EXECUTIVE SUMMARY

This Executive Summary provides an overview of the contents of the I-94 Rehabilitation Project Draft Environmental Impact Statement (DEIS) and Section 4(f) Evaluation. Included in the DEIS are the purpose and need for the project, the planning process, a discussion of all alternatives considered, and the alternatives retained for consideration. Also included are the social, economic, and environmental impacts of the alternatives, measures to mitigate the impacts, and a summary of the public involvement process that occurred during development of the project and this DEIS.

1.0 Introduction

This DEIS documents potential social, economic, and environmental impacts that would result from the I-94 Rehabilitation Project. The DEIS also identifies mitigation measures for the impacts. One of the proposed alternatives, the Build Alternative, described in this document requires the acquisition of additional right-of-way and reconstruction of the roadway. This DEIS complies with requirements of the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality (CEQ) regulations, and guidelines and requirements of the Federal Highway Administration (FHWA).

The I-94 Rehabilitation Project would provide transportation improvements to 6.7 miles of I-94 (Edsel Ford Freeway) in the city of Detroit. The improvements would preserve and enhance a vital component of Michigan's transportation infrastructure, a backbone of the state's economy. The rehabilitation of I-94 would address current and future capacity, safety, pavement, and bridge needs along I-94. The rehabilitation would also enhance local traffic circulation by separating local traffic from freeway traffic.

2.0 Description of Project Area

The I-94 Rehabilitation Project area is a limited-access transportation corridor that extends along I-94 from east of I-96 on the west end to immediately east of the Conner Avenue interchange on the east end. It includes I-94 intersections with M-10 (John C. Lodge Freeway) and I-75 (Chrysler Freeway) (Figure 1-1). The study area, for traffic analysis purposes, extends from Wyoming Avenue in the city of Detroit to I-696 in Macomb County. I-94 is a high-priority corridor on the Interstate Highway System, linking Ontario, Canada to the east with southeast Michigan. It connects Michigan with major U.S. metropolitan areas in Illinois, Wisconsin, Minnesota, North Dakota, and Montana.

I-94 within the project study area is the most heavily traveled portion of I-94 within Michigan. Approximately 160,000 automobiles and 5,500 trucks per day travel on I-94 between I-75 and I-96. These traffic volumes are predicted to increase.

Heavy freeway-to-freeway movements occur on the section of I-94 between I-75 and I-96. Each interchange is fully directional, allowing all movements from one facility to the other. The I-96, M-10, and I-75 interchanges with I-94 are some of the most closely

Figure 1: Traffic Study and Project Limits

spaced interchanges on the interstate system within Michigan. Arterial-access ramps are also closely spaced and dozens of bridges (both pedestrian and vehicle) cross over the freeway.

I-94 carries a high volume of commuters into downtown Detroit from the suburbs and provides access to several neighborhoods adjacent to the freeway. It is a major connector for traffic between Ontario and the Midwest and an important regional truck route. Traffic volumes are heavy during most daylight hours, and some segments often operate over capacity during peak periods. Drivers often encounter stopped traffic along I-94 during this time, and traffic flow is stop-and-go during these periods. The breakdown in flow can be attributed to weaving maneuvers on the I-94 mainline, as well as backups on the ramps leading to other freeways.

Traffic crashes at some locations along I-94 occur at a rate exceeding the Detroit freeway average rate of 350 crashes per 100 vehicle miles traveled. Traffic crashes cause property damage, injuries, and loss of life. They also add to driver delay and frustration, and due to the additional congestion associated with these crashes, air quality is negatively impacted because of the increase of carbon monoxide (CO) emissions from idling vehicles.

Traffic management on the interstate system is especially difficult after traffic incidents and traffic crashes. Traffic along I-94 is often delayed for long periods of time while traffic crashes are investigated and cleared. Since I-94 is used extensively by local and regional traffic and for regional, interstate, and international goods movement, traveler delay and lost productivity caused by traffic crashes can be extensive.

Several studies completed in the last 12 years by the Michigan Department of Transportation (MDOT), the Southeast Michigan Council of Governments (SEMCOG) (the Detroit Metropolitan Planning Organization [MPO]), and the city of Detroit highlight the critical role of I-94 as part of the interstate system in southeast Michigan.

The *Greater Detroit Area Freeway Rehabilitation Program Study*, completed in 1990 by MDOT, identified I-94 as the freeway in greatest need for improvement. I-94 was also identified in the 2015, 2020, and 2025 Regional Transportation Plans (RTPs) for southeast Michigan as a study corridor with capacity, bridge, and pavement deficiencies. These plans recommended that a detailed study of the area be undertaken to find appropriate solutions to the problems evident within the corridor.

Construction of the project portion of I-94 began in 1947 and was completed in the mid 1950s. Many of the existing vehicular bridges along I-94 have loading and structural deficiencies in addition to limited vertical clearances. The vertical clearances at many of the overpass structures are less than the current MDOT minimum standard of 14.5 feet. The pedestrian bridges across I-94 are also aging. The I-94 bridges require substantial rehabilitation or replacement.

3.0 Purpose and Need for the Proposed Project

The deteriorated condition of pavement and bridges, inadequate roadway capacity, and outdated design of this segment of I-94 and its bridges drive the need for reconstruction and rehabilitation of I-94. The proposed project would enhance I-94 so that it would continue to function as a modern interstate and meet the traffic demands of a growing region. The proposed project would increase capacity and safety, and rebuild bridges, ramps, and the mainline of the freeway, as well as enhance local circulation.

4.0 Project Goals

Four goals were developed for the project based on an analysis of the need for the project and information collected at various meetings held in the initial stages of the study. After these goals were identified, specific objectives were developed for each goal. The four goals are described below.

Goal 1—Mobility. Maintain and enhance safe and efficient transportation for passengers and freight on I-94 including the M-10 and I-75 interchanges.

Goal 2—Access and Development. Improve access and enhance the potential for economic development in the I-94 rehabilitation corridor and adjacent areas.

Goal 3—Environment. Maintain and enhance the beneficial social, economic, and environmental effects of the I-94 rehabilitation corridor while minimizing adverse impacts.

Goal 4—Cost Effectiveness. Develop an efficient transportation system that maximizes return on limited resources, recognizing that benefits include enhancements to accessibility, community cohesion, job development potential, and service to transit users.

5.0 Alternatives

Several alternatives were evaluated to determine the best option to address current and projected travel demands, reduce the number of traffic crashes, and rehabilitate the pavement and bridges along I-94. Alternatives considered but eliminated included:

- Use of the Grand Trunk Western/Conrail Railroad corridor as a truck route
- Addition of high-occupancy vehicle (HOV) lanes
- Construction of unconventional service drives that would not always parallel I-94
- Improvement of the interstate mainline with addition of lanes and reserved median space while leaving the M-10 and I-75 interchanges without improvement
- Construction of collector/distributor roads
- Continuous Service Drives Alternative (Presented at public meetings: May 12 and 13, 1999)
- Braided Ramps Alternative (Presented at public meetings: May 12 and 13, 1999)

Alternatives considered and eliminated as stand-alone alternatives but retained as compatible with the Build Alternative include:

- Transportation Systems Management (TSM) including Intelligent Transportation Systems (ITS)
- Transit
    - Improved bus service
    - Bus Rapid Transit (BRT)
    - Light rail

Three alternatives were ultimately retained for further study. They are described and evaluated in detail in Chapter 4. The retained alternatives are the No-Build Alternative, the Enhanced No-Build Alternative, and the Build Alternative that includes design elements from the Continuous Service Drives Alternative and the Braided Ramps Alternative. The retained Build Alternative was refined, based on comments from the public and the city of Detroit, to reduce the amount of right-of-way and number of structures to be acquired. It avoids the Research Park Apartments and the Fourth Street neighborhood adjacent to the I-94 and M-10 freeways and, in doing so, reduces the number of residents to be displaced. These three alternatives are termed the Practical Alternatives.

5.1 No-Build Alternative

The No-Build Alternative serves as a benchmark for comparison of the alternatives.

The No-Build Alternative would not involve construction on I-94. It would include only maintenance of the existing facility and replacement of bridges as they deteriorate. It would not meet the purpose of the proposed project and the need to increase safety and capacity.

5.2 Enhanced No-Build Alternative

The Enhanced No-Build Alternative would reconstruct the existing freeway and bridges, provide for limited improvements to shoulders and ramps, and construct auxiliary, acceleration, and deceleration lanes. It would also include regular maintenance of the freeway, the two interchanges, and bridges. With this alternative, no substantial changes to the existing freeway or interchanges would be made.

The Enhanced No-Build Alternative does not meet the purpose of the proposed project and the need to increase capacity and safety as established by this study. The stop-and-go conditions frequently experienced by motorists using I-94 during the morning and evening peak periods would worsen in the future. Capacity would not be increased and safety would be only marginally improved.

5.3 Build Alternative

The proposed Build Alternative is a result of refinements of the design of the originally proposed Build alternatives and reduces impacts of the original alternatives. The original

Build alternatives would have acquired Research Park Apartments and the Fourth Street neighborhood and was redesigned to eliminate acquisition of the apartments and the Fourth Street neighborhood. The Build Alternative, as currently proposed, consists of the addition of two driving lanes (one in each direction), acceleration/deceleration lanes, and three-lane continuous service drives on both sides of the interstate. It would include reconstruction of the existing roadway, I-94 bridges, and bridges over I-94. It would also include reserved space in the median to accommodate future lane expansion or transit improvements on I-94, as shown in Figure 2. This alternative would upgrade the M-10 and I-75 interchanges with continuous service drives. Furthermore, it would remove all left-hand ramps and create all right-hand entrances and exits, which would provide more efficient traffic movements. The continuous service drives would allow non-freeway traffic to travel from one end of the corridor to the other, even at the M-10 and I-75 interchanges. Figures 3 and 4 are conceptual examples of the proposed improvements at the I-94/M-10 and I-94/I-75 interchanges under the proposed Build Alternative.

The additional driving lanes would be general-use lanes and would turn the six-lane freeway into an eight-lane freeway. The addition of the driving lanes would reduce current and future congestion along I-94. The redesign of the freeway would facilitate future transit options along I-94. Reserved space in the median, continuous service drives, and increased height of the bridges would accommodate future transit use.

Congestion will continue to grow as the area experiences further economic growth. However, additional widening of I-94 in excess of that proposed in the Build Alternative is not feasible. Further widening would result in a large number of residential and business acquisitions. Other alternatives in lieu of additional widening would need to be developed in concert with local land planning and land management initiatives to address transportation demand within the corridor.

5.4 Alternatives Compatible with Practical Alternatives

Alternatives compatible with the Practical Alternatives are those that by themselves could not adequately address the purpose and need for the project. They would be complementary to the alternatives under consideration and assist in enhancing the efficiency of the transportation system. These alternatives are Transportation Systems Management (TSM) that includes Intelligent Transportation Systems (ITS) and transit.

TSM focuses on activities or strategies that improve the operational efficiencies of existing transportation systems. The TSM enhancements include ramp metering, Incident Management Systems that mitigate slowed traffic flow caused by crashes or incidents, and ITS which detects traffic speed, congestion, or incidents and conveys traffic information to motorists.

Three transit options were considered as possible solutions to current and future congestion on I-94 and the need to increase the capacity of the roadway: the modification of existing transit service in the I-94 corridor; Bus Rapid Transit (BRT) (exclusive right-of-way for buses, designed to improve the speed and efficiency of bus service); and light rail using the median of I-94.

Insert Figure 2 – Typical Cross-Section

Insert Figure 3 – I-94/M-10 Photo Simulation

Insert Figure 4 – I-94/I-75 Photo Simulation

None of the transit options would meet the purpose and need of the proposed project. Transit by itself would not increase the capacity and safety or alleviate structural deficiencies on I-94. The Build Alternative would accommodate and enhance the opportunity for existing and future improved transit.

6.0 Social, Economic, and Environmental Impacts

Impacts related to the Practical Alternatives are summarized below and described in detail in Chapter 5.

6.1 Social Environment

Cohesive neighborhoods with single- and multiple-family housing, businesses, and community facilities are located along I-94. According to the 1990 Census, the project area has a large minority population (84 percent African American), and a higher proportion of persons below the federal poverty level than Detroit, Wayne County, and the state.

6.1.1 Acquisition Impacts

The No-Build and Enhanced No-Build alternatives would require no right-of-way acquisition.

The Build Alternative, as currently proposed, would require acquisition of 2 apartment buildings with a total of 14 units, 27 single-family residences, 5 duplexes, 15 businesses, and 3 nonprofit organizations. The Build Alternative was refined to eliminate the acquisition of the Research Park Apartments and Fourth Street neighborhood, with the exception of two structures in the Fourth Street neighborhood.

Mitigation of Acquisition Impacts

Property would be acquired in compliance with state and federal law. Owners would be compensated for fair market value of the property. Fair market value is the highest estimated price which the property would bring if exposed to sale on the open market.

6.1.2 Displacement Impacts

The Build Alternative was refined in response to citizen and city of Detroit concerns regarding the large number of residents who would have been displaced. The original Build alternatives would have acquired Research Park Apartments and the Fourth Street neighborhood and relocated the residents.

After redesign and refinement of the Build Alternative, the number of displacements decreased by approximately 620 residents. The current Build Alternative would displace approximately 133 residents.

Mitigation for Displacement Impacts

Displacement impacts to the community would be mitigated by MDOT. Qualified MDOT personnel would provide relocation assistance services. Currently, comparable housing and commercial properties to rent or buy are available in the project area. MDOT has developed a Conceptual Stage Relocation Plan for the project area to analyze the potential displacements within the area if the proposed Build Alternative is implemented. The plan is in compliance with Michigan and federal regulations and guidelines.

6.1.3 Impacts to Community Facilities

The No-Build and Enhanced No-Build alternatives would have no direct impacts on community facilities and services. The No-Build and Enhanced No-Build alternatives would not divide neighborhoods or affect social integrity. However, in the long-term, the No-Build and Enhanced No-Build alternatives would have an effect on community facilities and services as congestion increases. Access to adjacent neighborhoods, transit, and emergency vehicle access would be retained as they currently exist, making it more difficult to access these areas.
Neither the No-Build Alternative nor Enhanced No-Build Alternative would include construction of sidewalks. Pedestrian access to community facilities would not be improved. Non-motorized mobility would remain unchanged.

As a result of acquisition of property and structures, the Build Alternative would affect the integrity of the edges of neighborhoods adjacent to I-94. However, the Build Alternative would reduce the number of displacements that were displaced by the original Build alternatives and so would reduce the impacts on community cohesion.

The beneficial impacts of enhanced access and improved aesthetics of the Build Alternative would facilitate revitalization and would contribute to the redevelopment and integrity of the communities. Reconstructed vehicular bridges, continuous service drives, and decreased congestion would reduce response time for emergency vehicles.

6.1.4 Non-Motorized Mobility

The Build Alternative would add sidewalks adjacent to the service drives along the length of I-94 and improve pedestrian access to community facilities and services. The Build Alternative would provide opportunities for improved transit service and mobility within the project area.

Neither the No-Build nor the Enhanced No-Build alternatives would provide continuous service drives and so would maintain transit and mobility as they currently exist for residents without automobiles.

Provision of three-lane continuous service drives with sidewalks by the Build Alternative, particularly in areas without existing service drives, would have a beneficial impact.

Continuous service drives would facilitate future transit options for those without automobiles, and sidewalks would improve access for pedestrians.

6.1.5 Neighborhood Traffic Impacts

During public involvement meetings, community members expressed concerns regarding traffic that would filter through the neighborhood from the service drives. During design of the Build Alternative, measures to discourage unwanted traffic would be evaluated. Measures would include cul-de-sacs and right-in only or right-out only turns on streets that connect to service drives. The measures would be evaluated in coordination and with input from individual neighborhoods.

6.2 Environmental Justice

Forty percent (40%) of the population in the project area has an income below the federal poverty level, compared to 32 percent of the population of the city of Detroit and 13 percent of the population of the state of Michigan. A minority (84 percent of the project area population) and low-income population exists in the project area adjacent to I-94.

Potential impacts of the I-94 Rehabilitation Project include displacement of residents, loss of community businesses, increase in traffic at new service drive locations, and construction impacts, such as a temporary increase in noise and additional traffic. Based on the impacts of the Build Alternative, the minority and low-income population of the project area would experience disproportionately high and adverse environmental effects.

According to FHWA guidelines, the proposed project should only be carried out if further mitigation measures or alternatives that would avoid or reduce the disproportionately high and adverse effects are not practicable.

Reconstruction of I-94 in a new location would result in more severe impacts, such as relocation and social impacts, than the proposed Build Alternative. The No-Build and Enhanced No-Build alternatives would avoid the impacts of the Build Alternative but would not meet the purpose and the need of the project. The No-Build and Enhanced No-Build alternatives would not improve pedestrian and vehicular access or provide opportunities for improved transit and revitalization of communities.

The I-94 public involvement process included over 100 public meetings. Comments from the public and the city of Detroit were considered throughout the process. Based on these meetings, design elements from the initially considered Continuous Service Drives Alternative and the Braided Ramps Alternative were modified to develop the Build Alternative that reduces acquisition and displacement impacts.

To further reduce potential displacement impacts, the design of the Build Alternative uses retaining walls to reduce the amount of right-of-way and acquisitions required. The Build Alternative was refined to reduce the number of residential, business, and industrial displacements. Implementation of the Build Alternative would result in beneficial impacts, including improved access to neighborhoods, sidewalks adjacent to service

roads for pedestrians, landscaping, improved roadway aesthetics and opportunity for community revitalization.

6.3 Economics

No large concentrations of retail businesses exist within the project area. The city of Detroit, public and private institutions, and community groups are actively pursuing numerous development projects in and adjacent to the project area.

The No-Build and Enhanced No-Build alternatives would not require expenditures for acquisition of right-of-way. The Build Alternative would result in expenditure of financial resources for acquisition of property and structures and relocation of residents and businesses. A small reduction of property taxes would occur because of properties taken from tax rolls. The refined Build Alternative costs less that the original Build alternatives because of the reduction of the number of business and residential acquisitions.

All of the Practical Alternatives would result in a financial expenditure for construction. The No-Build Alternative would result in the smallest expenditure, and the Build Alternative would result in the largest because of larger structures, acquisition of right-of-way, and relocation costs. The Build Alternative would add more jobs and money to the local economy than either the No-Build or Enhanced No-Build alternatives because of the higher cost of the alternative and more construction workers needed to construct the more extensive improvements.

The Build Alternative would result in the beneficial impacts of enhanced access to businesses in the project area, construction jobs, and money added to the local economy. The estimated cost of the No-Build Alternative is $16 million for maintenance (not including reconstruction of deteriorated bridges) of I-94 within the project area. This will last ten years. $842 million would be needed for the Enhanced No-Build Alternative, and $1.24 billion dollars for the Build Alternative.

If businesses were acquired and chose not to relocate, the Build Alternative would result in loss of employment for persons employed by acquired businesses.

Although no direct impacts would result, the No-Build and Enhanced No-Build Alternatives would not facilitate community and economic development or revitalization and in the long term would impact the economy.

MDOT would continue to work with the business community and the city of Detroit to mitigate economic impacts of the proposed project.

6.4 Land Use

Existing land use within the project area conforms to city of Detroit zoning ordinances and land use policies. Land use in the project area is primarily mixed residential and industrial, with scattered commercial sites along the corridor. The I-94 project area is

located entirely within the city of Detroit and conforms to the city land use and zoning policies.

The No-Build Alternative and Enhanced No-Build Alternative would allow existing land use patterns to continue. Construction of the Build Alternative would support existing land use and the implementation of future city of Detroit land use recommendations that include redevelopment of areas adjacent to or accessed by I-94. The Build Alternative would serve proposed residential and commercial development in the project area by providing an improved major transportation link to employment, shopping, recreation, and health care opportunities in a more efficient manner. The Build Alternative would facilitate revitalization of communities and would influence positive land use options.

6.5 Aesthetics and Visual Resources

Aesthetics refers to the visual elements of a project. Aesthetic impacts can occur for the viewer of the roadway as well as for the motorist using the roadway.

The urban environment of the project area dominates its visual quality. Urban elements include industrial, residential, commercial, and institutional elements, and roadways, utilities, and vacant land. Historical visual elements also exist along I-94.

The No-Build Alternative would replace bridges and pavement at different times as they deteriorate. The No-Build Alternative would result in slightly improved roadway aesthetics in phases as deteriorating bridges are replaced with new bridges. During construction, a temporary visual impact would occur. Long-term visual elements of the roadway would change and appear patched. The view of I-94 from adjacent areas would be essentially the same as it currently exists.

The Enhanced No-Build Alternative would include bridge replacements that would appear newer and therefore would be more visually appealing than existing bridges. The No-Build Alternative and the Enhanced No-Build Alternative would not facilitate redevelopment of neighborhoods and would not contribute to improvements of the visual character of the project area. During construction a temporary visual impact would occur.

Beneficial impacts to aesthetic and visual resources would result from the Build Alternative. The design of the Build Alternative would incorporate features, such as landscaping, to enhance aesthetic and visual resources. The aesthetics of the roadway for travelers and viewers from adjacent areas would improve.

6.6 Air Quality

The existing air quality in Detroit is in compliance with state and federal air quality standards for air pollutants.

The regional, or mesoscale, analysis of ozone (O_3) precursor emissions (hydrocarbons and oxides of nitrogen) from vehicles determines a project's overall impact on regional

air quality levels. A transportation project is analyzed as part of a regional transportation network developed by a county or state. The analysis should validate compliance with the state's implementation plan for air quality. The analysis would be done after the project is listed in the regional transportation plan (RTP). The project would be listed on the RTP after the Recommended Alternative is selected and the sources of funding identified. The preliminary regional analysis indicates compliance with state and federal air quality standards.

Microscale air quality modeling was performed using the most recent version of the EPA mobile source emission factor model (MOBILE5b) and the CAL3QHC (Version 2.0) air quality dispersion model to estimate CO levels at selected locations in the project area. For the year 2020, the No-Build, Enhanced No-Build, and Build alternatives comply with state and federal air quality standards for 1-hour and 8-hour CO concentrations.

6.7 Noise

Several locations along I-94 currently experience noise levels that exceed MDOT and FHWA noise criteria. These areas and others would exceed the noise criteria in 2020 with implementation of any of the Practical Alternatives.

According to MDOT noise criteria, a residence is impacted by noise if the sound level approaches or exceeds 67 decibels or when predicted traffic noise levels exceed existing noise levels by 10 decibels or more. The No-Build Alternative would not provide mitigation in the form of noise barriers for these areas because no new construction, other than bridge replacement, would be included in the alternative.

Locations for barriers to reduce noise impacts were evaluated for the Build Alternative. Nine residential areas were evaluated for MDOT noise-barrier criteria of cost per residence, degree of noise reduction, size of barrier, and number of benefited residents. Of nine areas evaluated, four meet the criteria for effective barriers that would reduce noise levels. Noise levels and barriers would be reviewed after final design of the Build Alternative and consultation with the public.

6.8 Vibration

Vibration impacts could potentially occur. Prior to construction, a plan to evaluate structures, especially historic structures, would be developed to identify potentially affected structures, prevent vibration impacts to them, document impacts that occur, and mitigate them.

6.9 Contaminated Sites

Eighty-four potential contaminated properties were identified in the I-94 study area. Thirty of these sites would have the potential to impact the I-94 Rehabilitation Project.

Disturbance of contamination could occur with the No-Build Alternative as a result of bridge replacement or with the Enhanced No-Build Alternative as a result of

acceleration/deceleration lanes and bridge construction. The Build Alternative would have the potential to disturb more contamination than the No-Build alternatives, because of more land disturbance.

The Build Alternative would require additional investigation and characterization of contaminated sites identified within the corridor. Recommendations for contaminated sites, including requirements for handling impacted soils and implementation of worker safety measures, would be finalized prior to construction and incorporated into final construction plans.

6.10 Drainage and Water Quality

Two types of effects to water quality are common to roadway improvement projects and may potentially occur in the project area with any of the alternatives: (1) an increase in the pollutants contained in stormwater runoff, and (2) erosion and sedimentation.

The closest surface water is the Detroit River, which is outside of the project area. Stormwater runoff from the freeway currently flows in the city-combined system, is treated at the treatment plant, and then flows into Detroit River. Groundwater is 75 to 90 feet below the ground level in the project area.

The No-Build and Enhanced No-Build alternatives would not affect existing water quality conditions resulting from roadway run off.

The Build Alternative would result in more runoff than the No-Build and Enhanced No-Build alternatives because of the larger impervious surface that would result from the Build alternative.

No groundwater impacts would be expected as a result of implementation of any of the alternatives. The impacts on surface water quality would not be significant. No impacts would be expected on the hydrology within the study area because it contains no floodplains or bodies of surface water.

The opportunity would exist for the Build Alternative to incorporate design features to improve drainage and water quality along I-94. Facilities to detain stormwater would be evaluated during design of the Build Alternative.

6.11 Wetlands and Natural Areas

Natural resources in the project area were identified, evaluated, and assessed for potential impacts. Because none of the alternatives would impact floodplains or wetlands, the proposed project complies with Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*.

6.12 Vegetation and Wildlife

No long-term impacts from any of the alternatives are expected on terrestrial flora or

fauna within the rehabilitation corridor, primarily because the rehabilitation corridor lies within a developed urban area. Ornamental plants and trees that are removed for construction of the Build Alternative would be replaced in kind. The Build Alternative would include additional trees and shrubs as an element of aesthetic treatment.

6.13 Archaeological Resources

No archaeological resources are known to exist in the project area.

6.14 Cultural Resources

To comply with Section 106 of the National Historic Preservation Act of 1966, as amended, a survey of the study area for historic resources was conducted. The proposed Build Alternative would have an adverse effect on one district listed on the National Register of Historic Places (NRHP) and two properties that are eligible for listing on the NRHP.

The Woodbridge Neighborhood Historic District is listed on the National Register of Historic Places. The Build Alternative would result in an adverse effect to the district. One house, a store, two vacant lots, and a fenced automobile storage area would be removed from the District. The properties are adjacent to the existing I-94 eastbound service drive. To mitigate adverse impacts, relocating the house and store would be considered. If moving it were not an option, the house would be recorded to Historic American Buildings Survey (HABS) standards for appropriate archives. A Memorandum of Agreement (MOA) among the State Historic Preservation Officer (SHPO), FHWA, and MDOT has been developed. Appendix A contains the draft MOA. The MOA would be submitted to the Advisory Council on Historic Preservation (ACHP) for concurrence. The MOA indicates that the SHPO agrees with the findings of FHWA and the mitigation measures and that the ACHP concurs.

The I-94/M-10 interchange was determined to be eligible for listing on the NRHP by the 1995 MDOT *Michigan Historic Bridge Inventory*. The interchange would be recorded to Historic American Engineering Record (HAER) standards for archival storage prior to construction. A MOA, following the procedure detailed above for the Woodbridge Neighborhood Historic District, among SHPO, FHWA, and MDOT has been developed for this interchange and can be found in Appendix A.

The United Sound Systems Recording Studios building is eligible for listing on the NRHP. It would be removed by construction of the Build Alternative. It would be adversely affected by the project. Relocating the building rather than demolishing it would be considered. MDOT would also consider production of a documentary about the building and its contribution to American music as mitigation for the adverse effect on the building. It would be recorded to HABS standards for archival storage. A MOA between the SHPO, FHWA, and MDOT would be signed with the concurrence of ACHP (Appendix A).

A Draft Section 4(f) Evaluation to comply with the Department of Transportation Act of 1966 was prepared for the Woodbridge Neighborhood Historic District, M-10/I-94 interchange, and the United Sound Systems Recording Studios building. The Draft Section 4(f) evaluation is included in this DEIS in Chapter 6. The Draft Section 4(f) Evaluation documents alternatives that would avoid the historic properties and measures to mitigate the adverse effects.

Fifteen structures to be acquired will be evaluated for NRHP eligibility prior to the FEIS if the Build Alternative is the Recommended Alternative. If any are eligible, an addition 4(f) Evaluation will be prepared.

6.15 Energy

The No-Build Alternative, the Enhanced No-Build Alternative, and the Build Alternative would all result in continued use of I-94 by automobiles and expenditure of energy resources by the automobiles. The No-Build Alternative would use the most energy because stop-and-go conditions result in more gas usage than does efficient traffic flow. The Enhanced No-Build Alternative would result in slightly better flow and use less energy than the No-Build Alternative. The Build Alternative would result in the most efficient energy use because of smoother traffic flow.

Facilitation of bus service and light rail by the Build Alternative would have the potential to reduce the use of energy resources by moving more people with less energy.

6.16 Utilities

Utilities present in the I-94 corridor include telephone and television cable, electrical lines, water, gas, and sanitary sewer lines, and stormwater drainage systems.

The No-Build Alternative could affect utilities when bridges are replaced. The Enhanced No-Build Alternative could affect some or all utilities during reconstruction of I-94 facilities. The Build Alternative would affect all utilities that are located under I-94 or in adjacent property required for rehabilitation of I-94.

Types and locations of utilities would be identified for all of the Practical Alternatives prior to construction. The utilities would be relocated by the entities that own the utilities prior to construction or during construction. Disruption of utility service would be avoided if possible during relocation of the utilities. Disruption of utility service would be temporary, and residents and businesses would be notified in advance.

6.17 Construction Impacts

Construction impacts would be short-term and would be unavoidable consequences of the proposed action.

The No-Build Alternative would result in temporary impacts for travelers and residents during maintenance activities. The Enhanced No-Build Alternative would have impacts as bridges, pavement, and ramps are reconstructed.

The Build Alternative would result in temporary impacts while improvements are being constructed and would have more substantial impacts than the other Practical Alternatives. Build Alternative temporary impacts would include:

- Disruption of I-94 traffic flow
- Increased noise impacts to neighborhoods while I-94 traffic attempts to find alternative routes around construction zones
- Modification of access to businesses and neighborhoods
- Increases in dust and pollutants from motor vehicles and construction equipment
- Increased light resulting from illumination of night construction
- Vibration
- Disruption of service and relocation of utilities
- Damage to surface streets
- Increased erosion of soil and sedimentation of surface water
- Visual impacts

MDOT is committed to reduction of temporary construction impacts. A traffic management plan (TMP) would be prepared. The TMP would be developed in conjunction with the detailed construction phasing plans as part of the project design phase. Measures to mitigate street damage and access modification, impacts from noise, light, vibration, dust, pollutants, vibration, and sedimentation would be included in the management plan. A public information program would serve to increase public awareness of the project, identify concerns, and provide specific information about construction project details such as planned construction activities.

6.18 Secondary Impacts

Secondary impacts are indirect impacts that result away from the project and/or in the future. Examples include changes in traffic patterns or increased commercial or residential development.

The Build Alternative would move some ramps and bridges and result in different travel patterns. Beneficial secondary impacts of the Build Alternative would result as improved aesthetics and access of the facility are provided and revitalization and redevelopment of neighborhoods occur in the future.

6.19 Cumulative Impacts

Cumulative impacts are effects which result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions. The cumulative impacts of revitalization efforts in Detroit and improved transportation facilities would result in an improved quality of life in Detroit.