STATE OF MICHIGAN

JOHN ENGLER, GOVERNOR

DEPARTMENT OF TRANSPORTATION

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JAMES R. DeSANA, DIRECTOR

December 3, 1999

The Honorable Philip Hoffman, Chair
Senate Appropriations Subcommittee on
Transportation
Michigan State Senate
P. 0. Box 30036
Lansing, Michigan 48909

The Honorable Judith Scranton, Chair
House Appropriations Subcommittee on
Transportation
P. 0. Box 30014
Lansing, Michigan 48909

Dear Senator Hoffman and Representative Scranton:

Attached is the report, which addresses the requirement of Section 605 in Enrolled Senate Bill No.372, the fiscal year 2000 appropriations bill for the Department of Transportation, as signed into law by Governor Engler on July 27, 1999.

Sec. 605 requires for fiscal 2000: "The department shall undertake a study of traffic patterns on 1-94 in Washtenaw, Jackson, Calhoun, Kalamazoo, Van Buren, and Berrien Counties, and on I-69 St. Clair, Lapeer, Genesee, Shiawassee, Clinton, Ingham, Eaton, Calhoun, and Branch Counties. The department shall provide a copy of this report to the members of the House and Senate Appropriations Subcommittees on Transportation and the House and Senate Fiscal Agencies on or before October, 1, 1999. This report shall make specific recommendations regarding the expansion of bridges and overpasses on 1-94 and 1-69 to accommodate future transportation needs."

The report is submitted to you in fulfillment of this requirement. If you have any questions, please do not hesitate to contact either me, or Louis Lambert, Deputy Director, Bureau of Transportation Planning, at 373-0343.

Sincerely,

Greg Rosine
Chief Administrative Officer

BTP:TPS.jlb:pah
Enclosure
cc: W. Hamilton, House Fiscal Agency
P. Alderfer, Senate Fiscal Agency
bcc: L. Lambert
S. Mortel
T. Gotts
S. Hohl
J. Brush
S. Gorski
T. Horsfall
J. Kraus
Region Engineers
Region Transp. Planners

Fiscal Year 2000
Appropriations Bill Report
State Trunkline Fund
Section 605
Submitted by the Michigan Department of Transportation
Bureau of Transportation Planning

Reprinted from SB No. 372

Sec. 605. The department shall undertake a study of traffic patterns on 1-94 in Washtenaw, Jackson, Calhoun, Kalamazoo, Van Buren, and Berrien Counties, and on 1-69 St. Clair, Lapeer, Genesee, Shiawassee, Clinton, Ingham, Eaton, Calhoun, and Branch Counties. The department shall provide a copy of this report to the members of the house and senate appropriations subcommittees on transportation and the house and senate fiscal agencies on or before October 1, 1999. This report shall make specific recommendations regarding the expansion of bridges and overpasses on 1-94 and 1-69 to accommodate future transportation needs.

Background

The 1-94 and 1-69 Interstate Routes are two of Michigan's most significant transportation corridors for the movement of both people and commerce. In 1998, more than 7.1 annual billion vehicle miles of travel occurred on these corridors. These routes combined carry over 35 percent of all travel and over 47 percent of all commercial travel on the entire interstate system in Michigan. *Table I* summarizes all of Michigan's interstate routes. In 197 1, Michigan was the first state to complete a border-to-border Interstate Freeway, 1-94. The oldest segment of 1-94 was opened to traffic in 1942 as the nation's first four-lane divided highway. Known as the Willow Run and Detroit Industrial Expressway, this highway facilitated travel of 42,000 Detroit-area workers to and from the Ypsilanti bomber factory. In comparison, 1-69 is a much younger freeway, with its' completion as a border-to-border Interstate Freeway in 1992.

Table I

Michigan's Interstate Routes

Route	Annual Vehicle Miles Traveled		Annual Commercial Vehicle Miles Traveled		Total Route Miles	
	Route Total	Percent of Interstate System	Route Total	Percent of Interstate System	Route Total	Percent of Interstate System
1-69	1,798,450,439	9%	357,898,900	13%	193	16%
1-75	5,610,647,572	27%	594,820,059	22%	396	32%
1-94	5,371,134,647	26%	932,855,877	35%	275	22%
1-96	4,339,301,607	21%	442,072,587	17%	192	15%
I- 194	29,069,538	< 1%	1,295,549	<1%	3	<1%
I- 196	748,211,746	4%	136,640,058	5%	81	6%
1-275	611,675,087	3%	70,380,400	3%	30	2%
1-296	128,375,210	1%	7,903,783	<1%	3	<1%
1-375	15,971,214	< 1%	386,170	<1%	1	<1%
1-475	280,645,837	1 %	13,257,296	<1 %	17	1%
1-496	208,947,273	1%	15,462,380	1%	12	1%
1-675	47,497,555	<1%	3,068,573	<1%,	8	1%
1-696	1,655,366,162	81%	89,002,724	3%	29	2%
Interstate System Total	20,845,293,887	100%	2,665,044,354	100%	1,241	100%

. Route miles refer simply to the total centerline mileage of the route number

Source. MDOT's Transportation Management Systems, 1998 calendar year data.
Pavement miles account for each route mile of divided freeway, i.e. both directions.

Michigan's border crossings are among the busiest and most important in the nation. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) identified twenty-three (23) high priority corridors. Corridor 18, a freeway connection from the Canada-Michigan border to the Texas-Mexico border via 1-69, crossing the Canadian border at both Port Huron and Detroit has been designated a high priority corridor. 1-94 between Chicago and Port Huron was added to the description of Corridor 18 in the Transportation Efficiency Act for the 21' Century (TEA-2 1).

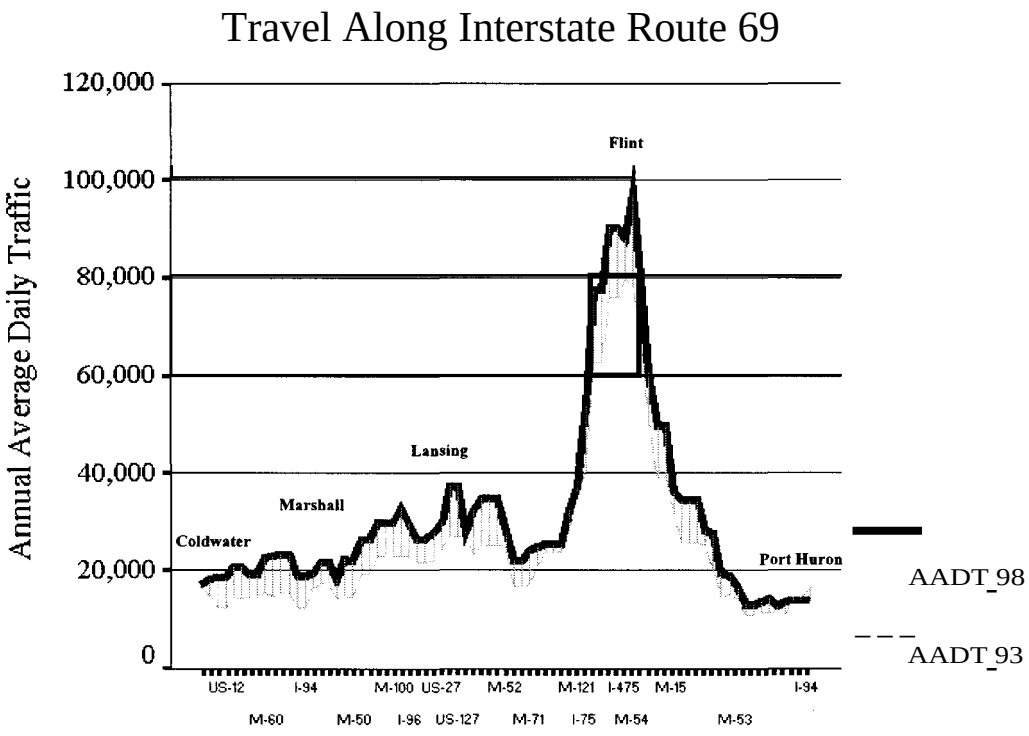
Corridor 18 is already emerging as a powerful economic artery running through the U.S. heartland, generating thousands of jobs and stimulating the growth of businesses all along its path. Thirty-eight percent of the dollar value of U.S. truck-borne trade with Mexico and Canada already passes through states along both sides of the route.

SB No. 3 72 Section 605. Study Area

The traffic pattern distributions along the 380 route miles (187 on 1-94 and 193 on 1-69), of 1-94 in Washtenaw, Jackson, Calhoun, Kalamazoo, Van Buren, and Berrien Counties, and 1-69 in St. Clair, Lapeer, Genessee, Shiawassee, Clinton, Ingham, Eaton, Calhoun, and Branch Counties have remained steady since 1993. *Figures I* and 2 display the distribution of Annual Average Daily Traffic (AADT) along these routes. These figures also show the growth in AADT from 1993 to 1998.

Figure I representing travel along 1-69, shows that volumes are approaching 100,000 vehicles a day in the Flint area, whereas most of the corridor has volumes around 20,000 to 30,000 vehicles a day.

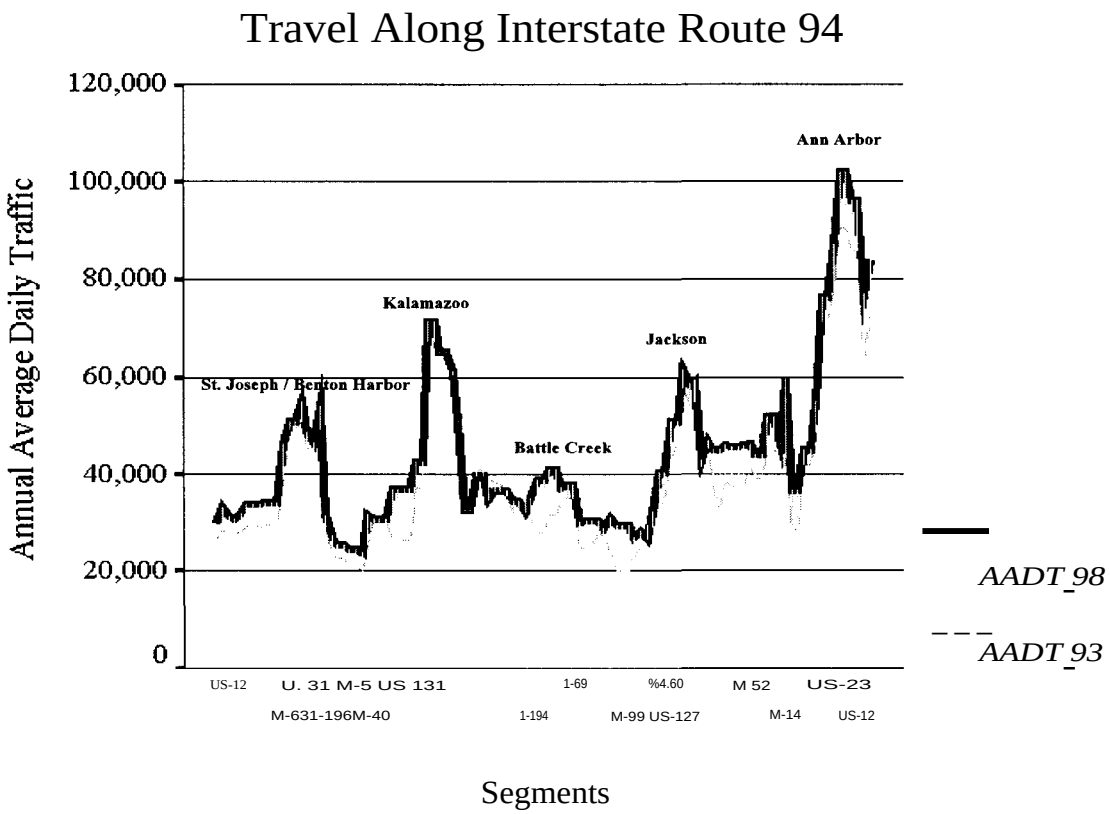
Figure I



Source. MDOT's Transportation Management Systems for 1-69 in St. Clair, Lapeer, Genessee, Shiawassee, Clinton, Eaton, Calhoun, and Branch Counties.

Figure 2 representing travel along 1-94, shows that volumes have exceeded I 00,000 vehicles a day in the Ann Arbor - Ypsilanti urban areas. In the urban areas of St. Joseph - Benton Harbor and Jackson average daily volumes are approaching 60,000 vehicles, whereas they have exceeded 60,000 vehicles a day in the Kalamazoo area.

Figure 2



Source. MDOT's Transportation Management Systems for I-94 in Washtenaiv, Jackson, Calhoun, Kalamazoo, Van Buren, and Berrien Counties.

The distribution of traffic along both 1-69 and 1-94, as shown in *Figures I* and *2,* highlights that although the pattern shows minimal variation, traffic volumes are increasing. Some sections along these routes have experienced a growth in traffic of up to 55% from 1993 to 1998. It is also important to note that along major portions *of* both corridors 30 to 40 percent *of* the vehicles are commercial. The growth of commercial traffic is expected to outpace the growth in passenger traffic. The general strong economic vitality of Michigan, the completion of the 1-69 freeway, the opening of the second span of the Blue Water Bridge in Port Huron and the North American Free Trade Agreement (NAFTA) are major influences in the significant increases. *Tables 2, 3 and* 4 present growth information for major segments along 1-69 and 1-94 respectively.

It is projected that overall traffic along these two corridors will grow an additional 44% by the year 2020. Annual vehicle miles traveled along 1-69 is projected to grow to 2.8 billion at an estimated annual compounded growth rate of 2.8 %. 1-94 is projected to grow at a smaller rate of 1.7 % annually to reach 3.8 billion annual vehicle miles traveled in the year 2020.

Table 2

Interstate Route 1-69
Annual Average Daily Traffic Growth
1993 to 1998 Observed
1998 to 2020 Projected

	Number of Lanes (avg)	Percent Change 1993-1998 (avg)	1998 Annual Average Daily Traffic a	2020 Projected Annual Average Daily Traffic b	Projected Change 1998-2020 (avg)
State Line to 1-94	4	42%	20,200	32,200	60%
1-94 to Jct 1-96	4	34%	25,400	43,400	71%
1-96 to US-127	4	28%	30,800	42,100	36%
US-127 to M-13	4	29%	28,500	48,900	69%
M-13 to 1-75	4	7%	29,100	40,400	39%
I-75 to M-15	6	23%	74,000	91,300	26%
M-15 to M-53	4	26%	27,800	46,000	66%
M-53 to 1-94	4	10%	13,500	22,100	64%

a. Source: MDOT, Bureau of Transportation Planning, Monitoring Section, System Monitoring Unit

b. The growth rates were calculated from traffic assignments using 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 1995 trip table and the 2020 trip table.

Table 3

Interstate Route 1-94
Annual Average Daily Traffic Growth
1993 to 1998 Observed
1998 to 2020 Projected

	Number of Lanes (avg)	**Percent Change 1993-1998 (avg)**	**1998 Annual Average Daily Traffic b**	**2020 Projected Annual Average Daily Traffic**	**Projected Change 1998-2020 (avg)**
State Line to 1-94 BL - St. Joseph	6	15%	32,700	48,500	48%
1-94 BL to 1-196	6	8%	50,300	72,700	44%
1-196 to UAL Kalamazoo (a). 9th St.	4	20%	30,300	44,100	46%
9tb Street to Sprinkle Rd.	4	5%	58,700	75,400	30%
Sprinkle Rd. to 1-69	4	8%	36,700	51,700	41%
1-69 to Dearing Rd - UAL Jackson	4	2 1%	29,500	39,100	33%
Dearing Rd. to Sargent Rd.	4	10%	50,200	66,200	32%
Sargent Rd. to Fletcher Rd.	4	20%	45,200	60,700	34%
Fletcher Rd. to US-23	4	15%	52,800	66,800	27%
US-23 to E CO Line	6	14%	92,000	115,100	25%

a Through Washtenaw County

b Source MDOT, Bureau of Transportation Planning, Monitoring Section, System Monitoring Unit

c The growth rates were calculated from traffic assignments using 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 1 995 trip table and the 2020 trip table

Table 4

Interstate Route 1-69 & 1-94

Route	Level of Service	Current - 1998 Annual Vehicle Miles Traveled		Forecast Year - 2020 Annual Vehicle Miles Traveled		Current - 1998 Route Miles		Forecast Year - 2020 Route Miles	
		Sum	Percent	Sum	Percent	Sum	Percent	Sum	Percent
1-69	A	266,8749809	15%	126,096,623	5%	49	25%	17	V/o
	B	1,077,647,856	60%	636,189,583	23%	120	62%	58	30%
	C	348,886,454	19%	1,590,945,460	57%	22	11%	101	52%
	D	105,041,321	6%	352,969,419	13%	3	2%	14	7%
	E	0	0%	33,2379722	1%	0	0%	1	0%
	F	0	0%	50,254,137	2%	0	0%	3	1%
	Total	1,798,450,439	100%	2,789,692,944	100%	193	100%	193	100%
1-94	A	0	0%	0	0%	0	0%	0	0%
	B	334,213,615	12%	0	0%	34	18%	0	0%
	C	1,256,701,670	45%	1,169,416,987	31%	90	48%	72	38%
	D	1,026,534,573	37%	1,912,198,759	50%	56	30%	91	49%
	E	82,919,804	3%	348,057,047	9%	4	2%	13	7%
	F	84,308,205	3%	357,292,992	9%	3	2%	12	6%
	Total	2,784,677,867	100%	3,786,965,785	100%	187	100%	187	100%

Source: The growth rates were calculated from traffic assignments using 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 1995 trip table and the 2020 trip table.

Table 4 shows that today, only 6 percent of annual vehicle miles traveled (4 percent of the route miles) occurs under congested conditions, defined as level of service E or F. By the year 2020, if MDOT were to make no improvements along these two corridors, it is estimated to increase significantly to about 21 percent (I 4 percent of the route miles).'

Put simply, this information illustrates the importance of planning and implementing freeway management strategies to provide for the efficient movement of goods and services along these two corridors. Actions to be considered include but are not limited to changes in the transportation system by providing added capacity, intelligent Transportation Systems (ITS), and changing the characteristics of demand. Without any action, considerable delays could impact the overall movement of persons and goods along these two vital economic corridors in the next 20 years.

[1]Alpha letter codes for level of service (LOS) are defined in the 1994 Highway Capacity Manual for inventory data. The definition of the alpha letter codes are:

Level of Service A: Free flow operations
Level of Service B: Reasonably free flow
Level of Service C: Provides for free flow with speeds still at or near free-flow. Maneuvering within traffic stream is noticeably restricted.
Level of Service D: Level at which speeds decline slightly, density begins to increase.
Level of Service E: Describes operation at capacity. Operations are volatile due to no usable gaps in the traffic stream.
Level of Service F: Breakdown in vehicular flow. Volume (flow) exceeds capacity.

There are 619 bridges associated with 1-94 and 1-69 within this study area. This includes grade separations, railroad structures, and large culverts. Of these, roughly 42 percent (260 structures) carry local traffic over the freeway.

Bridges are evaluated and rated based on the data collected about the condition of their bridge elements. These elements are the individual components which make up the bridge (e.g. beam, deck, substructure). Bridges are inspected at least once every two years. As of September 1999, over 16 % of the bridges in these corridors are considered to be structurally deficient2 *(Table* 5) meaning that at least one of the major structure elements has a condition rating of at least poor. No deficient bridge open to traffic is unsafe for vehicles within the allowable weight limit.

Table 5

Route	Total Bridges	Number Structurally Deficient'	Number Requiring Replacement	Number Requiring Widening
1-69	*331*	*39*	*27*	*170*
1-94	*288*	61	41	67

Source: MDOT, Bureau of Highways, Design Division; MDOT's Transportation Management System

A review of all the bridges within these two corridors was completed to determine how many would need to be replaced or widened to accommodate at a minimum a third travel lane in each direction *(Table 5).* Along 1-69 134 bridges currently could handle the expansion. Bridges requiring complete replacement total 27 and 170 would need to be widened. On the 1-94 corridor, 180 bridges currently could handle the expansion. Bridges requiring complete replacement total 41 and 67 would need to be widened.

Recommendations

MDOT monitors the potential need for capacity increases on the system through two processes. The first is by monitoring overall operation of the roadways through the use of average daily, peak hour and commercial traffic monitoring, crash data and system condition data to identify where current deficiencies exist. Travel demand forecasting models are employed to assess, based on future population and development trends, where future system deficiencies will occur. The second is through direct input from the traveling public, local units of government, legislators acting for constituents, private sector developers whose plans impact existing roadway, and the like. These inputs are analyzed against actual system operation and move forward in the project development process if they have a priority deficiency. These processes are accomplished in cooperation with local planning organizations.

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2 A "structurally deficient" bridge is one in which at least one of the major structural elements has a condition rating of poor or worse. No deficient bridge remaining open to traffic is unsafe for vehicles within the allowable weight limit. Structural elements rated are the deck, superstructure. substructure, culvert, structural appraisal and waterway adequacy.

Metropolitan Planning Organizations (MPOs) along the two corridors are playing a central role in the identification and prioritization of needed freeway improvements in their areas. This process is required by MDOT and the Federal Highway Administration (FHWA). Any state project in a metropolitan area must be identified in a Long Range Plan with at least a 20 year horizon, and must have MPO approval to be receive federal funds. Projects to receive federal funds that are in metropolitan areas cannot go beyond the planning stage without concurrence of the affected urban area. The department is updating the Federally required State Long Range Plan (SLRP) which sets policy direction for transportation decisions throughout Michigan. These local activities will be central to the SLRP recommendations. One key policy objective of the SLRP will be to identify a strategy for long term actions along major freeway corridors to accommodate future traffic. Preliminary results have made it clear that along the 1-94 corridor additional capacity is, or will be, required for most of its length in the future. A capacity analysis will be required of bridge structures along 1-94, when any are identified for rehabilitation. This analysis will determine if a structure over the freeway should be lengthened or a freeway structure widened to accommodate existing or future capacity requirements on the freeway.

Thirteen percent of 1-94 (25 miles) will experience varying durations of congestion in the year 2020 if additional capacity is not provided. The most significant growth is projected in the Kalamazoo, Jackson and Ann Arbor areas. Capacity improvements to manage the congestion will be considered when major freeway reconstruction is required in these sub-areas of the corridor. For the corridor to accept needed additional capacity, 3 8 percent (I 08) of the bridges will need to be either widened or lengthened. Reconstruction also involves modernizing geometric and structural standards and improving quality of operation and safety. Elements for consideration include, but are not limited to, interchange reconstruction, right-of-way requirements, environmental affects, and the cost of disruption to traffic and business during construction. Details for these activities are being developed in Metropolitan Planning Organization (MPO) area plans and studies. At the same time, as each road or bridge project is developed, alternatives to alleviate or manage congestion are considered. Solutions will facilitate long term capacity goals.

Capacity problems on 1-69 will likely be experienced along 1.5 percent (3 miles) of the freeway in the Flint area east of 1-75 by the year 2020. Continued growth can be expected along the entire corridor. Capacity improvements to manage the congestion will be considered when major freeway construction is required in these sub-areas of the corridor. For the corridor to accept additional capacity, 60 percent (197) of the bridges will need to be either widened or lengthened. As with 1-94, details for these activities are being developed in Metropolitan Planning Organization (MPO) area plans and studies. At the same time, as each road or bridge project is developed, alternatives to alleviate or manage congestion are considered. Solutions will facilitate long term capacity goals.

As part of the update to the State Long Range Plan currently in progress, MDOT's plan will call for expansion of bridges and overpasses along major interstate corridors to accommodate additional through laneage any time significant structural work on bridges is required. The entire length of 1-94 and 1-69, especially through urban areas, will be subject to this approach.

From the period of FY 1995 through 1999, MDOT has invested almost $ 99.5 million along these two corridors for preservation and expansion.' Through the year 2004, an additional $ 206 million in improvements are anticipated. Future investment beyond this will be identified in studies currently underway.

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3 This includes $9.0 million for Blue Water Bridge plaza improvements.

The results of the planning studies identified below will recommend future freeway modernization requirements including bridges and overpasses along the 1-94 and 1-69 corridors. A summary of planning studies and projects in the 1998-2003 MDOT Five Year Plan are presented below. Appendix A provides a summary of projects for 5 years (2000 - 2004), Appendix B identifies the projects just completed in 1999, and Appendix C provides guidance as to responsibility for funding inputs to various studies.

Studies

1-94 Corridor Study in Kalamazoo County

The Michigan Department of Transportation (MDOT) is completing a freeway modernization study of the 1-94 corridor in Kalamazoo County. The main purpose of the study is to analyze capacity deficiencies along the corridor. The resulting information from this study is expected to be used as a long range planning tool for freeway improvements which will facilitate the coordination of preservation and capacity improvements.

The study committee consists of representatives from MDOT, the Federal Highway Administration (FHWA), the Kalamazoo Area Transportation Study (KATS), the cities of Kalamazoo and Portage, the Kalamazoo County Road Commission, Kalamazoo County and Oshtemo Township. The final report is expected to be completed in the Fall of 1999.

1-94 Corridor Study in Jackson Urban Area

MDOT is initiating an effort to study the existing and future road and bridge needs along the 1-94 corridor in the Jackson area. The Michigan High Priority Project Fund is being considered to finance any recommended improvements.

1-94 Washtenaw County Freeway Study

The Ann Arbor Area MPO has nearly completed a freeway modernization study in the Washtenaw County area. Capacity issues on 1-94, US-23 and M-14 were among the stimuli for this undertaking. The resulting information from this study will be used as a long range planning tool for freeway improvements.

The study team consists of MDOT, FHWA, SEMCOG, UATS, the cities of Ann Arbor and Ypsilanti and the Washtenaw County Road Commission. A final report is scheduled for November of 1999.

1-94 Corridor Trade Alliance

The 1-94 International Trade Alliance was originally formed in May of 1996 by Wayne County and the City of Detroit to enhance the economic prosperity for the communities served by 1-94 from Port Huron through Detroit to Chicago and beyond.

Activities include working on an inventory of corridor strengths and deficiencies for infrastructure development, building a sense of common interest along the corridor, creating a forum that fosters economic development opportunities, pursuing physical transportation improvements and enhancements and facilitating international trade.

During the upcoming year (as required by federal regulation) Long Range Plans will be updated in many MPO areas (Benton Harbor/ St. Joe, Kalamazoo, Battle Creek, Jackson, Ann Arbor, SEMCOG, and Lansing). These plans will include recommendations on expansion of the freeway system to meet the traffic forecast to the year 2025. This includes the following counties; Berrien (part), Van Buren (part), Kalamazoo, Calhoun (part), Jackson, Washtenaw, Eaton, Clinton and St. Clair.

1-69: MDOT is participating with Genesee County Metropolitan Planning Commission (MPO), the Flint Area Chamber of Commerce, the City of Flint and others on an intermodal transportation study which will identify potential future commercial activity that will use the freeway system in and around the Flint area.

The 1998-2003 MDOT Five Year Plan has the following capacity improvements scheduled in these corridors:

Capacity Improvements

improvements to the **1-94 interchange at Napier Road** are scheduled for construction beginning in 1999. The cost to complete this work is $6 million. This interchange will serve as the interim terminus for the US-31 freeway from the Indiana state line to 1-94 in Berrien County. Concurrently, improvements will be made to Napier Road between 1-94 and the relocated US-31 freeway. The 1-94 interchange and Napier Road improvements are expected to be complete in 2000.

Construction is scheduled to begin in 2000 to improve the **1-94 Business Loop from Dickman Road at 1-194 to James Street** in Battle Creek. Completion of this segment will improve travel time and maneuvering for trucks and reduce congestion on downtown streets. The estimated cost to complete this project is $26 million. Completion is anticipated in 2002.

Widening of **1-94 from Mill Creek to M-14** west of Ann Arbor is scheduled for construction in 2000 to address congestion associated with the continuing development of the surrounding area. Estimated cost to complete is $13 million and completion is expected in the same year.

Operational improvements are scheduled at the **Blue Water Bridge Plaza** in Port Huron. Expansion of truck parking, increased truck broker space, bridge widening and changeable message signs. Improvements will total $ 4.7 million.

The 1998-2003 MDOT Five Year Plan has the following research projects scheduled in these corridors:

Research

1-94 in Kalamazoo County, at Sprinkle Road. **Improvements to ramps at the interchange are under study.**

1-94 in Washtenaw County, at Zeeb Road and Baker Road. **Interchange improvements are being coordinated with local governments.**

Appendix

A. I-69 / I-94, Highway and Bridge Program, Repair and Rebuild Roads: 2000 - 2004

B. I-69 /I-94 Highway and Bridge Program, Repair and Rebuild Roads: 1999

C. MDOT Grade Separation Guidelines

Appendix A

1-69/1-94

Five Year Highway and Bridge Program, Repair and Rebuild Roads: 2000 - 2004

Region	County	Route	LOCATION	Type of Work	Length	2000	2001	2002	2003	2004
Bay	GENESEE	1-69	UNDER LAPEER ROAD IN FLINT	DECK AND PAINT	0.000					CON
Bay	GENESEE	1-69	UNDER LAPEER ROAD IN FLINT	RELATED PROJECT APPROACH WORK	0.000					PE
Metro	ST. CLAIR	1-94	1-94 UNDER STREET CLAIR HWY	DECK REPLACEMENT	0.000				CON	
Metro	ST. CLAIR	1-94	1-94 WEST BOUND OVER GTW RAIL ROAD	DECK REPLACEMENT	0.000					CON
Metro	ST. CLAIR	1-94BL	W/1-94/1-94BL-RANGE ROAD	RECONSTRUCT	0.420					CON
Metro	ST. CLAIR	1-94	1-94 EAST BOUND OVER GTW RAIL ROAD	DECK REPLACEMENT	0.000					CON
Metro	ST. CLAIR	1-69	1-69 WEST BOUND OVER CSX RAIL ROAD	DECK REPLACEMENT	0.000				CON	
Metro	ST. CLAIR	1-94	1-94 UNDER FRED MOORE HWY. 7.8 Mi. NE MACOMB C. L.	DECK REPLACEMENT	0.000	CON				
Metro	ST. CLAIR	1-94	1-94 UNDER PALMS	DECK REPLACEMENT	0.000				CON	
Metro	ST. CLAIR	1-69	1-69 EAST BOUND OVER CSX RAIL ROAD	DECK REPLACEMENT	0.000				CON	
Metro	ST. CLAIR	1-94	1-94 UNDER SMITH CREEK ROAD.	DECK REPLACEMENT	0.000				CON	
SOUTHWEST	BERRIEN	1-94	EAST AND WEST BOUND AT M-1 39 NEAR BENTON HARBOR	BRIDGE REPLACEMENT	0.000			CON		
SOUTHWEST	BERRIEN	1-94	EAST AND WEST BOUND TO ST. JOSEPH RIVER EAST TO EAST OF 1-196	REHABILITATE	6.730			CON		
SOUTHWEST	BERRIEN	1-94	EAST BOUND OVER PUETZ ROAD AT STEVENSVILLE	REHABILITATE	0.000			CON		
SOUTHWEST	BERRIEN	1-94	EAST AND WEST BOUND OVER CSX RAIL ROAD	RECONSTRUCT	0.000				CON	
SOUTHWEST	BERRIEN	1-196	NORTH AND SOUTH BOUND OVER 1-94	REHABILITATE	0.000				CON	
SOUTHWEST	BERRIEN	1-94	OVER RED ARROW HIGHWAY NEAR BRIDGMAN	BRIDGE REPLACEMENT	0.000					CON
SOUTHWEST	BRANCH	1-69	SOUTH OF US-12 TO NORTH OF US-12 at COLDWATER	REHABILITATE Bridges	0.000		CON			
SOUTHWEST	BRANCH	1-69	SOUTH OF US-12 TO NORTH OF US-12 at COLDWATER	RECONSTRUCT Road	3.096		CON			
SOUTHWEST	BRANCH	1-69	NORTH OF US-12 TO COUNTY LINE	REHABILITATE	7.000		CON			
SOUTHWEST	CALHOUN	1-94	OVER 1-94BL AT ALBION	RECONSTRUCT	0.000		CON			
SOUTHWEST	CALHOUN	1-69	NORTH AND SOUTH BOUND SOUTH OF M-60	REHABILITATE	0.000		CON			
SOUTHWEST	KALAMAZOO	1-94	WEST BOUND- MILLER ROAD EAST TO EAST OF MICHIGAN AVENUE	REHABILITATE	8.490		CON			
SOUTHWEST	KALAMAZOO	1-94	EAST AND WEST BOUND - WEST OF 24TH STREET (MATTAWAN) TO WEST OF 9TH STREET(KALAMAZOO)	REHABILITATE	6.290		CON			
SOUTHWEST	VAN BUREN	1-94	EAST AND WEST BOUND- EAST HARTFORD TO WEST OF M-51	REHABILITATE	8.944	CON				
University	EATON	1-69	SOUTH EATON COUNTY LINE TO ISLAND HIGHWAY	CONCRETE OVERLAY AND 16 BRIDGES	13.520	CON				
University	JACKSON	1-94	WEST BOUND OVER, 6.4 MI EAST OF COUNTY LINE	MISCELLANEOUS REHABILITATION	0.000	CON				
University	JACKSON	1-94	OVER RACE ROAD E/COUNTY LINE	RELATED PROJECT APPROACH WORK	0.000	PE				
University	JACKSON	1-94	EAST BOUND OVER, 6.4 MI EAST OF COUNTY LINE	MISCELLANEOUS REHABILITATION	0.000	CON				
University	JACKSON	US-127	US-127 SOUTH BOUND OVER 1-94	NEW BRIDGE	0.000			CON		
University	WASHTENAW	M-14	1-94 TO US-23BR+ 12 STRCS	RECONSTRUCT	3.330	CON				

Appendix B

1-69/1-94
Five Year Highway and Bridge Program, Repair and Rebuild Roads: 1999

Region	County	Route	**LOCATION**	**Type** of Work	1999
BAY	GENESEE	1-69	ELMS TO 1-475	CONCRETE JOINTS	CON
METRO	ST. CLAIR	1-69	UNDER ALLEN ROAD	SUPERSTRUCTURE REPL+WIDEN	CON
SOUTHWEST	CALHOUN	1-69	NORTH OF 1-94 TO SOUTH OF EATON COUNTY LINE	REHABILITATION	CON
SOUTHWEST	CALHOUN	1-94	W/HELMER RD TO 6 1/2 MILE RD	MILL & RESURFACE	CON
SOUTHWEST	VAN BUREN	1-94	M-51 TO M-40	CONCRETE INLAY	CON
SOUTHWEST	VAN BUREN	1-94	UNDER PAW PAW ROAD	PAINT+JTS+DECK&SUB REPAIR	CON
SOUTHWEST	VAN BUREN	1-94EB	OVER AMTRAK RR	SUPERSTRUCTURE REPL+SUB	CON
SOUTHWEST	VAN BUREN	1-94WB	OVER AMTRAK RR	SUPERSTRUCTURE REPL+SUB	CON
UNIVERSITY	WASHTENAW	1-94	ELLSWORTH FD TO E JCT OF US-12	MILL, RESURFACE AND MEDIAN BARRIER	CON
UNIVERSITY	WASHTENAW	1-94	UNDER GEORGINA WALKOVER		CON

C. MDOT Grade Separation Guidelines [4]

Improvements to bridges over the highway, roads under the highway, or interchanges present a special need for state and local coordination. The types of grade separation improvements, and their project selection processes, are as follows:

1) Congestion-related Interchange Improvements: The department may choose to widen an interchange in response to increasing traffic volumes. Such an a situation may require the local roadway to be widened as well, which can further impact the highway ramps. These projects are selected in response to traffic needs on a statewide priority basis and require local coordination and a concurrent local commitment to widen the local road as necessary.

2) Local Enhancement at Interchanges: Local authorities may choose to widen the local road at an interchange to attract development even though current traffic volumes do not require such enhancement. Such improvements may also require improvement to state highway interchange ramps. Interchange improvements prompted by local enhancements are the financial responsibility of local authorities and arc not part of the MDOT project selection process. Any improvement to MDOT freeways undertaken as part of such a local effort would need to be coordinated with the department.

3) Bridge Replacement with Local Widening: MDOT bears the full cost of replacing a local bridge over the freeway when replacement is recommended on a statewide priority basis, or when necessary because the freeway is being widened. If local authorities wish to widen a local bridge over the freeway in conjunction with a scheduled bridge replacement, they bear only the additional cost generated by the widening. If local authorities wish to widen a local bridge over the freeway that is not scheduled for replacement, that would be outside MDOT's project selection process.

4) New Local Road Crossing Existing Trunkline: The local road agency would be responsible for all costs associated with a new local road crossing an existing state trunkline, including grade separation structures, right-of-way and approach work.

4 MDOT 5 Year Road & Bridge Program, 1999 to 2003, January 1999.