

2.0 PURPOSE OF, AND NEED FOR, THE PROPOSED ACTION

The purpose and need for this project—as described in the Draft Environmental Impact Statement (DEIS) dated January 2001—has not changed. However, as a result of the coordination process, various elements of the purpose and need have been clarified. These clarifications are discussed in detail in this chapter. Among the more substantial modifications is the addition of Economic Setting (FEIS Section 2.5.7) and I-94 System Connectivity and Continuity (FEIS Section 2.5.8) in this chapter.

2.1 Purpose of the Proposed Action

The purpose of the Interstate 94 (I-94) Rehabilitation Project (from east of I-96 to east of Conner Avenue) is to improve the capacity and condition of the existing I-94 roadway and interchanges to support the mobility needs of local and interstate commerce as well as national and civil defense.

I-94 is a key link in Michigan's interstate freeway system, providing freight and passenger mobility serving three basic needs:

- Local and regional basic access to essential services, employment, and educational opportunities: This is a goal in the Michigan Department of Transportation's 2000–2005 Long Range Plan. I-94 is an important commuter route linking communities in Southeast Michigan, and providing access to jobs, medical research and services, universities, and cultural resources.
- Regional, interstate, and international freight mobility necessary for the region's and the nation's economy: This is a major purpose of the Interstate System defined in the National Highway Act. The project segment of I-94 provides direct and indirect connections to I-75, M-10, and I-96, to intermodal freight facilities, and to three international border crossings. Together, these facilities comprise a hub of freight transport connecting Michigan to its domestic and international trading partners in the Great Lakes Region.

The Great Lakes Region is itself a hub of manufacturing activity in North America. This region consists of the five states of the East North Central Region (Illinois, Indiana, Michigan, Ohio, and Wisconsin), and the Province of Ontario, Canada. Twenty percent of the jobs in this region depend on manufacturing. The region is also the center of automobile manufacturing in North America. Ten percent of jobs in the region, and 21 percent of jobs in Michigan are directly or indirectly related to the automobile industry. Manufacturing in North America is competing in a global market and depends on transportation efficiency to maintain productivity. Freight system capacity and connectivity are essential to this efficiency.

- Regional and interstate freight mobility necessary to the civil and national defense: This is also a major purpose of the Interstate System as defined in the National Highway Act. As such, I-94 is on the Strategic Highway Network (STRAHNET) for defense purposes. The project section of I-94 lies in the heart of Michigan's manufacturing region, connecting to I-75 and I-96, and to regional Intermodal facilities. The freeway supports

defense industry logistics that use “just-in-time” production and complex supply chains. System connectivity is therefore essential to meeting industry needs.

This section of I-94 was constructed in the late 1940s and early 1950s; it is one of the oldest urban interstate highways in the country. This rapidly aging section of I-94 requires frequent maintenance. The pavement and bridges within the project area need to be replaced.

A number of issues are associated with this portion of I-94. In addition to its aging roadways and bridges, some include:

- Inadequate capacity indicated by frequent congestion (capacity of ramps and interchanges is also a concern since it affects connectivity);
- Safety issues created by the lack of acceleration-deceleration lanes for merging and weaving traffic;
- Outdated design including left-handed on-ramps and off-ramps in the M-10/I-94 interchange;
- Congestion of the three closely spaced freeway-to-freeway interchanges of I-96, M-10, and I-75 within two miles impairs system connectivity, thus freight mobility;
- Congested connectivity to major U.S.-Canadian border crossings in the region with high traffic volumes: Ambassador Bridge and Blue Water Bridge;
- Poor local traffic circulation resulting from the lack of continuous service drives; and
- Limited accommodation of pedestrians and bicyclists.

I-94 also provides access to major institutional, business, and cultural centers; such as the Detroit Cultural Center, General Motors’ Cadillac plant, the Ford River Rouge plant, Wayne State University, Detroit Metro Airport, medical complexes, major league sports stadiums, and downtown Detroit. This freeway is a key link to Detroit and Southeast Michigan. This central location of the project area makes its condition and design important, not only to the image of the adjacent neighborhoods, but also to the overall image of Detroit.

Highways such as I-94 typically are designed to handle an estimated 20 years of traffic during their design life. Highways often serve more than double that time period (40 years or more) prior to major rehabilitation. Since the initial construction of the I-94 project section, almost 50 years ago, repairs have occurred on an as-needed basis and are short-term fixes. There has not been a comprehensive rehabilitation or reconstruction effort to address the age of the freeway and system deficiencies.

2.2 Project Background

The information in this section (Project Background) is largely unchanged since the DEIS was produced. The DEIS’s Section 2.2 “Project Background” remains valid. Where updates or additional data are available, it is included below.

Four sets of aerial photographs from 1937, 1957, 1972, and 1985 were reviewed to determine changes in land use before, during, and after construction of I-94 (Michigan State University, 2004). Based on the 1937 photography, it appears that land use along the eventual I-94 corridor was predominantly residential with scattered industrial sites situated along railroad tracks.

Commercial land use occurred primarily along major roads, including Michigan, Grand River, Woodward, Gratiot, and Jefferson avenues.

The history of what currently is known as Interstate 94 (I-94) dates back to the 1944 federal report, *Interregional Highways*. This report outlined a proposed system of upgraded highways. The proposal of a limited access freeway between Detroit and Chicago was explored. The Edsel Ford Freeway, as it was known prior to being called I-94, was of unique importance to the nation's military mobilization in the 1940s and has continued in its role as one of the state's major economic corridors. I-94 is the state's oldest transportation roadway.

Its modern development as a freeway began in the early 1940s when expedited wartime construction started on the Detroit Industrial Expressway (DIE) between Detroit and Ypsilanti. The expressway was built to move thousands of auto workers to the Ford Motor Company's giant Willow Run military aircraft manufacturing plant. In 1945, the final segment of the DIE was completed between Southfield Highway in Allen Park and Michigan Avenue on the Detroit-Dearborn city limit. A "Crosstown Expressway" was then discussed to continue to extend the "DIE" easterly across the City of Detroit.

Construction of the I-94 Rehabilitation Project area (from east of the I-94/I-96 interchange to Conner Avenue) began in 1947 and was completed in five successive phases, between 1951 and 1958. Approximately 1,770 parcels were purchased for the facility's right-of-way and the total project cost was estimated at \$110,000,000. The Edsel Ford Expressway was named as Detroit's *multimillion dollar superhighway* in the local media. At the time, it was the second link in the City's expressway system; a fraction of a mile of the John C. Lodge Expressway where it passes under Grand Boulevard was already in use. See Table 2-1 for the chronology of the Edsel Ford Expressway segments.

Table 2-1: Chronology of Edsel Ford Expressway Segments

Segment	Date Opened	Segment of Edsel Ford Expressway
1	July 10, 1951	Between Wyoming and Livernois
2	October 21, 1952	Between Livernois and Warren
3	Mid-1953	Between Warren to John R.
4	May 28, 1957	Between Russell and Mount Elliott
5	1958	Between Mount Elliott and Conner

In 1958, the first I-94 shields appeared between Ann Arbor and Detroit. In 1959, the Edsel Ford Expressway was completed first to Moross Road on the eastern limit of Detroit, then to M-19/Vernier Road in Harper Woods. From 1962 forward, I-94 became the designation through Detroit, as the interstate was expanded further north and east of the Detroit city limits.

Varying levels of citizen protests marked the construction of the first few segments of the Expressway. West of downtown Detroit, the acquisition of properties resulted in only occasional protests and displays at the public hearings, typical for such large-scale projects. Due to controversy and ongoing public protests surrounding the eastern extension of the Edsel Ford

Expressway to the Conner Avenue interchange and eastward, the opening of the Russell and Mount Elliott segment was treated rather unceremoniously, despite some of the innovative design features that were contained in the segment. The pedestrian bridges were built in response to community objections and to attempt to reconnect neighborhoods east of Chene severed by the building of the expressway. From the 1957 aerial photography, it is evident that I-94 closely followed previously constructed roadways; however, the right-of-way needed for the limited-access highway displaced homes, businesses, and industry. The urban renewal program was implemented during the same time that numerous displacements were occurring to build the Edsel Ford Expressway, which displaced thousands of people from their homes, many of whom were low-income and minority persons.

Construction of I-94 facilitated the migration of businesses and residents out of the city of Detroit. This migration resulted in the suburbanization of the Detroit metropolitan area. Further interstate and freeway construction—including I-75, I-96, and M-10—also contributed to an increase in suburban populations and a commensurate decrease in the population of Detroit by nearly one million between the 1950s and 1980s.

Today the study area is urbanized and includes residential land uses with scattered commercial sites along the arterials and heavy- to light-industrial development along the I-94 corridor and railroads. The project area currently has redevelopment opportunities. The Detroit City Airport is located north of the Conner Avenue interchange with I-94. There also are major educational institutions, including WSU at the west end and WCCC at the east end of the corridor. The GM Hamtramck Assembly Plant, just north of I-94 at the Chene Street exit, is the largest industrial facility in the study area followed by the Daimler Chrysler Assembly Plant, located at East Jefferson and Conner avenues. The Henry Ford Hospital is located near M-10 at West Grand Boulevard, and the Detroit Medical Center (DMC) is south of I-94 and west of I-75.

2.2.1 Truck Volumes at Border Crossings

I-94 connects the routes and border crossings noted above in FEIS Section 2.1. As the number of trucks traveling to the border crossings increases, the importance of maintaining the condition and capacity of I-94 increases. In addition, the growing number of trucks crossing the border is indicative of the growing importance of international trade to the state of Michigan's economy. According to the Bi-National Border Crossing Study¹, truck traffic across the border is forecasted to grow at a 2.67-percent compound annual rate through 2030. The number of trucks using the Southeast (SE) Michigan U.S. – Canadian border crossings for the last five years is shown in Table 2-2:

Table 2-2. Number of Trucks Using the SE Michigan U.S. – Canadian Border Crossings

Bridge or Tunnel	1999	2000	2001	2002	2003
Ambassador Bridge	3,428,151	3,486,110	3,238,474	3,322,367	3,250,744
Blue Water Bridge	1,495,325	1,576,839	1,556,491	1,682,645	1,725,603
Detroit-Windsor Tunnel	205,015	182,392	170,054	152,963	169,278

¹ *Existing and Future Travel Demand Working Paper*, January 2004, Canada-United States-Ontario-Michigan Border Transportation Partnership Planning/Need and Feasibility Study, IBI Group

The number of trucks crossing the Ambassador Bridge is greater than any other Canadian or Mexican border crossing. The Ambassador Bridge is the largest international border crossing for trucks in the world. The long term, historic growth rates of trucks across the Ambassador and Blue Water Bridges are between 6-percent to 9-percent compounded. I-94 and its connections to other interstate freeways (i.e., I-75 and I-96) comprise an important hub in this international freight network.

2.2.2 Regional Transportation Planning

The *2015 Regional Transportation Plan* (2015 RTP, 1993) for Southeast Michigan identifies I-94 as a study corridor with capacity, bridge, and pavement deficiencies.

The *2025 Regional Transportation Plan* (2025 RTP, 2000) for Southeast Michigan lists I-94 as a high-priority corridor under study in order to develop recommendations for improving travel. In addition, the 2025 RTP recognizes that *regional* transit needs must be understood more fully and prioritized in order to address all of the transportation issues. As a result, the 2025 RTP calls for development of a transit plan that encompasses all seven counties in the region.

The development of a transit plan ensued and resulted in the report, *Improving Transit in Southeast Michigan: A Framework for Action* (October 2001). The report was officially adopted and made part of the RTP by the Southeast Michigan Council of Governments (SEMCOG) on October 25, 2001. I-94 from I-96 to Conner Avenue was not included as part of the recommended 12-corridor (259 miles) bus rapid-transit system. A different location for rail transit was recommended for the area served by I-94. This choice has had an influence on the development of the recommended alternative; this impact is discussed later in Modifications to the DEIS Build Alternative (FEIS Section 4.3).

2.2.3 Continuing Economic Development

The city of Detroit's increasing development, mentioned in the DEIS Section 5.2.1, continues. This list is an update of the economic growth discussed in the DEIS:

- General Motors moved its world headquarters to the former Renaissance Center located between I-375 and Woodward Avenue, south of Jefferson Avenue, and north of the Detroit River.
- Compuware Corporation has constructed a new corporate headquarters in downtown Detroit.
- An existing hotel near the Compuware headquarters is being renovated.
- Both new sports stadiums are now in use: Comerica Park for the Detroit Tigers professional baseball team and Ford Field for the Detroit Lions professional football team.
- Wayne State University continues to grow. The university recently was awarded a new research center, NextEnergy, by the Michigan Economic Development Corporation. The center will be located near the Wayne State campus just north of I-94.
- The Detroit Institute of Art (DIA) has undergone renovation.
- The area north and east of the DIA is being redeveloped with new condominiums and additional residential improvements.

The major renovation of I-94 in the project area will support continued economic growth for Southeast Michigan.

Also, refer to this FEIS Economic Setting (FEIS Section 2.5.7) and System Connectivity and Continuity (FEIS Section 2.5.8).

2.2.4 Other Interstate and Freeway Projects

The interstate/freeway system in the Detroit metropolitan area continues to undergo a number of major improvements. Some of the larger improvement projects are listed below:

- The I-75 Ambassador Bridge Gateway project will reconstruct I-75 and existing ramps between West Grand Boulevard and Michigan Avenue, reconstruct portions of M-85 (Fort Street), and construct new ramps connecting the U.S. Customs Secondary Truck Inspection Facility to I-75 and I-96. Portions of the project, having independent utility, include M-85 and the southbound I-75 service drive. M-85 and the West Grand Boulevard bridges were reconstructed in 2003–2004. Reconstruction of the mainline I-75 and related plaza for U.S. Customs based on development agreements is scheduled to occur in 2005 and 2007.
- I-75 underwent major rehabilitation from the Rouge River to Goddard Road including 12 bridge superstructure replacements in 2002.
- I-75 underwent rehabilitation from Eight-Mile Road to the Davison Freeway (M-8) including 26 bridges along I-75 in 2003–2004.
- I-94 underwent rehabilitation between Conner Avenue and Metropolitan Parkway including resurfacing of the pavement and rehabilitating 51 bridges in 2002.
- I-94 from Wyoming to I-96 had 3.6 miles resurfaced in 2003.
- I-94 and M-10 superstructure and deck replacement completed in 2004.
- I-96 was resurfaced and 35 bridges were rehabilitated between U.S. 24 (Telegraph Road) and Newburgh Road; and the I-96/I-275/M-14 interchange was reconstructed in 2002.
- I-96 is being reconstructed from Telegraph Road to Southfield Freeway, including the rehabilitation of 20 bridges and reconstruction/resurfacing of Telegraph Road from I-96 to Plymouth Road in 2004 and 2005.
- I-96 construction of a new ramp from eastbound I-96 to eastbound I-94 in 2004.
- M-10 (Lodge Freeway) was reconstructed from I-75 to Jefferson Street, and the pavement was patched and smoothed from M-102 (Eight-Mile Road) to Meyers Road in 2002.
- M-10 reconstruction of bridges over I-94 in 2004.
- M-39 (Southfield Expressway) was reconstructed from I-94 to M-153 (Ford Road) in 2002. This project included the rehabilitation of eight bridges.
- M-39 reconstruction of pavement from Lafayette to Porter Streets in 2004.

Bridge and pavement rehabilitation projects are scheduled over the next several years within the southeast Michigan area. A complete list is in the MDOT *5 Year Road & Bridge Program, Vol.*

VI-2004-2008 (January 2004). While most of these improvements do not include capacity improvements, this study and the I-75 study from M-102 to M-59 both recommend the consideration of additional lanes because of routine congestion and delays within the region. Many roadways in the Detroit metropolitan area need improvement, and a number of major projects have been completed recently. It is important to note that the improvement of I-94 discussed in this FEIS (from I-96 to Conner Avenue) is not in lieu of other projects; it is one element in a series of projects currently planned for improving Detroit's freeway system. The Governor's "Preserve First/Fix it First" Program focuses on the preservation of Michigan's existing transportation infrastructure. The program protects the investment of Michigan taxpayers by placing emphasis on improving the condition of existing roads and bridges to 90-percent "good" condition goal and sustained as such, as the Program's priority. Since I-94 will increase capacity, the design and construction phases for the project have been deferred, until the 90-percent "good" condition goal is met and sustained. The I-94 Rehabilitation Project is also contingent upon the identification of funding for the deferred phases.

2.2.5 Other Transportation Planning and Projects

According to SEMCOG, the movement of freight is a major concern in the Detroit area because efficient freight movement is important to the viability of manufacturing and exports which are in turn important to Southeast Michigan's economy. In its *2025 Regional Transportation Plan*, SEMCOG wrote that it is important to address whatever freight-related problems and issues that might arise. Addressing these issues will help SEMCOG maintain and continue the region's economic growth. Problems recognized in the 2025 RTP include:

- The freeway's poor condition;
- Lack of a rail-truck intermodal facility;
- Transport of containers by truck to Toledo and Chicago because of low capacity at freight rail terminals in Detroit;
- Poor access to and from the Ambassador Bridge on both sides of the border;
- Increased passenger and truck traffic causing increasing delays; and
- Congestion at border crossings.

The North American Free Trade Agreement (NAFTA) and the strong economy from 1996 to 1999 contributed to the 31 percent growth in cross-border truck traffic at the Southeast Michigan border crossings. Growth continued until traffic showed a slight decrease after September 11, 2001.

Many of these issues are being addressed by ongoing border and corridor planning partnerships including:

- **Canada-U.S.-Ontario-Michigan Border Transportation Partnership:** This partnership completed the Planning, Need, and Feasibility Study stage to develop a long-term transportation strategy that will provide for the safe and efficient movement of people, goods, and services across the United States – Canadian border in the Southeast Michigan and Southwest Ontario region. The study assessed the existing transportation network, including border crossings, and identified medium- and long-range transportation needs

and alternatives. Recommendations from the feasibility study will be followed by a three-year planning and environmental study.

- Ambassador Bridge Gateway Project: This project focuses on improving access to the bridge from the Michigan side.
- Border Crossing Capacity Study: This study is looking for options to address capacity problems since the Ambassador Bridge is forecast to reach capacity between 2012 and 2015.
- Eastern Border Transportation Coalition: This group commissioned a study to establish a coherent and effective strategy for enhancing trade flow along the Eastern Canada – U.S. border.
- I-94 International Trade Alliance: This alliance brings together the private sector, the public sector, and labor organization partners to study and enhance transportation movements along the I-94 corridor. This corridor links Chicago, Detroit, Port Huron, Windsor, and Sarnia as well as the heartlands of the U.S., Canada, and Mexico.

Among the accomplishments of these planning partnerships are the opening of a second span of the Blue Water Bridge at Port Huron (1999) and the ongoing planning for the Detroit Intermodal Freight Terminal (DIFT). The proposed DIFT is a regional freight terminal complex(s) serving shippers and industries in Southeast Michigan. The nine intermodal facilities in Southeast Michigan are scattered and are inadequate to accommodate growing demand. The DIFT is assessing various alternatives to increase capacity.

2.3 Description of the Project Limits

The project limits described in Section 2.3 of the DEIS remain valid. The DEIS Section 2.3 describes the project limits in three segments referred to as A, B, and C. These segments were used to facilitate the discussion of impacts in Chapter 5 of the DEIS. This FEIS does not refer to these segments to lessen confusion. Figure 2-1 illustrates the I-94 project limits. The project begins just east of the I-94/I-96 (Jeffries Freeway) interchange and extends 6.7 miles to just east of the I-94/Conner Avenue interchange. Due to the analysis of the freeway-to-freeway interchanges at M-10 and I-75 with I-94, the study limits include portions of M-10 and I-75 as well. The project limits extend on M-10 from Pallister Avenue in the north to Martin Luther King Avenue in the south and on I-75 from East Grand Boulevard in the north to Warren Avenue to the south.

I-94 from I-96 to Conner Avenue is an area of dense urban development with closely spaced interchanges. These interchanges serve numerous major traffic generators and provide access to the city of Detroit's central business district. The project area includes two major freeway-to-freeway interchanges and five interchanges with local streets for a total of seven interchanges in less than seven miles. The project area is adjacent to the I-94/I-96 interchange.

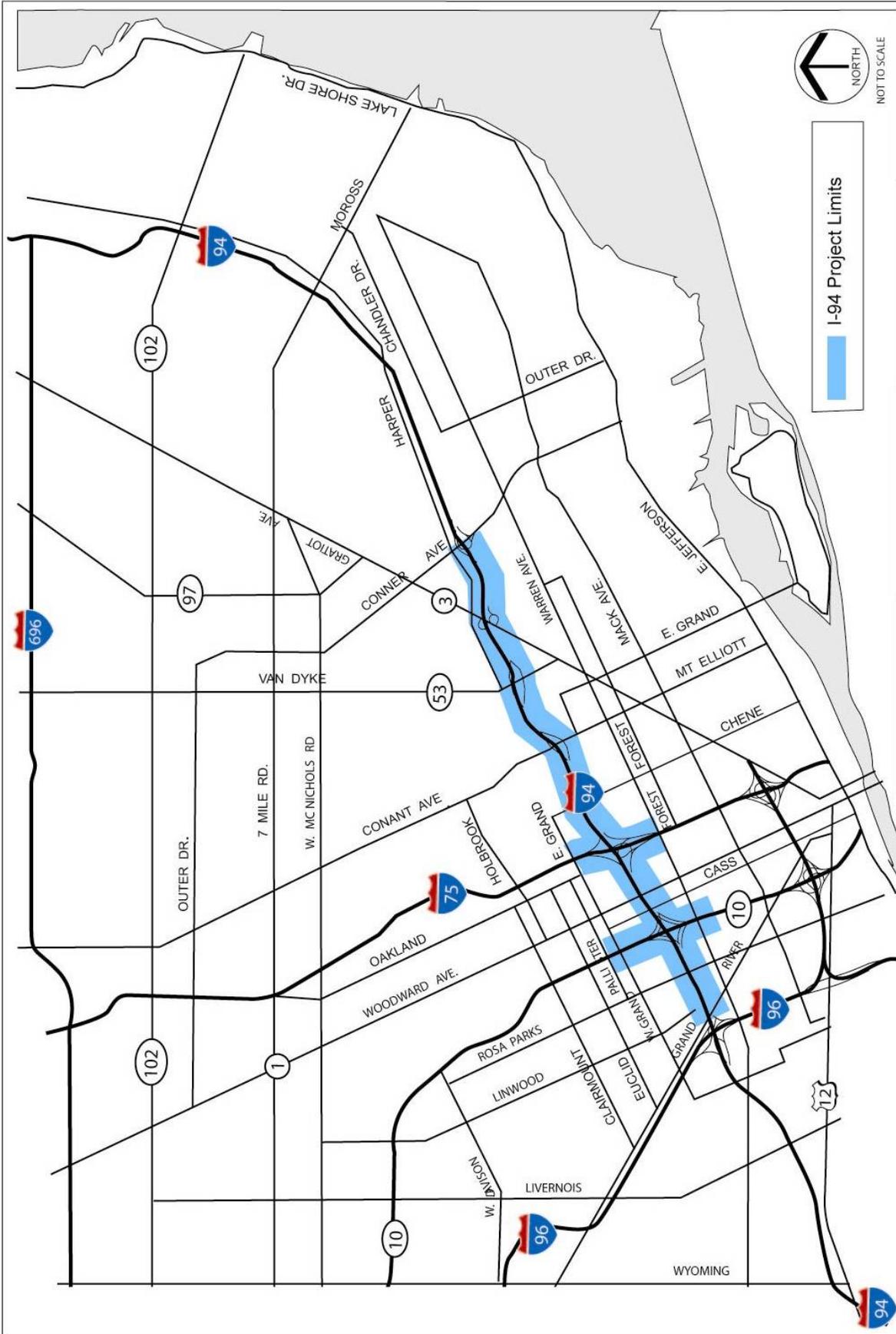


Figure 2-1
Project Limits

I-94 REHABILITATION PROJECT



This portion of I-94 includes the highest recorded traffic volume on any section of I-94 in the state of Michigan, and the operational characteristics are quite complex, due to the numerous system connections, local access connections, and high-volume destinations. A 1995 speed study, (*Traffic Report Volume I, Existing Conditions*) from east of I-96 to east of Conner, conducted for this project recorded actual measured peak hour speeds of 30 miles per hour (mph) within the proposed termini at several locations and times. The posted speed limit is 55 mph. The substantial difference between the actual speeds and posted speed limit indicates the severity of the traffic congestion. The 1940s–1950s design of this section of I-94 is outdated and still includes such features as left-hand on-ramps and off-ramps as well as deceleration and acceleration lanes that are inadequate for today’s traffic volumes and speeds. This section of roadway requires an extensive redesign to improve operational flow, reduce congestion, and increase safety.

2.3.1 Validation of Project Limits

The project limits for the I-94 Rehabilitation Project, as noted in FEIS Section 2.3 above and shown in Figure 2-1, were evaluated according to the Federal Highway Administration (FHWA) regulation 23 CFR 771.111 (f). This regulation outlines three principles ensuring the meaningful evaluation of alternatives and avoiding commitments to transportation improvements before they are fully evaluated.

- “Logical termini”: The I-94 Rehabilitation Project connects rational endpoints for transportation improvements and is of sufficient length to address environmental matters on a broad scope.
- “Independent utility”: The I-94 Rehabilitation Project is self-sufficient and has independent significance. That is, the length proposed for improvement is usable, and the project involves a reasonable expenditure of funds even if no additional transportation improvements in the area are made.
- “Other improvements”: The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Adherence to these principles promotes projects of sufficient length to allow consideration of the full range of environmental impacts that are likely to occur.

2.3.2 Logical Termini

I-94, from I-96 to Conner Avenue, is identified in the statewide and regional plans as the roadway most needing improvement in Michigan. I-94 and other interstate roadways exhibit congestion, deterioration, and safety problems; however, I-94 from I-96 to Conner Avenue is among the worst in these categories in Michigan. I-94 in the project area is critical to Michigan’s economic well-being, freight movement, and system connectivity. I-94 exhibits the most congestion with average measured speeds less than 30 mph in peak periods at some locations. I-94 between I-96 and Conner contains 50-year-old pavement and bridges nearing the end of their service life. There are seven closely spaced full interchanges along I-94 in the project area with limited acceleration-deceleration lanes, left-hand entrances and exits, inadequate merging lanes, and crash rates above the statewide average.

Traffic in adjacent sections of I-94 decreases with distance from the project area. Traffic volumes along I-94 in the project area range between 120,000 to 170,000 annual average daily traffic [AADT]. While outside of the study area, traffic volumes decrease to 90,000 to 125,000 AADT. West of I-96 and east of Conner Avenue, interchanges are spaced farther apart and more space is available to place ramps and signage. Interchanges with other state, U.S., or interstate highways also are farther apart making system connectivity less critical. Between I-96 and Conner Avenue, major traffic generators draw large volumes of traffic and create a heavy reliance on I-94 for their continued success.

Due to the three freeway-to-freeway system connections to I-94, critical links to the local and international economy, failure to meet current design standards, crash rates above the statewide average, elevated congestion levels compared to adjacent sections, and repairs recently made to adjacent sections, I-96 and Conner are the logical termini for this proposed improvement.

Since the DEIS, rehabilitation of I-94 has occurred east of Conner Avenue and west of the I-96/I-94 interchange. In 2002, I-94 from east of Conner Avenue to Masonic Boulevard (a distance of approximately 12 miles) underwent major rehabilitation, including, repairing and resurfacing the pavement and rehabilitating or replacing 51 bridges. Capacity improvements were not part of the project as they were not deemed to be needed. West of I-96, a maintenance project to resurface the roadway from Wyoming Avenue to I-96 occurred in 2003, and several bridges were repaired or replaced. All eastbound trucks over 13.5 feet high are still directed to exit at Wyoming Avenue because numerous overpasses east of Wyoming Avenue provide less than the current standard of 14.5 feet in vertical clearance. As a result of the two improvement projects east of Conner and west of I-96, combined with the vertical clearance restrictions, the logical termini for this project are from I-96 to Conner Avenue.

2.3.3 Independent Utility

I-94 is identified in the Michigan DOT Long Range Plan 2000–2025 as the *Corridor of Highest Significance* in Michigan. I-94 needs to be modernized and rehabilitated throughout its length. The section from east of I-96 to east of Conner Avenue exhibits several unique problems and circumstances (congestion, condition, outdated design, safety, and connectivity) which are discussed in this chapter and elsewhere in this document. These unique problems and circumstances need to be addressed in addition to the general need to rehabilitate I-94 throughout Michigan. Addressing these specific needs within the proposed project termini improves the performance of I-94 in that location and contributes to the performance of I-94 as a whole. The project's usefulness does not depend on other improvements being constructed. The traffic volumes decrease outside the project limits. The improvements within the project limits address the most congested section and improve the safety of I-94 in the Detroit area.

2.3.4 Other Improvements

The Recommended Alternative described in this FEIS proposes to use the existing alignment of I-94 within the project limits. The 2002 rehabilitation of I-94 from east of Conner Avenue to Masonic Boulevard also used the existing alignment. The rehabilitation of I-94 does not change its location or its connections to other routes. Since the October 2001 report, *Improving Transit in Southeast Michigan: A Framework for Action*, did not include the I-94 corridor in its recommended 12-corridor, 259-mile rapid-transit system, there are no reasonably foreseeable

transit corridors along the existing I-94. The continuous service drives will accommodate bus transit, and features such as turnouts and shelters for waiting passengers will be considered during design. Communication with the city of Detroit is ongoing and will continue to coordinate I-94 with local road and street improvements. The Recommended Alternative does not restrict the consideration of alternatives for bus transit or intelligent transportation systems, since they can be accommodated on the freeway or on the continuous service drives.

2.4 Description of the Recommended Alternative

The Recommended Alternative (detailed in Chapter 4) will replace the existing cross-section which provides three through-traffic lanes in each direction and non-continuous, intermittent service drives. The Recommended Alternative will have a wider cross-section providing:

- One new through lane in each direction (for a total of four lanes in each direction);
- Continuous two-lane service drives throughout the project (with a three-lane eastbound service drive between M-10 and I-75 due to traffic demand);
- Auxiliary and acceleration-deceleration lanes;
- New pavement, bridges, retaining walls, and ramps;
- All new interchanges with updated design standards (Linwood and Trumbull, M-10, Brush (partial), I-75, Russell (partial), Chene, Mt. Elliott, Gratiot, and Conner);
- Wider (14-foot) inside and (12-foot) outside shoulders in each direction of the I-94 mainline;
- Continuous handicapped accessible sidewalks along all service drives; and
- All new drainage systems, lighting systems, and signage.

The wider shoulders adjacent to the median and outside lanes will allow for emergency accommodation of disabled vehicles. There also will be new auxiliary lanes and longer acceleration-deceleration lanes to improve freeway on-ramp and off-ramp operations.

The median will include 14-foot inside shoulders and 12-foot outside shoulders. There will be a six- to ten-foot variable-width area between the inside shoulders to accommodate a concrete median barrier. The only bridge that will not be totally replaced is the Dequindre Yard Bridge, which was reconstructed in 2001. Modifications to the Dequindre Yard Bridge will be required during this proposed project.

2.5 Need for the Proposed Action

The existing I-94 in the project area was built in the late 1940s and early 1950s and is approaching the end of its service life. The pavement and bridges are in poor condition and require extensive maintenance. The condition of the existing facility is the primary need for action.

Other problems must be addressed by any proposed solution. While I-94 was state-of-the-art when it was built, it no longer features the current, best-available design. The existing facility does not provide current roadway design or adequate capacity for today's traffic volumes. Also, I-94 does not provide adequate capacity for traffic volumes projected through 2025. The need

for the project is discussed extensively in the DEIS (DEIS Section 2.5), and this need remains valid. Since circulation of the DEIS, the need for the project has been expanded to include Economic Setting (FEIS Section 2.5.7) and I-94 System Connectivity and Continuity (FEIS Section 2.5.8).

2.5.1 Sufficiency Rating

Sufficiency rating scores from 1998 for the existing I-94 pavements were less than 40. Anything less than 40 is described as “poor” pavement. This is the lowest-possible rating in the MDOT Sufficiency Rating Report. The 2001 sufficiency rating scores did not improve since no corrective action was taken between 1998 and the 2001 study. (A sufficiency rating is a systematic method to rate the condition of various highway components such as pavement and bridges.)

I-94 in the project area was milled and resurfaced in 2002 which temporarily raised the pavement’s sufficiency rating. This project improved the riding surface only and is expected to last five to seven years. The milling and resurfacing project was a short-term improvement intended to provide an acceptable riding surface until major rehabilitation could be initiated to address the underlying structural (load carrying) problems.

2.5.2 Bridge Conditions

SEMCOG’s bridge sufficiency ratings indicate that 34 of the study area’s 77 bridges are structurally deficient and that 16 of those 34 bridges are functionally obsolete (*Status of Bridges in Southeast Michigan*, SEMCOG, April 2002). Structural adequacy or deficiency is related to a bridge’s ability to carry a given weight or load. Functional adequacy or deficiency is related to a bridge’s width and/or vertical clearance over the stream, railroad, or other highway being crossed. In addition to structural or functional purposes, all bridges in the study area will need to be replaced to accommodate additional through-traffic lanes and wider shoulders for the mainline.

2.5.3 Traffic Congestion

In 2000, when the DEIS was prepared, the SEMCOG 2020 traffic model was used to predict traffic volumes to the year 2020 for analysis of future traffic conditions. Traffic volumes in 2020 were predicted to rise by approximately 25 percent over 1995 annual average daily traffic volumes (1995 volumes varied from 120,000 to 160,000 annual average daily traffic [AADT]).

In 2002, the SEMCOG 2025 traffic model became available. The traffic analysis year for this project has now been extended to 2025 to take advantage of this latest model. The new traffic forecasts predict that AADT volumes in 2025 will increase approximately 35 percent over the 1995 traffic volumes.

The AADT volumes predicted for 2025 are 10 percent higher than those predicted for 2020. The DEIS reported the 2020 predicted volumes would result in Levels of Service (LOS) E and F throughout the study area if no improvements were made. Levels of Service E and F indicate lower speeds with stop-and-go conditions. Operation under these circumstances generally is considered congested. If 10 percent more traffic is added by 2025, traffic flow will deteriorate further and congestion will increase. This generally means that speeds will be even lower, with

more stops, and congestion will extend over a longer time period. LOS A is best; LOS F is worst. A more detailed description of LOS can be found in the DEIS Section 2.5.3 and in the Traffic Report, Volume 3.

2.5.4 Local Traffic

The DEIS described how drivers use I-94 to make short trips along the corridor because of the lack of continuous service drives and parallel streets. East-west travel along the corridor is difficult without using I-94. Drivers need to have local street options to make local east-west trips. The continuous service drives included in the Recommended Alternative will provide those options. Separating local and through traffic will improve operations on and along I-94.

2.5.5 Safety

The discussion of safety included in the DEIS described high crash rates in the project area (more than double the average in Southeast Michigan in some instances). It noted that the high rates are in part due to outdated highway design, high traffic volumes, and use of the mainline by local traffic. The crash statistics for 1999, 2000, and 2001 validate a continuing safety concern.

Traffic crashes cause loss of life, property damage, injuries, additional congestion, and extensive delays. Increased capacity, state-of-the-art highway design, and continuous service drives are needed to reduce the frequency and severity of crashes.

2.5.6 Transit, Pedestrians, and Bicyclists

Pedestrian and bicyclists transportation is important to residents in the project area. Twenty-four percent of those responding to a 1999 Citizens' Impact Survey taken in the project area indicated that they did not own a car, which is consistent with information in the 2000 Census. This means that a large portion of the populace depends on other forms of transportation. Circuitous surface streets and the lack of continuous service drives are not conducive to bus routes. This situation can make pedestrian and bicycle trips unnecessarily long. In addition, many of the existing sidewalks are not compliant with the Americans with Disabilities Act (ADA) requirements. The ADA requires lower curbs, ramps, and other features that allow easier access to persons with physical handicaps.

While the Recommended Alternative does not include a dedicated space reserved for transit use, transit accommodation can be incorporated into the service drives and cross-street designs. The two-lane service drive with an 8-foot shoulder provides flexibility for bus amenities such as expanded sidewalks and bus turnouts. Incorporation of these transit accommodations depend on further coordination with the city of Detroit and other transit providers.

In order to serve the large number of people with no access to automobiles, the Recommended Alternative will provide sidewalks (at least six feet wide) along the service drives, through the interchanges, and on all reconstructed bridges and cross-streets. These new continuous sidewalks, together with pedestrian signals at signalized intersections and other pedestrian-friendly features, should improve pedestrian mobility in the project area. Bicyclists also should experience improved mobility with the continuous sidewalks and the possibility of using the multi-purpose lane and bridges along and across the I-94 corridor.

2.5.7 Economic Setting

Improving I-94 will be a positive contribution to the ongoing development in the project area. New development is occurring at Wayne State University, the New Center Area, the Cultural Center, the new sports stadiums, the medical complex, and nearby vacant residential areas. A new fuel cell research center is planned for the area north of I-94 and east of M-10. The I-94 project area is exhibiting new economic vitality.

In addition to local economic growth, an improved I-94 will contribute to growing border crossing traffic and complement the several border crossing projects discussed in FEIS Section 2.2.5. Eleven percent of Michigan jobs depend on exports. I-94 can contribute to (or detract from) that number. The city of Detroit needs to encourage positive economic growth and to support the growth that is already occurring, which is consistent with the long range plan. A rehabilitated I-94—with adequate capacity and an improved visual image—will contribute to a positive economic climate that will encourage further economic investment.

2.5.8 I-94 System Connectivity and Continuity

The I-94 Rehabilitation Project is a priority because of its central role in freight and passenger networks in Southeast Michigan. I-94 connects a number of freeways, state highways, international border crossings, and major traffic generators. These connections allow I-94 to provide continuous travel through seamless links between multiple highways.

Within the project limits (or immediately adjacent thereto), I-94 intersects with I-96, I-75, M-10 (Lodge Freeway), M-53 (Van Dyke), and M-3 (Gratiot Avenue). I-94 also crosses M-1 (Woodward Avenue) but does not provide direct access to M-1. With numerous routes depending on I-94 to provide links to other routes, its condition and capacity have considerable impact beyond the interstate's own limits. If congestion or repairs to an aging facility prevent drivers from using I-94 to make their connections and continue their travel, they will seek other routes through the local street network or secondary connections. The use of other routes will result in circuitous travel, loss of time, and impacts to other neighborhoods.

I-94 provides access to the Southeast Michigan international border crossings, and its condition and capacity affect the economic efficiency and the well-being of Southeast Michigan's economy.

Freight: This section of I-94 has been described as a distribution manifold of freight transport in Southeast Michigan. I-94 is a hub of important regional, interstate, and international facilities, and connects to I-75 and I-96, and serves as a funnel to major intermodal freight facilities downstream of the project area. This section of I-94 is an upstream link to international border crossings at the Detroit River.

The I-94 Rehabilitation Project directly improves system connectivity by removing congestion in the vicinity of the interchanges. The project reconstructs and modernizes the I-75 and M-10 interchanges, and reduces congestion adjacent to the I-96 interchange.

Passenger traffic: This section of I-94 is also an important regional route for passenger traffic. By improving the connections to I-75, I-96, and M-10, mobility for commuters from Wayne, Oakland, and Macomb Counties will be improved. Directly and through its connections to I-96, I-75, and M-10, the project segment provides access to major traffic generators (i.e. Wayne State

University, the Detroit Medical Center Complex, the New Center area, the General Motors Cadillac Plant, the Cultural District, professional sports stadiums and Detroit central business district). The connections provided by I-94 to other routes, international border crossings, the interstate system, and businesses contribute to the success and well-being of the traffic generators mentioned above and affect the economy in southeast Michigan and beyond. See Section 2.2.3 of this FEIS for further detail.

The I-94 rehabilitation project also has an opportunity to restore the surface street network that was interrupted when the Edsel Ford Freeway was initially constructed. By providing continuous service drives, local circulation will be improved and neighborhoods reconnected.

2.6 Project Goals and Objectives

The I-94 project from I-96 to Conner Avenue is an investment in the existing Interstate Highway system that will promote safety, mobility, access, intermodal connectivity, economic activity, older communities' viability, and continuous fulfillment of the services of existing facilities.

2.6.1 MDOT's Long Range Plan

The *MDOT State Long Range Plan 2000-2025* (LRP 2000-2025)—adopted by the Michigan State Transportation Commission in August 2002—contains eight goals:

- **Preservation.** Direct investment in existing transportation systems to effectively provide safety, mobility, access, intermodal connectivity, or support economic activity and the viability of older communities. 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 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 among 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 and 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.

The four goals of the I-94 project, the goals of the SEMCOG regional 2000 – 2025 RTP, and the eight goals of the MDOT LRP 2000 – 2025 are similar. The MDOT LRP 2000-2025 has divided the objectives into more goals; however, the targeted objectives are similar.

2.6.2 Corridors of Highest Significance

The MDOT LRP 2000 – 2025 identifies *Corridors of Highest Significance* and specific projects within the Corridors of Highest Significance. The Corridors of Highest Significance were identified using these criteria:

- Total and commercial average daily traffic;
- International trade;
- Total population and population density;
- Total employment and employment density;
- Tourism and convention centers;
- Air carrier and general aviation airports;
- Cargo port;
- Carpool parking lots;
- Intercity bus service;
- Intermodal freight and passenger terminals;
- Passenger and freight rail; and
- Level of Service (LOS) congestion.

The top Corridor of Highest Significance identified was I-94 throughout Michigan. The MDOT LRP 2000-2025 states:

“This shows that 35 percent of the annual vehicle miles traveled (AVMT) on I-94 occurred under congested conditions as of 2000, and that 42 percent is projected to occur under congested conditions by 2025. To maintain the mobility of people and goods along I-94 that is required for Michigan’s economic well-being, the MDOT will have to rehabilitate and modernize this freeway corridor, but will also have to add capacity throughout its length—three lanes minimum in each direction. Four lanes in each direction will be called for in some urbanized areas, dependent on area-specific congestion analyses.”

The MDOT LRP 2000-2025 listed five other projects designed to meet current economic development needs, reduce congestion, and improve safety. These five projects are listed in *Specific Projects within the Corridors of Highest Concern*. These projects also are included in the Build Michigan III program as the MDOT’s “... most immediate focus for capacity improvements.” The I-94 project from I-96 to Conner Avenue is the first project listed due to

congestion, deterioration, outdated design, truck mobility, international truck travel, and international trade as the bases for the selection of the I-94 project.

In the officially adopted regional and statewide plans, I-94—in particular, the section of I-94 between I-96 and Conner Avenue—is ranked as the roadway most needing improvement in Michigan.

2.7 Summary

I-94 in the project area is a critical link in the Southeast Michigan transportation system by occupying a central location in the transportation system, and connecting to a number of other important roadways. I-94 serves major traffic generators, and its central role in freight and passenger networks contributes to Southeast Michigan's economy. The I-94 freeway also links to major international border crossings and serves as a gateway to the city of Detroit. I-94 needs major improvements in order to:

- Replace aging pavement and bridges;
- Address existing congestion and provide for future travel demand;
- Connect important routes in an effective and efficient manner;
- Improve safety;
- Improve local circulation by separating local and through traffic;
- Contribute to an improving economic climate in Detroit;
- Provide improved service to pedestrians and bicyclists; and
- Improve the aesthetics of the project area.