 2025, and congested travel, like that shown below, is projected to increase 46 percent, to 7.3 billion AVMT.

ANNUAL VEHICLE MILES TRAVELED (AVMT) ON STATE TRUNKLINE SYSTEM

		2000			2025		
		In Billions	Percent of System	Percent of Total	In Billions	Percent of System	Percent of Total
Freeway System	Uncongested	24.3	83%	47%	29.3	80%	45%
	Congested	5.0	17%	10%	7.3	20%	11%
	Total	29.3	100%	57%	36.6	100%	56%
Non-Freeway System	Uncongested	20.5	92%	40%	24.9	86%	38%
	Congested	1.7	8%	3%	4.0	14%	6%
	Total	22.2	100%	43%	28.9	100%	44%
Total State Trunkline System	Uncongested	44.8	87%		54.3	83%	
	Congested	6.7	13%		11.2	17%	
	Total	51.5	100%		65.5	100%	

Notes: 2025 AVMT figures are calculated using growth rates from the Statewide Travel Demand Model. The rates are based on the change in number of trips assigned to each segment of the model using the trip tables and programmed projects in MDOT's 5 year Road & Bridge Program.

Congested conditions are defined as Level of Service F. These conditions represent a volume-to-capacity ratio greater than or equal to 1.

Border Crossings: The terrorist attacks of September 11, 2001, brought attention to the vulnerability of Michigan's critical bor - der infrastructure. The destruction or incapacitation of an inter - national bridge or tunnel would have an impact on our economy far greater than that which occurred when border facilities were temporar - ily shut down following September 11.

The Detroit - Windsor Tunnel, Ambas - sador Bridge, Blue Water Bridge, and International Bridge are part of, or closely connected to I - 94, I - 75, I - 96, and I - 69. Nearly 30 million vehicles, including more than 5 million trucks, travel these crossings annually. By 2025, auto crossings are expected to increase 44 percent, and truck cross - ings 60 percent.

Infrastructure improvements cannot eliminate border delays caused by many factors, but they can help. The Detroit border crossings are likely to reach capacity in 10 years and a new Detroit River crossing may be needed. The International Bridge, built 40 years ago, will require reinvestment to ensure its continued usefulness as an international border crossing.

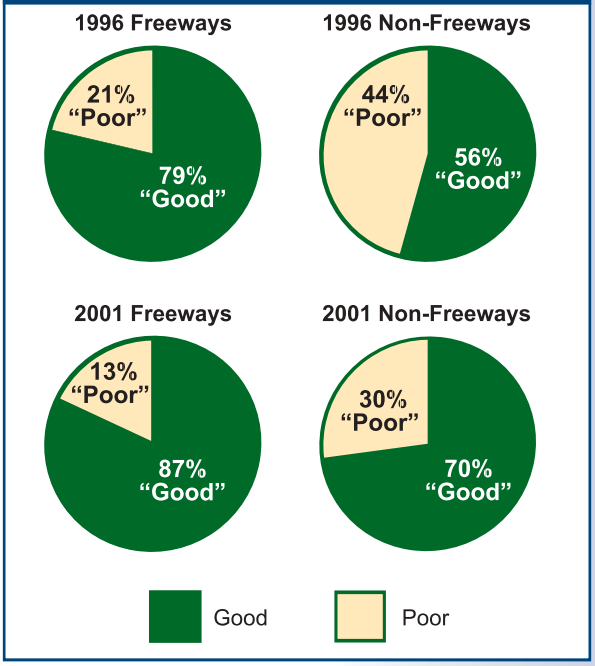
Bridges: Michigan's bridges form key links in the highway system, providing access to employment, schools, shop - ping and medical facilities, as well as facilitating commerce and access for emergency vehicles.

State trunkline freeway bridges, using 2000 data, 78 percent are in "good" condition and 22 are in "poor" condi - tion. For non - freeway bridges, the numbers are 82 percent "good" and 18 percent "poor." Overall, in 2000, 32 percent of the state - maintained bridges were in need of repair or re - placement, a significant improvement since 1995.

MDOT owns fewer bridges than Mich - igan's counties and municipalities, but their deck size is sig - nificantly greater. Bridge deck size is a key determinant in how much it costs to maintain, repair or replace that bridge.

MDOT's investment and programming decisions since 1996 have resulted in signifi- cant progress toward pave- ment condition goals.

PAVEMENT CONDITIONS



HIGHWAY BRIDGES

Owner	# of Highway Bridges	Sq Ft. (Mil- lions)	% of Total Sq. Ft.
MDOT Freeway	3,103	34.4	64%
MDOT Non-Freeway	1,169	6.5	12%
County & Municipal	6,255	13.0	24%
Total Highway	**10,527**	**53.9**	**100%**
Highway Bridges on Major MDOT Freeways			
I-75	545	8.2	15.2%
I-94	489	5.5	10.2%
I-96	349	3.4	6.3%
I-69	287	2.6	4.8%
Total: I-75, I-94, I-96, I-69 Freeways	**1,670**	**19.7**	**36.5%**

Source:
National Bridge Inventory

Summary of Transportation Assets

As noted previously, MDOT's primary transportation asset is the state trunkline system. MDOT does not have direct jurisdiction over other parts of the system, but it can influence its partners through funding, regulation, and with policy documents such as the state long range plan.

ASSET (descriptions cite 2000 data unless otherwise specified)	USAGE
State Trunkline Highways: 9,704 Miles • Of these, 1,891 miles are limited access freeway, 4,760 miles are on the National Highway System, and 9,022 miles are built to all season standards. **Includes:** • 4,575 State Highway Bridges, with a total deck area of 40.9 million square feet • 13 Welcome Centers, 83 Rest Areas, 82 Roadside Parks, and 24 Scenic Turnouts • 180 miles of Intelligent Transportation System (ITS) Infrastructure • 209 Carpool Parking Lots providing 8,000 Parking Spaces	State trunklines had an estimated 51.5 billion annual vehicle miles traveled (AVMT) in 2000, including 54% of total statewide travel Rest Areas and Welcome Centers have 42 million visitors annually Carpool lots served 2,400 vehicles daily in 2000; 2001 occupancy of nearly 3,000 vehicles daily
County Roads and City Streets: 110,225 Miles • Of these, approximately 7,000 miles are built to all season standards • Includes 6,560 County or City Bridges, with total deck area of 13 million sq. ft.	County Roads and City Streets had an estimated 46.3 billion AVMT in 2000.
129 Publicly-Owned and 106 Privately-Owned Public Use Airports • Includes 18 airports with scheduled air service, only 4 of those with regularly scheduled transit service conections	40.5 million passengers of scheduled air service (1999); 6,934 based aircraft (1998); 4.4 million aircraft operations (1998)
Non-motorized routes: 1,000 Non-motorized Rail-to-Trail miles, plus 1,900 miles of paved shoulders along State Trunklines and thousands of miles of bike lanes along other roadways	Detailed data not available. There are nearly 100 organized bicycle events in Michigan each year that attract up to 7,000 riders each. According to 2000 census data, as a state Michigan had the third highest increase in bicycle commuting between 1990 and 2000.
Intercity Bus: 3 Private Intercity Bus Companies offering regular-route service to 220 communities; five of these routes are state-supported; 197 Licensed Intercity/Charter Bus Companies	Ridership on 2 longest running state-supported routes rose 173% since 1990; total ridership on these routes was 76,722 passengers in 2000

ASSET (descriptions cite 2000 data unless otherwise specified)	USAGE
Intermodal Passenger Facilities: 131 Intermodal Passenger Facilities with regularly scheduled Intercity Bus Service. Eight have direct rail connections, and 22 have Amtrak Thruway bus service that feeds an Amtrak rail terminal	Data unavailable
Passenger Rail: 568 Route Miles along three corridors serving 22 communities; routes include the Pontiac-Detroit-Chicago with three trains each direction daily, the International, and the Pere Marquette, both with one train daily	In 1990, the three routes served 538,338 passengers; the total rose to nearly 600,000 in 1997. In 2000, rail served 487,181 passengers
Local Public Transportation: 74 Local Public Transportation Systems, including 5 using Intelligent Transportation System technologies; 134 Specialized Transportation Services, primarily for the elderly and persons with disabilities	Local public transit serves more than 89 million passengers annually; 83 million of these were in 15 urban areas
Marine Transportation: 20 Ferry Service Routes • Includes three international border crossings (one international ferry specializes in moving trucks that are oversize, overweight or carrying hazardous materials) • Includes three state-supported ferries for passengers and vehicles to Drummond, Neebish and Sugar Islands 40 Commercial Cargo Ports 48 Smaller Ports with Other Commercial Activities	Ridership on state-supported ferries has increased since 1990; the number of passengers is up 49% to 848,998; the number of vehicles is up 88% to 529,809, and the number of crossings is up 12% to 68,457 Commercial Cargo Ports handled some 96 million tons of cargo in 2000, just over the annual average of 93 million tons as calculated since the St. Lawrence Seaway opened in 1959
Rail Freight: 30 Railroads Operating on nearly 4,000 Route Miles of Track, including 520 Miles of Passenger Rail Route Usage and 965 state-owned route miles	Growth in domestic and international container trades has led to expansion of double-stack rail service, but overall tonnage has been fairly constant over the past 10 years

Congestion: Travel on Michigan's primary statewide corridors – interstate freeways I - 94, I - 75 and I - 96 – increased up to 55 percent from 1990. On these corridors, 35 percent of AVMT occurs under congested conditions today, and travel is expected to grow 14 percent in urban areas and 41 percent in rural areas by 2025. Along portions of the corridors, 30 to 40 percent of vehicles are commercial. In the future, growth of commercial traffic will continue to outpace growth in passenger traffic.

The congestion figures make it clear that action is, or will be, required along these primary corridors and others. A variety of ap - proaches will be needed to address future congestion, including additional lanes along urban segments or along the entire corridor.

To maintain mobility in the I - 94 corridor, MDOT will have to rehabilitate and modernize this freeway, and add capacity throughout its length – three lanes minimum in each direction and four in some urbanized areas. I - 75 must also be widened, to a minimum of four lanes in each direction in urbanized areas and three lanes in more rural areas, from the Michigan state line with Ohio to north of the Saginaw/Bay City urban area. Likewise, I - 96 must be modernized to accommodate future traffic, with three lanes outside urban areas and four lanes in urban areas. When it is reconstructed, I - 196 in the greater Grand Rapids area will need to be widened to at least three lanes in each direction. US - 131 from I- 94 to Traverse City, where congestion is anticipated in the future, will also need improvement.

" A variety of approaches will be needed to address future congestion, up to and including additional lanes along urban segments or along the entire corridor."

Several projects consistent with this focus were included in Gov - ernor Engler's Build Michigan III program. The projects were de - signed to meet economic development needs, reduce congestion and improve safety.

Design work for the following projects is underway. Construction will be included in MDOT's Five Year Road & Bridge Program as funding becomes available.

I-94 from I-96 to Connor, Wayne County

I - 94 in Detroit was identified as the free - way in greatest need of improvement in a planning study prepared by MDOT and the Southeast Michigan Council of Governments (SEMCOG). The facility is highly congested, deteriorating, and of an outmoded design. This segment is vital to international truck travel and truck mobility must be main - tained. The project may also include recon - struction of the freeway - to - freeway inter changes with M - 10 and I - 75.

I-75 from I-696 to M-59, Oakland County

A study identified the capacity needs of I - 75 in Oakland County and the associated local road and interchange improvements necessary to improve overall traffic operations in the corridor. This segment of I - 75 is highly congested during peak hours and will be in need of rehabilitation in the next few years.

US-23 from M-14 to I-96, Washtenaw County

This segment was selected based on a freeway study completed for the Ann Arbor area which ranked it as the area's number one segment in need of improvement. The study examined freeway needs in the Ann Arbor area based on capacity, condi - tion and safety. During peak hours, the freeway is highly congested from M - 14 north to the Six Mile Road interchange.

US-31 from I-196 to I-96 (Holland to Grand Haven)

Increasing traffic, including heavy recreational and commercial volumes, has created a growing trend of traffic backups and crashes on this corridor, particularly at intersections. Anticipated growth will make this problem worse in the future. In addition, only one crossing of the Grand River exists in the area – a drawbridge in Grand Haven. High traffic volumes and bridge openings during tourist season tie up traffic. A round - trip detour of nearly 90 miles is the only option if the bridge fails to operate properly. This project would provide system continuity on US - 31 by providing an uninterrupted limited access facility from I - 94 to I - 96 and accommodate increasing traffic volumes with a route that provides an acceptable level of service and improves safety.

I-94 from US-131 to Sprinkle Road, Kalamazoo County

This project was identified in the Kalamazoo Area Freeway Study as the segment in the area most in need of improvement based on condition and capacity. It has several bridges in poor condition, and much of it is congested during peak hours. Pavement condi - tion indicates the roadway will need to be rebuilt before 2008.

Highlights of Transportation Issues

- The dominant demographic trend over the next 20 years is that over - 55 age group will be the fastest growing segment of the population. This means intermodal connections and alternative modes will become more important.
- Service employment is rising, but manufacturing will continue to be one of Michigan's largest economic sectors. Just - in - time delivery and international trade have increased reliance on efficient transportation. Congestion in trade corridors and border crossing delays impede that efficiency.
- Agriculture remains a significant economic sector and the cru - cial transportation issue here is a connected and continuous network of all season roads and bridges that are open and can accommodate appropriate weights.
- Maintaining a balance between investment to preserve our existing transportation system, and investment to expand the system to better meet customer needs requires system - wide data analysis, planning and performance measurement at all levels of government.
- Significant highway corridors and urban freeways will see increasing levels of congestion. High costs and right - of- way issues will limit the ability to expand highways significantly. Maximizing system efficiency through use of Intelligent Trans - portation Systems (ITS), will help limit congestion.
- Many small private airports face strong development pres - sure; if closed and converted to an alternate use, nearby airports will be even more crowded. It is also important to develop and maintain airport infrastructure so that these operate safely and provide ad - equate service.

- Since September 11, security at border cross - ings and airports is a primary concern.
- Seamless public transportation, with passenger terminals serving more than one mode and well - timed connections to intercity bus and passenger rail service, will become more important as the age distribution of the population shifts.

- MDOT supports higher - speed passenger rail, but Amtrak faces a Congressional mandate for self - sufficiency by the end of 2002.
- Transit service can be provided more efficiently by having a single, consolidated transit system serving social service agency clients, school districts, and universities.
- Coordination of local transit services with intercity passenger services can minimize transfer times at intercity terminals. This will become more important with improvements to intercity rail passenger service in the Detroit - Chicago Corridor and the expected increase in Michigan's senior population.

" Increased intermodal traffic is expected, making good intermodal connections more important for both passengers and freight."

- Growth in domestic and in - ternational trade led to the expansion of double - stack rail service and dedicated container trains. Increased intermodal traffic is expect - ed, making good intermodal connections, like the Detroit Intermodal Freight Termi - nal or the new Grehound terminal in Detroit, more important.

- Nearly half of Michigan's waterborne commerce is either generated or used dockside. The remaining cargo is transferred to or from trucks or trains. Nearly all ports accom - modate transfers of cargo between marine vessels and trucks, but the condition of local streets connecting these ports with highways is often sub - standard.

Transportation Goals

"The goals of the state long range plan provide direction for all transportation programs using federal funds."

The goals of the state long range plan provide direction for all transportation programs using federal funds. They were developed with the help of a Customers and Providers Advisory Committee, working with MDOT staff to review and reassess the goals of the previous state long range plan. Changes were developed in a cooperative manner and represent the consensus of the group. The most notable change is the addition of Safety as a seperate goal. Previously safety had been incorporated as an inherent aspect of other goals.

Preservation

Within the constraints of state and federal law, direct investment in existing transportation systems to effectively provide safety, mobility, access, and intermodal connectivity; support economic activity and the viability of older communities; and ensure that the facilities and services continue to fulfill their intended functions.

Safety

Promote the safety and security of the transportation system for users and passengers, pedestrians and motorized and non-motorized vehicles.

Basic Mobility

Work with the general public, public agencies and private sector organizations to ensure basic mobility for all Michigan citizens by (at a minimum) providing safe, effective, efficient and economical access to employment, educational opportunities and essential services.

Strengthening the State's Economy

Provide transportation infrastructure and services that strengthen the economy and competitive position of Michigan and its regions for the 21st Century.

Transportation Services Coordination

Create incentives for coordination between public officials, private interests and transportation agencies to improve safety, enhance or consolidate services, strengthen intermodal connectivity, and maximize the effectiveness of investment for all modes by encouraging regional solutions to regional transportation problems.

Intermodalism

Improve intermodal connections to provide “seamless” transportation for both people and products to and throughout Michigan.

Environment & Aesthetics

Provide transportation systems that are environmentally responsible and aesthetically pleasing.

Land Use Coordination

Coordinate local land use planning, transportation planning and development to maximize the use of the existing infrastructure, increase the effectiveness of investment, and retain or enhance the vitality of the local community.

MDOT is committed to achieving the aims represented by these goals. While some are readily achieved by MDOT acting in its own areas of responsibility, others require the action and cooperation of other agencies.

Transportation Strategies

MDOT has identified three major strategies that are essential to attaining the long range goals for the state system of freeways, highways, and bridges:

Asset Management

Continue implementation of an asset management process which guides reinvestment in our aging highway system to ensure that funds are spent in the most cost - effective, efficient manner possible to preserve those valuable assets. The aim of asset management is to maintain the initial investment in an asset by setting performance standards, monitoring facility condition and performance, and applying specific treatments at critical points to sustain the facility's life or extend it. MDOT's current goal is to have 95% of freeway pavement in good condi - tion by 2007 and 95% of freeway bridges by 2008, as well as 85% of non - freeway pavement in good condition by 2007 and non - freeway bridges in 2008.

"Deficiencies located in the corridors of highest significance and other NHS routes will be the Department's priority for capacity projects."

Corridors of Highest Significance

Focus investment on the corridors of highest significance. These corridors provide higher levels of support to the state and na - tional economy, and to the movement of goods, services and people. The importance of these corridors requires that we rebuild and modernize them, and ensure the highest level of safety and security within them.

The corridors depicted here show where the most critical move - ment of goods and people occur, whether by air, rail or high - ways. MDOT identified the corridors based on threshold values for a variety of multi - modal criteria. These corridors:

- Carry the highest volumes of people and goods
- Connect to centers of commerce, major manufacturing sites and tourist regions,
- Include Michigan's international trade corridors,
- Have the highest level of scheduled air service, intercity bus service, intercity passenger rail, and local public transporta - tion,
- Have major intermodal transfer facilities located and multiple modes operating on them
- Move high volumes of freight traffic.

Congestion Management

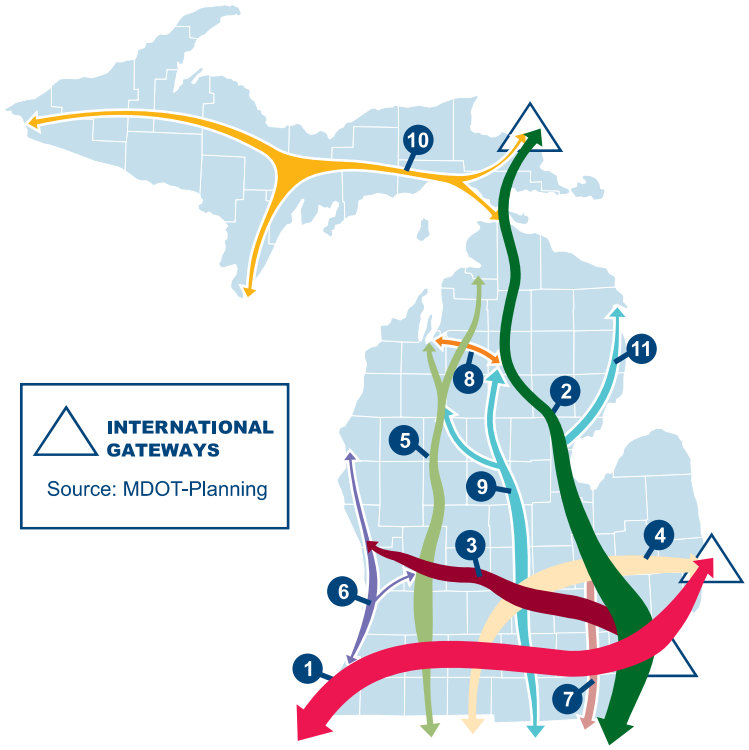
MDOT compares the overall operation, safety and condition of the roadways with forecasted future travel patterns, population and development trends and uses that information, along with public input, to identify roadway deficiencies. Deficiencies locat - ed in the corridors of highest significance and other NHS routes

will be the department's priority for capacity projects. Corridor and freeway studies are conducted to determine the severity and extent of capacity deficiencies, develop potential alternatives and coordinate connectivity, intermodal and capacity improve - ments with pavement and structure rehabilitation. Where study has identified the need for increased highway capacity, MDOT will incorporate bridge widening or lengthening as part of bridge projects in the corridor, as described in the bridge strate - gies later in this document.

MDOT's strategy for congestion management has many facets. It includes developing an inventory of the corridor's strengths and deficiencies, building a sense of common interest along the corridor, creating a forum that fosters economic development op - portunities, pursuing physical transportation improvements and enhancements, and facilitating international trade.

Any state trunkline project in a metropolitan area must be iden - tified in the Metropolitan Planning Organization (MPO) long range plan. MDOT works closely with MPO officials to coopera - tively identify priority trunkline projects in these areas.

CORRIDORS OF HIGHEST SIGNIFICANCE



1. *I-94*
2. *I-75*
3. *I-96*
4. *I-69*
5. *US-131*
6. *I-196/US-31*
7. *US-23* *(Ohio to I-75)*
8. *M-72* *(I-75 to Traverse City)*
9. *US-127*
10. *US-2/US-41*
11. *US-23* *(I-75 to Alpena)*

Other Strategies

"MDOT is committed to improving highway and rail border crossings and their related trade corridors."

Excerpts of MDOT strategies for future investment are included for information purposes. For a complete understanding of the strategies, please read them in their entirety in the full - length edition of Michigan's State Long Range Plan: 2000 -2025.

Strategy for Repairing and Rebuilding Roads. MDOT will continue to work toward achieving the overall statewide goal of having 95 percent of freeway pavements and 85 percent of non - freeway pavements in good condition by 2007.

Bridge Preservation Strategy. MDOT will address all bridges deemed to be of highest priority based on condition and will improve the bridge network so that 95 percent of freeway bridges and 85 per - cent of non - freeway bridges are in good condition by 2008.

Trucks. New design standards will be used to address problems that result from changing truck volumes, sizes and weights.

Winter Maintenance Strategy. MDOT will continue to explore new ways to reduce the impact of winter weather on trunklines.

Bridge Widening or Lengthening Strategy. MDOT will widen or lengthen bridges as part of bridge repair projects, where fea - sible. This strategy does not include widening bridges on local roads over trunklines or lengthening trunkline bridges over local routes as these are the responsibility of local road agencies.

Five -Year Border Crossing & Trade Corridor Strategy. MDOT is committed to improving highway and rail border crossings and their related trade corridors through 1) investment in inter - national border crossing infrastructure; 2) enhanced coordina - tion with federal, state, provincial, regional, and local partners, and 3) advocacy for federal policies that address border and cor - ridor infrastructure needs and improve the movement of people and goods across the United States - Canada border.

Border Security. MDOT is developing a comprehensive ap - proach to the safety and security of the state's border infra - structure. Protecting these facilities while ensuring the efficient movement of people and goods between the U.S. and Canada is critical to the economic health of the state and the nation.

New Border Crossing Strategy. MDOT will work with its Ca - nadian partners to plan for a new border crossing to be imple - mented when current facilities can no longer efficiently meet the growth in international trade and travel.

Corridor Safety. MDOT will continue to integrate safety into the investment process, looking for opportunities to implement safe - ty projects as part of corridor maintenance and rehabilitation.

Corridor Management. MDOT will strive to coordinate con - struction of planned projects by combining road repair, bridge work, safety projects, roadside improvements, and capacity improvements in order to accomplish a total transportation im - provement while minimizing motorist inconvenience.

Freeway Modernization. MDOT has a continuing commitment to apply up - to- date design standards and new technology when rebuilding freeway facilities or when designing new facilities.

Access Management. MDOT's future Five Year Plan corridor im - provement projects will require local adoption and implementa - tion of an access management plan using local land use controls to manage access to land development while simultaneously preserving the flow of traffic on the surrounding road system.

Interchange Strategy. MDOT may choose to widen or con - struct an interchange in response to increasing traffic volumes on a statewide priority basis. These projects require local coor - dination and a concurrent local commitment to widen the local road as necessary. Interchange improvements prompted by locally approved development are the financial responsibility of local authorities and require coordination with MDOT.

" MDOT is developing a comprehensive approach to the safety and security of the state's border infrastructure."

Intelligent Transportation Systems (ITS) Strategy. MDOT will use ITS technologies to address congestion and safety issues where appropriate.

Truck - Related Highway Strategies. MDOT will implement improvements to reduce congestion, eliminate choke points, and modernize the highway sys - tem to improve conditions for trucks.

New Technologies for Truck Moni - toring. MDOT will use new technology such as weigh - in - motion, the Commercial Vehicle Information System Network (CVISN) and video monitoring of freeways for incidents to improve the free flow of trucks and improve safety.

Trunkline Safety Strategy. In the interest of safety and efficient highway operation, MDOT is committed to proactively maximiz - ing the safety of all projects from conventional rehabilitation to major reconstruction

Highway/Railroad Grade Crossing Hazard Elimination. MDOT is committed to improving safety at highway/railroad grade crossings in an effective and cost - efficient manner.

Roadside Facilities Strategy. Roadside facilities such as rest areas and roadside parks will be maintained with a goal of keeping them safe, clean, barrier free, and accessible, with appropriate infrastructure and landscaping.

Car Pool Parking Lot Strategy. MDOT will continue to pro - mote and facilitate ridesharing to conserve energy and reduce highway congestion. Carpool parking lot improvements will be coordinated with road and bridge projects, particularly in areas where congestion impacts the level of service.

Environmental Strategy. MDOT is committed to working with the public and other agencies to ensure the selection and imple - mentation of transportation projects does not adversely affect the environment, in compliance with the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, and Michigan statutes and rules.

"Given the interaction between transportation decisions and land use, consistency in these decision-making processes is vital."

Land Use Strategy. Given the interaction between transporta - tion decisions and land use, consistency in these decision - mak - ing processes is vital. MDOT has been effective in reviewing site plans with developing areas to ensure adequate setbacks, limit curb cuts, and minimize future right - of - way costs, and is working to building stronger partnerships with local governments and their zoning agencies.

Customer Service Strategy. MDOT will continue to undertake construction projects in a manner which minimizes disruption of traffic flow, through incentive contracts promoting early construction completion, nightwork to avoid rush hour traffic in metropolitan areas, non - weekend work to keep traffic moving on weekends for recreational travelers, signing to alert motorists regarding lane closures, and public information services through a variety of means including the MDOT website.

Private Sector Partner Strategy. MDOT is committed to effec - tively and equitably involving the private sector in its effort to preserve, improve, and expand Michigan's transportation system by issuing bids early in the year, evening out the construction program among eligible contractors, and being open to coopera - tive efforts with private entities.

Rural Elected Officials Involvement in Programming Transportation Improvements Strategy. MDOT is committed to strategically involving rural elected officials in transportation planning and programming.

Environmental Justice Strategy. MDOT is committed to achieving environmental justice by identifying and addressing disproportionately high and adverse effects, including the inter - related social and economic effects of its programs, policies and activities on minority and low - income populations.

Passenger Aviation Strategy. MDOT is committed to the ap - propriate development of public use airports that best respond to the system goals identified in the Michigan Airport System Plan. Airports contributing to these critical aviation needs will be given primary consideration in the allocation of funds.

Freight Aviation Strategy. MDOT will continue to assist local communities to ensure that appropriate airports, as identified in the Michigan Airport System Plan, have adequate airside facili - ties to accommodate aircraft used to ship mail, package express, and air cargo.

Non - motorized strategy.MDOT recognizes that non - motor- ized facilities are an important part of a balanced transportation system. Existing MDOT organization, funding and business pro - cesses will be used to provide assistance to communities in plan - ning and implementing non - motorized facilities and systems.

Non - Motorized Pilot Project.In 2001, a pilot project was completed by MDOT's Southwest Region, resulting in a plan that provides the tools to identify and prioritize non - motorized proj - ects and include them as part of initial project scoping and pro - gramming for highway projects in the Five Year Road & Bridge Program. The pilot project will be extended to the other MDOT Regions, and future non - motorized candidate projects will need to be identified through such a non - motorized plan.

Intercity Passenger Bus Strategy. Intercity bus carriers will be given equal opportunity to provide intercounty and regional bus service. Emphasis will be to integrate intercity bus services with passenger rail service**.** State investments will be primarily capital items such as intercity coaches and station improve- ments, especially stations serving more than one mode.

" MDOT does not have jurisdiction over other parts of the system, but it can influ- ence its partners through fund- ing, regulation, and policy docu- ments such as the state long range plan."

Higher Speed Rail Development Strategy. MDOT will work to incrementally develop higher speed rail service along the Detroit - Chicago Rail Corridor and its branch lines, through incremental train control technology and by working with local communities to improve passenger rail service, develop intermodal passenger stations, and close or separate grade crossings.

Intermodal Terminal Development. MDOT will continue its commitment to develop and enhance intermodal passenger terminals in an effort to provide cost effective services and promote economic development.

Regional Rail Strategy. MDOT will support and encourage the periodic local assessment of potential for regional rail in Michi - gan's largest metropolitan areas.

Local Public Transportation Strategy. Local public transportation will continue to focus on preserving and improving transit to jobs, education and medical care, within the context of Federal Transit Administration planning emphasis areas, metropolitan planning factors and MDOT statewide transit goals as articulated in the Michigan Transit Strategic Plan.

Rideshare Strategies. A variety of strat - egies will encourage ridesharing, includ - ing a statewide marketing effort; recruitment by local rideshar - ing offices; promotion of the Commuter Choice program; and increased use of carpool parking lots.

Ferry Service Strategy. MDOT encourages private ownership and operation of ferry services to Michigan's inhabited islands. Limited state assistance may be provided to meet state mobility objectives when ridership cannot support service. MDOT will apply for and use dedicated federal funds for construction of new ferries when appropriate and available.

Commercial Port Strategy. MDOT will work with the federal government, local agencies, and industry to ensure that mainte - nance of public navigation channels will continue. Improvement projects will be undertaken when economically justified and funded by the appropriate federal and local agencies.

Intermodal Freight Terminal Strategy. MDOT will continue to support the development and enhancement of intermodal freight terminals serving rail, marine or air freight, in an effort to provide cost effective services and promote economic development.

Rail Freight Economic Development. MDOT is committed to assisting businesses and industries requiring rail freight service to locate and expand in Michigan by providing financial assis - tance for rail infrastructure improvements.

Divestiture of State-Owned Lines. MDOT will return state - owned rail lines to the private sector using a structured bidding process, consistent with State Transportation Commission policy and the provisions of Public Act 235 of 1998.

Performance Monitoring

More detailed information about performance monitoring is provided in the full - length edition of Michigan's State Long Range Plan: 2000 -2025.

Based on performance trends, transportation decision - makers can adjust strategies, project selection or level of investment to better meet state long range plan goals. MDOT uses indicators to monitor progress, and relies on its federal, local and private - sector partners to monitor changes it cannot directly control. A sample the indicators are included here:

"MDOT relies on its federal, local and private sector partners to monitor changes it cannot directly control."

Adequate Primary Runway System. MDOT maintains data on primary runway length, width, surface, lighting, and other factors.

Airports with All Weather Access. Indicates progress toward achieving all - weather accessibility for appropriate airports.

Bridge condition. Each bridge is evaluated every two years through the bridge inspection process and the National Bridge Inventory.

Bus Fleet Condition. Condition of the bus fleet is assessed based on mileage and age.

Bus Replacement. Fleet age reflects physical and functional bus condition, and also indicates comfort, convenience and bus reliability.

Crash Rates and Trends. MDOT keeps crash rate data to monitor system safety.

Customer Satisfaction Survey. Provides feedback from customers as to how well MDOT is addressing their expectations for the transportation system.

Intermodal Facilities with NHS connections. Seamless connections between modes and the National Highway System (NHS) can help increase productivity and bolster the economy. The number of key intermodal facilities with direct connections to the NHS is measured.

Level of Service. Level of service (LOS) measures how easily a trip is made, based on speed, travel time, delay, and other factors.

Passenger Terminals served by two or more modes. Depending on the mode, measures are set to achieve the appropriate level highway and intermodal access for air, bus, and rail passenger facilities.

Pavement Condition. Evaluates road condition based on 1) ride smoothness; 2) "cracking" which indicates deterioration of the road base; and 3) "rutting" in heavily used pavement.

Percent of Population Served by Transit. Measuring transit use per capita helps identify how well transit relates to daily travel patterns and helps measure mobility and accessibility.

Runway Pavement Condition. MDOT conducts routine field inspection at airports and reports pavement condition using methods developed by the US Air Force.

Seasonal Load Restrictions. The percent of state roads still re - quiring Spring weight restrictions is an indicator of the system's ability to carry commercial traffic.

Investing to Meet Our Goals

For a complete discussion of how Michigan's transportation systems are currently funded, please read Michigan's State Long Range Plan: 2000 -2025.

Michigan transportation agencies must respond effectively to a constantly changing world. To do that will require changes in the way we currently finance our transportation systems.

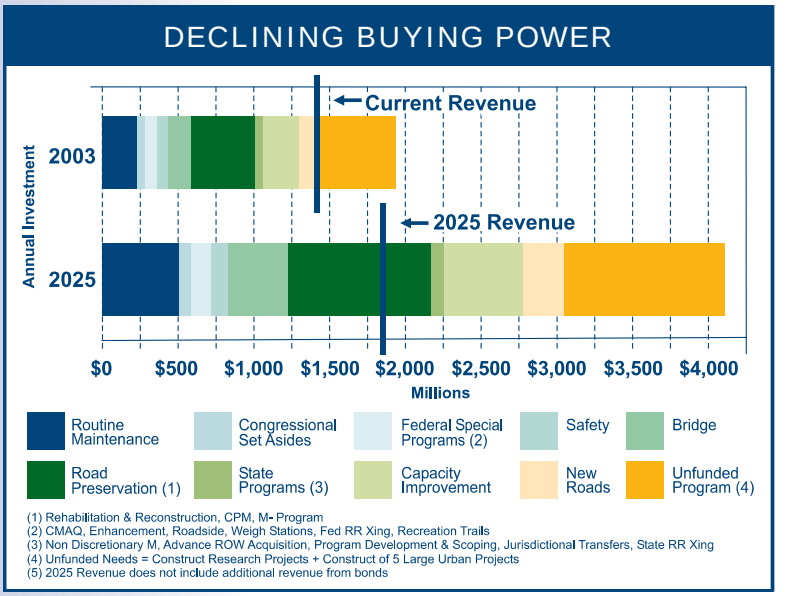
Highways

By using an asset management approach, MDOT has leveraged existing revenue, focusing investment to attain the high stan - dard set for condition and operation of state roads and bridges. This requires a comprehensive long - term view, considering both initial and future costs, as we invest. In addition, MDOT:

"MDOT has leveraged existing revenue, focusing investment to attain the high standard set for condition and operation of state roads and bridges."

- Used bonding through the Build Michigan programs to take advantage of low interest rates and complete miles of improve - ments at today's dollars that would cost more in the future.
- Issues an annual 5 - Year Road & Bridge Program to provide program stability.
- Selects projects based on asset management to pick the right "mix of fixes."
- Uses Capital Preventive Maintenance to extend the life of pavements and bridges.
- Contracts projects early in the construction season to take ad - vantage of lower prices.
- Analyzes investment to ensure the right program size, given overall funding levels.
- Set performance and condition targets for road and bridge infrastructure.
- Developed a "Toolbox for Funding Large Highway Projects" which evaluates revenue, finance, and project delivery options, and includes ideas for local governments as well.

Today's revenue will not be enough for tomorrow's investment needs; additional revenues will be needed.



Inflation will erode the buying power of today's dollars. MDOT will need an additional $8 billion by 2025 just to preserve the system. To fund major projects significant corridors will require another $5 to $11 billion.

Highways

Without increased average annual revenue of at least $350 million in the next decade, MDOT will be unable to adequately preserve our existing highway system. Without increased average annual revenue of between $200 to $500 million, we will be unable to fund needed highway projects that have been identified and are currently being designed. Funding will also be needed to modernize the most significant corridors in the decades to come to preserve our present mobility.

Aviation

The cost of keeping Michigan's airport system running safely and efficiently, and developed to meet capital needs through 2020 is estimated at $2.3 billion. With the recent increased focus on airport security and implementation of new security measures, these costs are increasing. Current funding levels for capital improvements including federal, state, and local resources, total approximately $1.4 billion over the 20 - year time frame. This results in a shortfall of $0.9 billion.

Public Transportation

Public Transportation encompasses several different modes and receives a variety of funding from federal, state and local sources. Compared to other states, Michigan is sixth in the nation in the provision of state funds for local public transportation. Based on 2002 revenues (excluding bond revenues) a typical program for state funding for the next 25 years would be:

- $103.50 million for rail freight services and safety programs
- $ 75.00 million for the rail infrastructure loan program
- $ 32.50 million for marine passenger and freight programs
- $ 4.95 billion for bus and rail passenger programs

Putting a price to a typical long - range program is difficult because the majority of federal transit funds are granted directly to local agencies and authorities. It is clear, however, that meeting the objectives of Michigan's public transportation program will require increasing financial support, since infrastructure

needs and operating needs already exceed the federal, state, and local funding currently available, and are expected to continue to do so.

Revenue

MDOT supports efforts to obtain additional revenues to support critical transportation programs. Efforts include:

- A proposal to simplify diesel tax collection, increase state diesel fuel tax to 19 cents, and focus revenue on critical local bridges and highways with the most truck traffic.
- The effort, as part of the next federal reauthorization, to increase Michigan's return on federal gas tax revenue sent to Washington.
- Work to encourage a significant increase at the federal level for new dollars to address our growing transportation needs.
- Efforts to identify new methods of road finance to address revenue reductions that will result when alternative fuels become popular.
- Efforts to evaluate sources of revenue used elsewhere in the United States, such as local property tax, sales tax, parking taxes, registration and license fees, private development finance, tolls, and others.
- The proposed Airport Safety and Protection Plan to fund $1.1 billion in security improvements at Michigan airports through a combination of state, federal and local funds and bond proceeds.
- Efforts to define a more equitable national approach that would tie federal transit allocations to each state's share of contributions to the Mass Transit Account, guaranteeing a re - turn of at least 95 percent. Michigan's return on contributions to the Mass Transit Account is only 40 - 50 percent in any given year. This approach would use additional funding, holding harmless those states receiving a larger share than they contribute to the account, while making whole those states receiving a smaller share.
- Changes to the federal Section 5309 discretionary funding formula, which is heavily weighted to benefit areas of the nation with light and heavy rail transit systems.
- Efforts to encourage legislation to provide different taxing mechanisms for raising funds at the local level. Some two - thirds of Michigan's local public transit systems are supported by local millages, but local units of government need more funding options to ensure a stable transit system.

Conclusion and Recommendations

Michigan's economic and population growth will increase the demand for transportation services. A shift in population age means shifts in travel patterns and basic mobility issues. Increased trade will lead to increased truck travel, and will expand the need for intermodal facilities. Changes in transportation technology, such as ITS and alternative fuel vehicles will also have an impact. We must continue to be concerned about the impact of transportation on our natural and human environment and we must improve the safety and security of our transportation systems.

How do we balance competing priorities and still provide the level of mobility we enjoy today? There is not enough money for every transportation improvement, but by setting goals, investing wisely, and monitoring system performance, transportation agencies can make the best use of their resources.

Setting Goals. The eight transportation goals described on pages 12 - 13 provide investment guidance for all transportation agencies in the state and establish a framework for the future.

Investing Wisely. Along with other investment strategies described briefly on pages 23 - 25 and more fully in Michigan's State Long Range Plan 2000 - 2025, MDOT will pursue three key highway strategies: an asset management approach to investment; a systematic approach to congestion reduction; and a corridor approach to project planning and programming, including significant investment in ten highly - used, multi - modal travel corridors.

Monitoring System Performance. Continued monitoring of transportation system performance will help ensure that future investment provides the most benefit, and will allow adjustments investment if necessary. MDOT will continue to monitor system performance and improve its performance measurement efforts in the years to come.

Accountability and Responsibility. It is the responsibility of all transportation agencies – at the state, federal and local levels to be accountable to the public and ensure that limited resources are wisely invested.

The following recommendations support the goals of the state long range plan and respond to the input of Michigan residents, local and state officials, and transportation professionals.

Preserve our current mobility

The investment we have in our transportation infrastructure is significant, and the mobility and security it provides must be preserved. Some of Michigan's most highly - used freeway corridors are now aging and in need of reconstruction and modernization to keep them functioning efficiently. Other systems

are also in need of repair, and preservation of the mobility they provide must be the first consideration of all transportation agencies.

Modernize the transportation system

By modernizing the system we can increase its efficiency. Elimi - nating congestion points, adding passing relief lanes where appropriate, synchronizing traffic signals, improving passenger rail speeds, and using ITS technology for roads and transit will improve traffic flow as the number of drivers and riders increases. Opportunities to use right - of- way in new and beneficial ways will be pursued, provided they support the efficient use of the transportation system and do not impair safety. Throughout our modernization efforts, we will also continue to be sensitive to environmental concerns.

Improve the management of our transportation assets at all levels

MDOT will continue to pursue its asset management strategy for state trunklines, and will work with local transportation providers to extend that effort to local units of government.

Improve the safety and security of our transportation system

MDOT is working with other organizations specifically to improve the security of our transportation systems in the wake of the September 11, 2001, terrorist attacks, and that effort will continue. The safety of our transportation systems is a fundamental decision and consideration in every transportation investment every project MDOT undertakes. MDOT will alsocontinue to work closely with other organizations to improvetransportation safety.

Improve intermodal connectivity between modes of transportation

Transportation agencies at all levels must be aware of the need to connect and coordinate modes. MDOT will continue to pursue efforts to improve intermodal connectivity and will work with local transportation providers to improve their intermodal connec - tivity and better integrate alternative modes with highways.

Improve connectivity and continuity within modes of transportation

MDOT will work to improve the connectivity and continuity of the state trunkline system where appropriate. Local transporta - tion providers must be aware of the need for improved connec - tivity and continuity in the all - season road network, in transit systems, and in local road networks.

Identify revenues for the future

As the use of ethanol additives and alternative fuels increases, transportation revenue alternatives must also be identified. In the decades to come transportation officials must work closely with the private sector and the financial community to identify innovative options for transportation finance.

Implement the State Long Range Plan throughout the MDOT Regions

The mid - range condition goals set by the Michigan Transporta - tion Commission (for example, to have 95 percent "good" ratings on freeway pavements and 85 percent "good" ratings on non-freeway pavements, by 2007) are in the process of being attained through the action of the MDOT Regions. The Regions identify the right "mix of fixes" in their project selection process. In a similar manner, the Regions will have the responsibility of implementing many of the elements of the State Long Range Plan: 2000- 2025.

In addition, there were other issues raised in the public involve - ment meetings that varied by region of the state, and these can - not all be appropriately addressed in a document written with a statewide perspective. MDOT will work with the public and local transportation providers to develop regional documents and corridor plans consistent with the State Long Range Plan and the corridors of highest significance identified in that plan. This process will be customized to each of the seven MDOT Regions: Superior, North, Grand, Bay, Southwest, University, and Metro. This effort will also help to address public comments seeking better coordination and communication among transportation providers at all levels of government.

Implementing these eight recommendations will help us to move forward to achieve the goals of the State Long Range Plan: 2000 - 2025 in ways that address the needs of our transportation customers.

MDOT's Vision

MDOT is committed to improving Michigan's total transportation system by efficiently delivering transportation products, services and information.

Our Mission Statement is:

" To provide the highest quality transportation services for economic benefit and improved quality of life."

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7,500 copies printed at $1.56 each for a total cost of $11,700.00

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