

# **FINAL ENVIRONMENTAL IMPACT STATEMENT**

**I-75 from M-102 to M-59  
Oakland County  
Michigan**



Prepared by

**Michigan Department of Transportation**

In Cooperation with

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**

April 2005

This document has been published by authorization of the Director of the State of Michigan's Department of Transportation in keeping with the intent of the *National Environmental Policy Act of 1969* and subsequent implementing regulations and policies, including *Title VI of the Civil Rights Act of 1964*, that direct agencies to provide the public and other agencies an opportunity to review and comment on proposed projects and alternatives so that potential impacts of the project can be considered and taken into account during the decision-making process. This FEIS has been prepared by MDOT, with the assistance of a team of consultants led by The Corradino Group. The Corradino Group has no interest, financial or otherwise, in the outcome of this Environmental Impact Statement, other than compensation for the service performed and the general enhancement of The Corradino Group's professional reputation. The team of professionals included Commonwealth Cultural Resources Group, Inc. Orchard, Hiltz & McCliment, Inc., Rowe, Inc., Schutt & Company, Somat Engineering, Inc., Tilton & Associates, Inc., and URS Corporation.

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**Proposed Widening and Reconstruction  
I-75 from M-102 to M-59  
Oakland County, Michigan**

**FINAL ENVIRONMENTAL IMPACT STATEMENT**

Submitted Pursuant to 42 U.S.C. 4332 (2)(c) and 49 U.S.C. 303

By The

**U.S. Department of Transportation  
Federal Highway Administration  
and**

**Michigan Department of Transportation**

May 31, 2005  
Date of Approval

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This Final Environmental Impact Statement describes the social, economic, and natural environmental impacts associated with proposed improvements to 18 miles of I-75 between M-102 (8 Mile Road) and M-59 in Oakland County. This document includes a summary of the planning basis and of the impacts associated with the proposed project and the process used in determining the Preferred Alternative. Mitigation measures are also included. The estimated cost of the proposed project is approximately \$572 million (2005 dollars). Twenty-six residential, one church, and two business displacements are anticipated. The estimate of direct wetlands impacts is 0.4 acres.

Comments on this Final Environmental Impact Statement are due 30 days after the date of the publication of the Notice of Availability in the Federal Register and should be sent to Ms. Margaret Barondess at the Michigan Department of Transportation, P.O. Box 30050, 425 W. Ottawa Street, Lansing, Michigan 48909.

## PREFACE

The National Environmental Policy Act (NEPA) of 1969 requires that the social, economic, and natural environmental impacts of any proposed action of the federal government be analyzed for decision-making and public information purposes. There are three classes of action. Class I Actions are those that may significantly affect the environment and require the preparation of an Environmental Impact Statement (EIS). Class II Actions (categorical exclusions) are those that do not individually or cumulatively have a significant effect on the environment and do not require the preparation of an EIS or an Environmental Assessment (EA). Class III Actions are those for which the significance of impacts is not clearly established. Class III Actions require the preparation of an EA to determine the significance of impacts and the appropriate environmental document to be prepared – either an EIS and a Record of Decision (ROD), or a Finding of No Significant Impact (FONSI).

This document is a Final Environmental Impact Statement (FEIS) for the proposed widening of I-75 from M-102 (8 Mile Road) to M-59 in Oakland County, Michigan. It presents the Preferred Alternative and the measures taken to minimize harm to the project area. The Draft EIS was approved December 24, 2003 and a public hearing was held January 27, 2004. This FEIS reflects the comments received during the public hearing process.

The FEIS will be distributed to federal, state and local agencies, private organizations, and all members of the public making substantive comments on the DEIS. Following the comment period on the FEIS, it will be forwarded to the Federal Highway Administration (FHWA) with a recommendation that a Record of Decision (ROD) be issued. The ROD will act as the Location/Design Approval document, allowing the project to move forward to the design stage, when funding is identified. After design is completed the right-of-way acquisition and construction phases will occur.

This document was prepared by a consultant working with the Michigan Department of Transportation (MDOT), in cooperation with FHWA. Representatives from the following areas within MDOT participated: Design, Project Planning, Real Estate, Construction and Technology, Traffic and Safety, and the Metro Region. Information was also furnished by other federal and state agencies, local units of government, public interest groups, an Advisory Council of stakeholders and interested local groups, and individual citizens.

This FEIS and the comments received on the DEIS may be reviewed at:

- MDOT's Lansing office, 425 West Ottawa Street (third floor), Lansing, MI 48933
- MDOT's Metro Region office - 18101 W. Nine Mile Road, Southfield, MI 48075
- MDOT's Oakland Transportation Service Center - 2300 Dixie Highway, Waterford, MI 48238
- Oakland County Community and Economic Development Department - County Service Center, 1200 North Telegraph Road, Building 34 East, Pontiac, MI 48341
- Auburn Hills Library - 3400 East Seyburn Drive, Auburn Hills, MI 48326
- Bloomfield Township Library – 1099 Lone Pine Road, Bloomfield Hills, MI 48302
- Detroit Library - 5201 Woodward Avenue, Detroit, MI 48202
- Ferndale Library – 300 East Nine Mile Road, Ferndale, MI 48220
- Hazel Park Library - 123 East Nine Mile Road, Hazel Park, MI 48030
- Madison Heights Library - 240 West 13 Mile Road, Madison Heights, MI 48071
- Royal Oak Library - 222 East Eleven Mile Road, Royal Oak, MI 48068-0494
- Troy Library - 510 West Big Beaver Rd., Troy, MI 48084

Technical documents that support the decision-making process are available upon request. Summaries of the FEIS are available at all locations.

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# SECTION 1 - SUMMARY

## 1.1 Description of the Proposed Project

I-75, the main north-south roadway through Oakland County, is experiencing congestion in the peak periods that will get more severe and extend through greater portions of the day as the future unfolds. It provides three lanes in each direction through most of the county except for a section between Square Lake Road and a point west of M-24 that already has four lanes in each direction (Figure 1-1). A fourth lane also is present between M-102 (8 Mile Road) and I-696, but this lane is considered an auxiliary lane,<sup>1</sup> not a through travel lane, as it serves the weave movements to and from the many ramps in this section.

The *I-75 Corridor Study in Oakland County* (Feasibility Study),<sup>2</sup> completed in November 2000, recommended providing four through travel lanes in each direction throughout Oakland County. It also recommended the improvement of several interchanges and arterial streets near I-75. The federal action proposed by the Michigan Department of Transportation (MDOT) and covered by this Final Environmental Impact Statement (FEIS) addresses the reconstruction of I-75 and its widening from three to four through travel lanes in each direction between M-102 (8 Mile Road - exit 59) and a point south of M-59 (exit 77), a distance of 18 miles. The logical termini of the Preferred Alternative are M-102 and South Boulevard. South Boulevard is the southern limit of an independent project that would reconstruct the M-59 interchange.

The Preferred Alternative has independent utility, i.e., it can stand alone and provide transportation benefits without relying upon the development of other projects. The Preferred Alternative does not restrict consideration of alternatives for other foreseeable transportation improvements. It will connect the four-lane section of I-75 south of M-102 with that north of South Boulevard. The Preferred Alternative includes reconstructing the 12 Mile and 14 Mile Road interchanges. Modifications to the Crooks/Long Lake interchange and the I-75/M-59 interchange are separate projects and have received their own environmental clearance and, as such, are not covered in this FEIS. The environmental analysis of the Preferred Alternative covered in this FEIS extends from M-102 to South Boulevard.

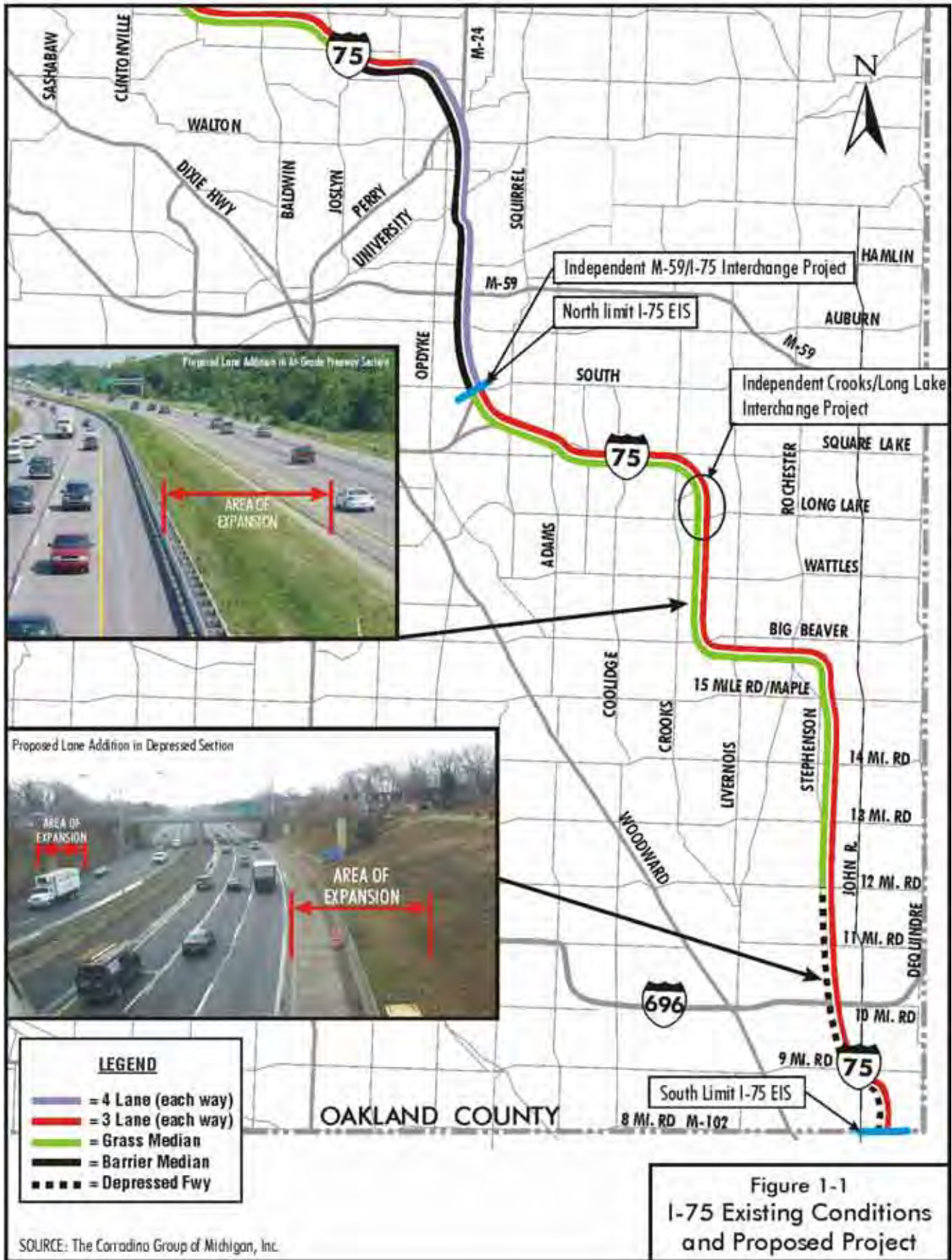
This FEIS is a product of the I-75 Oakland County Planning/Environmental Study, which is listed in the Southeast Michigan Council of Government's (SEMCOG's) 2030 Regional Transportation Plan, in SEMCOG's Transportation Improvement Program (TIP), and in the Michigan Department of Transportation's (MDOT's) Five-Year Road & Bridge Program (Volume VI – 2004 to 2009) for the Metro Region.

This section summarizes the FEIS, addressing: 1) the project purpose and need; 2) alternatives considered and the Preferred Alternative; 3) the affected environment and impacts; 4) areas of controversy; 5) permits; and, 6) the project's status. Comments on the DEIS and responses are noted throughout, but are addressed specifically in Sections 6.3 and 6.4.

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<sup>1</sup> An auxiliary lane is one that begins as an on-ramp, but never fully merges with the mainline. Instead it continues as the rightmost lane of the freeway to the next exit, where it becomes an "exit only" lane. So it functions as a travel lane between two interchanges. The advantage is that it adds some mainline capacity and lengthens the decision-making distance and time for merges and diverges.

<sup>2</sup> *I-75 Corridor Study in Oakland County*; The Corradino Group for the Michigan Department of Transportation, the Southeast Michigan Council of Governments, the Road Commission for Oakland County and the Traffic Improvement Association; November 2000.



## **1.2 Alternatives and Selection of the Preferred Alternative**

This section summarizes the alternatives considered and the alternative recommended after the public hearing and consideration of comments. More detail is provided in Section 3.

No Build, Mass Transit, and several “build” alternatives were analyzed for this EIS, together with Transportation Systems Management (TSM) techniques, Transportation Demand Management (TDM) techniques, and Intelligent Transportation System (ITS) measures. TSM techniques are designed to maximize the efficiency of the arterial street system. TDM involves strategies for managing transportation demand - usually to reduce it or to shift it to different times, locations, routes, or modes. ITS measures involve the collection and dissemination of information to drivers in real time (overhead message boards on freeways), incident management (clearing crashes quickly), traffic signal systems that respond to demand, and similar measures.

Based on the results of the public hearing and comment period, a Preferred Alternative has been identified. It consists of a lane addition over the length of the project, ramp changes at the I-696 interchange, and reconstruction of the interchanges at 12 Mile Road and 14 Mile Road. The new lane would be dedicated to high-occupancy vehicle (HOV) use during morning and afternoon peak travel periods (approximately two hours in the morning and two hours in the evening – the remaining twenty hours, it would operate as a general purpose lane). The project will provide a new storm water sewer system in the southern section of the project where I-75 is below grade level, and modify the pedestrian overpasses in that section. The pedestrian modifications will conform to Americans with Disabilities Act (ADA) guidelines.

The Preferred Alternative is considered the Environmentally Preferred Alternative. Positive air quality effects are considered to outweigh the small loss of low-quality wetland acreage (0.4 acres) that will occur within the Square Lake interchange.

Major Oakland County employers<sup>3</sup> have endorsed the concept of the HOV lane, understanding that its potential capacity is greater than that of a general-purpose lane, and that the increased capacity supports employee and client access, goods movement, and the local economy.

Alternatives considered in the DEIS are described below, followed by a discussion of the Preferred Alternative.

### **1.2.1 No Build Alternative**

The No Build Alternative consists of continued regular maintenance of I-75. Built in the 1960s, I-75 needs major reconstruction. The No Build Alternative would require no additional right-of-way. It would result in a breakdown of traffic flow through much of the day.

### **1.2.2 Transportation Systems Management (TSM) Techniques**

Transportation Systems Management (TSM) techniques apply to the arterial street system, which, in large part, is under the control of local units of government and the Road Commission for Oakland County. Maximizing capacity on the arterial network cannot meet the project purpose

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<sup>3</sup> Based on comments received on the DEIS from Automation Alley (which represents the automobile industry) and the Oakland County Business Roundtable.

and need. Only a lane addition on I-75 can meet that need. TSM techniques are and will continue to be included as area roadway improvements are made.

### **1.2.3 Transportation Demand Management (TDM) Techniques**

Transportation Demand Management (TDM) means reducing demand or shifting it to different times, locations, routes, or modes. It focuses principally on administrative actions, such as working with major employers to support carpool and vanpool programs, or programs that encourage transit use. MDOT works actively with SEMCOG to promote alternative transportation modes. TDM techniques will continue, but will not alone meet the project purpose and need. The Preferred Alternative will support these activities, especially carpool and vanpool formation.

### **1.2.4 Intelligent Transportation Systems**

Intelligent Transportation System (ITS) measures often involve the use of technology in transportation to save lives, time, and money. The measures have particular utility for freeways. Techniques include the collection and dissemination of information to drivers in real time (overhead message boards on freeways), incident management (clearing crashes and stopped vehicles quickly), coordinating traffic signals at ramp ends with the surrounding signal system, providing intelligent signal systems that adjust to traffic demand, and other similar measures. ITS maximizes use of the existing transportation infrastructure, but cannot substitute for physical expansion of roadway capacity, once efficiency is maximized. For this reason, while ITS will be an ongoing component of traffic management on I-75 and on the surrounding roadway network, it will not alone meet the project purpose and need. With HOV development, some ITS efforts will be devoted to providing information on the HOV lane availability, its hours of operation, ridesharing promotion, and other information.

### **1.2.5 Mass Transit**

This EIS analyzed whether a rapid transit system can meet the purpose and need for the project. Rapid transit has potential in the Woodward Corridor (which parallels I-75) south of 9 Mile Road, but analysis shows rapid transit and an extensive supporting bus system have little effect on the traffic volumes on I-75 and do not eliminate the need for the proposed lane addition on I-75 between M-102 (8 Mile Road) and M-59.<sup>4</sup> Principal reasons are: 1) Oakland County residential development is dispersed; 2) many trips are internal to Oakland County and not easily diverted to transit; and, 3) demand in the I-75 corridor exceeds capacity, so any diversion to transit would be quickly replaced by others wishing to use I-75. A rapid transit system would offer an alternative means of travel and has merit, independent of the I-75 project. MDOT supports transit.

### **1.2.6 Build Alternatives**

The “build alternatives” included adding a through travel lane between M-102 (8 Mile Road) and M-59 to bring the total lanes to four in each direction.<sup>5</sup> The lane could be used by all vehicles or be restricted to use by High-Occupancy Vehicles (HOV), with two or more persons, in peak

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<sup>4</sup> *I-75 Corridor Planning/Environmental Study Refined Analysis of Transit and HOV Concepts (Technical Memorandum No. 2)* by The Corradino Group for the Michigan Department of Transportation, October 2002.

<sup>5</sup> During the 2000 Feasibility Study the concept of a reversible lane was considered. However, north-south travel demand is so balanced that a reversible lane was not reasonable.

hours. The Preferred Alternative includes reconstruction of the 12 Mile and 14 Mile Road interchanges, modification of the ramps from eastbound and westbound I-696 to northbound I-75, reconstruction of the existing pedestrian bridges over I-75, and separation of the storm water from I-75 from the combined sewer system in the south section of the corridor. The project also considered modifying curves on I-75 near 9 Mile Road and Big Beaver Road, and changing ramps at Square Lake Road. These design options were not practical (see Sections 3.7.1 and 3.7.3). The planned connections to the separate I-75/M-59 project are discussed. The build alternatives were referred to in the DEIS as the GP (General Purpose lane) and HOV (High-Occupancy Vehicle lane) alternatives.

### **I-75 Lane Addition for General Purpose Use – GP Alternative**

Between M-102 (8 Mile Road) and Gardenia Avenue (the first cross street south of 12 Mile Road), I-75 is in a “cut” section, i.e., below grade level. The addition of a fourth through lane will occur by cutting into the existing side slopes. North of Gardenia Avenue, I-75 comes to grade or is elevated (refer to Figure 1-1). The lane addition will be constructed in the existing median from this point to Square Lake Road. From Square Lake Road to beyond M-59 there are already four through lanes and a lane addition is not required. The north limit of this I-75 lane addition project is north of South Boulevard, where the two lanes (eastbound-to-northbound) from Square Lake Road join the four northbound lanes of I-75 to form the six lanes planned with the I-75/M-59 project. This alternative will meet full, modern standards with the exception of the “S” curve south of 9 Mile Road.

Redesigning the north section of the “S” curve south of 9 Mile Road to meet current standards would push I-75 into the adjacent neighborhood to the west. More than 150 parcels, including approximately 100 homes and 20 businesses, would likely be affected. Therefore, these significant impacts make redesigning this curve not practical.

### **I-75 Lane Addition for HOV Use – HOV Alternative**

The proposed fourth through lane will be dedicated to use only by high-occupancy vehicles in peak traffic hours. The proposal is to limit the use of this lane to vehicles carrying two or more persons (carpools, vanpools, and buses) during the morning and afternoon peak periods (preliminary analysis of traffic data suggest a morning period of 7 to 9 AM, and an afternoon period of 4 to 6 PM). So, for twenty hours of the day, the HOV lane will operate as a general purpose lane, like the other lanes. Analysis indicates that limiting the HOV lane to 3 or more persons restricted its use to the point that the lane is not viable.

#### **HOV Lane**





Three HOV options, varying in their length of application and the degree to which direct access is provided, were considered.<sup>6</sup> Analysis concluded that special facilities such as exclusive HOV ramps generated little additional use of the HOV lane, but led to substantial relocations, impacts and costs. As these impacts could not be justified, only the basic HOV concept was advanced for consideration in the DEIS. The basic HOV concept requires only signs and striping of the new lane, without special access. For the HOV lane to be effective, enforcement must be strict.<sup>7</sup>

### **1.2.7 Additional Design Considerations**

Several design options considered for inclusion in the build alternatives are discussed below.

#### **Ten-Foot Median Shoulders**

Ten-foot inside shoulders meet modern design standards. However, 12-foot inside (median) shoulders are preferred to 10-foot shoulders when more than 250 trucks are present in the peak travel hour, as is the case on I-75. I-75 is now designed with 10-foot shoulders. To add the two feet would require the total reconstruction of the twelve bridges from 12 Mile Road north to the north project limit (rather than widening), resulting in an inconsistent cross section along I-75 in Wayne and Oakland counties. It would also affect three churches and four residential parcels, with a potential cost up to \$100 million. Twelve-foot inside shoulders were not considered practical, due to the significant social, environmental and economic impacts.

#### **Curve at Big Beaver Road**

I-75 at Big Beaver Road was originally constructed as a rural highway section, as the area was rural at that time. Adding the lanes in the median area, as called for in the Preferred Alternative, and simultaneously maintaining the existing rural standards, would necessitate at least partial reconstruction of the interchange. Such reconstruction would affect a motel and buildings of the City of Troy government complex on the inside of the curve, or the curves of the ramps within the interchange would have to be tightened. Urban standards allow a tighter curvature to the mainline interstate and would avoid these impacts. As the area is now urbanized, urban standards are appropriate, and use of rural standards in reconstructing and adding lanes to this section of I-75 was not considered practical.

#### **Eliminating the Left Exit/Entrance on Northbound I-75 at Square Lake Road**

For safety reasons, left exits and entrances are not desirable. To convert the left exit and entrance to a right exit and entrance on northbound I-75 at Square Lake Road would require the construction of flyovers, one for a right exit, another for a right entrance. Both would require new right-of-way and result in substantial relocations. An examination of travel patterns (movements from Square Lake Road to M-59, I-75 to M-59, and the reverse movements) supported the existing design. Therefore, the recommendation was to leave the left exit and left entrance as they are. Changing the exit and entrance was not considered practical.

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<sup>6</sup> Ibid.

<sup>7</sup> *I-75 Corridor Planning/Environmental Study Refined Analysis of Transit and HOV Concepts (Technical Memorandum No. 2)* by The Corradino Group for MDOT, October 2002.



## **Auxiliary Lanes, I-75 from M-59 to Square Lake Road**

The M-59 interchange with I-75 is a separate project. The five southbound lanes of that project will match the five southbound lanes of the Preferred Alternative near South Boulevard. Similarly, northbound, two lanes from Square Lake Road will join the three existing, plus one proposed, lanes of I-75 to form the six-lane section that will match to the I-75/M-59 project north of South Boulevard. Therefore, the build alternatives would not require any additional changes north of South Boulevard beyond those planned for the separate I-75/M-59 interchange project.

## **I-696 Interchange**

Traffic exiting eastbound I-696 to northbound I-75 backs up frequently. The primary cause of backups at this location is an inability to merge into the northbound traffic flow on I-75. The recommendation is to have the northbound off-ramp to 11 Mile Road pass under the northbound on-ramps from I-696 to prevent merge/diverge conflicts. This is called “braiding” the ramps (see figure on next page). The design in the DEIS did not allow direct exiting from the I-696 ramps to 11 Mile Road. The cities of Royal Oak and Madison Heights objected to this change in access. Additional engineering analysis determined that the connection could be maintained, but the result would be an additional 14 residential relocations.

## **12 Mile Road and 14 Mile Road Interchanges**

Two options at the 12 Mile Road interchange were considered in the DEIS. One was to reconstruct it to retain some of its existing geometrics. The second was to rebuild it as a Single-Point Urban Interchange (SPUI). A SPUI brings all ramp ends together at a single point and provides for a three-phase signal operation at the resulting intersection. The three phases control: 1) left turns from the ramp ends; 2) left turns to the entrance ramps; and, 3) the through movement of 12 Mile Road. With appropriate design, this control aids pedestrian movements. Optionally, the interchange could retain some of its current configuration (see figure on next page). As the southbound exit ramp to 12 Mile Road is now positioned too close to Stephenson Highway, the loop ramp serving westbound to southbound traffic would be eliminated. This would allow the southbound off-ramp to shift east, away from Stephenson Highway. The westbound to southbound movement would be accommodated instead by a left turn from 12 Mile Road to the southbound entrance ramp in the southwest quadrant of the interchange. MDOT has determined to reconstruct the interchange. However, during the design and value engineering phases of this project, the interchange design would be reexamined.

The I-75 Feasibility Study (2000) anticipated the 14 Mile Road interchange would benefit from a SPUI design. However, more detailed analysis for the DEIS found that a modification of the existing interchange would serve traffic better. So through capacity is proposed to be added on 14 Mile Road, and left-turn capacity from 14 Mile Road to I-75 would be increased. These changes will necessitate the reconstruction of the I-75 bridges over 14 Mile Road. Other improvements to 14 Mile Road are being addressed independently with the stakeholders on 14 Mile Road, as it is under the jurisdiction of the Road Commission for Oakland County.

### **1.2.8 Practical Alternatives**

Analysis finds that mass transit is viable in the Woodward Corridor (and MDOT supports this finding), but clearly shows that even under the best-case scenario a Mass Transit Alternative cannot eliminate the need for four travel lanes in each direction through the project length. Nevertheless, the transit concept has been included in the background system, along with the

roadways in the cost-feasible *Regional Transportation Plan*. TSM, TDM, and ITS are also incorporated into all alternatives. The practical alternatives carried forward through the DEIS were:

#### Ramp Braiding North of I-696



#### 12 Mile Road Interchange Modification



- No Build – Continued regular maintenance with no capacity improvements.
- GP Alternative – Addition of a general-purpose travel lane between M-102 and north of Square Lake Road, to bring the number of through travel lanes to four in each direction.
- HOV Alternative – Addition of an HOV lane in the same manner as the GP lane, but signed and striped for HOV use during peak hours (for example, 7-9 AM and 4-6 PM). The northbound HOV lane is carried through the Square Lake Road interchange.

The GP and HOV alternatives were to be accompanied by reconstruction of the 12 Mile and 14 Mile Road interchanges with improvements, the ramp braiding north of I-696, reconstruction of the pedestrian bridges over the depressed section of the freeway, construction of a new storm water system in the south part of the corridor, and new storm water retention in the north section of the corridor. Both alternatives would tie to auxiliary lanes that are planned with the separate I-75/M-59 project. The I-75/M-59 and Crooks/Long Lake interchanges, while not part of this project and EIS, are considered part of the background system. The designs of all three projects will be integrated, although each has independent utility.

The above practical alternatives were presented at the public hearing.

### 1.2.9 Preferred Alternative

Based on the analysis performed for the DEIS and the results of the public hearing and comment process, a Preferred Alternative has been identified. It is to construct one new lane in each direction between M-102 (8 Mile Road) and South Boulevard, the south limit of the independent M-59/I-75 Interchange project. The new lane will be constructed by cutting into the outside earthen bank in the depressed section and into the grassy median in the at-grade/elevated section. The lanes will be limited to use by High Occupancy Vehicles (HOVs) during peak hours (for example, between 7 and 9 AM and 4 and 6 PM). HOVs are defined as vehicles with 2 or more occupants, including buses. Access from I-696 to northbound I-75 will be modified to improve traffic flow and safety. The Preferred Alternative also includes the reconstruction of the 12 and 14 Mile Road interchanges. Pedestrian bridges in the south section of the corridor will be rebuilt and will conform to Americans with Disabilities Act (ADA) guidelines. Context sensitive design will be coordinated with the local municipalities during the design phase of the project. Storm sewers will be constructed in the depressed section of the corridor to separate I-75 storm water from the combined (storm water and sewage) system that serves the area today. Storm water retention will be provided throughout the corridor so that storm water flows do not exceed present levels.

The determination to dedicate the lane addition to HOV is based on the success of similar designations elsewhere that have increased corridor capacity. More persons can be moved per lane with HOV. There are few alternatives to I-75 for mid- to long-range trips. Transit analysis has found that, even with a rapid transit system on Woodward Avenue (the corridor designated through other planning studies as the priority corridor for high-type transit), little relief is provided to I-75. HOV is the best way to get the maximum use out of I-75. HOV lanes support bus transit development, vanpooling, and conventional carpooling. The potential exists to substantially increase people movement in these higher density modes.

The Road Commission for Oakland County asked that the potential for High Occupancy Toll (HOT) lanes be studied. The concept is to offer the option to the public of using the HOV lane for a fee. Any underutilized capacity in the HOV lane can be filled up by allowing single-occupant vehicles into the lane for a fee. The fee can be adjusted to control the number of additional users, so that a high level of service continues to be provided.

HOT lanes now in operation in the U.S. are physically separated from general traffic lanes so that HOT lane use can be monitored and fees charged. This physical separation is not possible on I-75 in the study area. *Technical Memorandum No. 3, Median Shoulder Evaluation*, found that adding only two feet to the pavement need in each direction resulted in significant impacts.<sup>8</sup>

Additionally, HOT lanes are generally implemented after HOV lanes are established and their flow characteristics are fully known. HOT lanes also require a substantial capital investment and an oversight agency with tolling authority. After implementation of the HOV lanes, and if conditions warrant it, HOT lanes may be studied in the future.

The ramp braid design has been modified from that presented in the DEIS due to concerns of Royal Oak and Madison Heights about lack of access from I-696 to 11 Mile Road. The modified

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<sup>8</sup> *I-75 Oakland County Planning / Environmental Study Technical Memorandum No. 3, Median Shoulder Evaluation*, by The Corradino Group for MDOT, September 2003.

design results in 14 more residential relocations, but was preferred by the two communities as it maintains existing traffic patterns, especially access to businesses along 11 Mile Road.

The 12 Mile Road interchange reconstruction will modify the ramp configuration in the northwest quadrant. The westbound-to-southbound loop ramp would be eliminated. A left turn from westbound 12 Mile Road to the existing southbound on ramp in the southwest quadrant of the interchange will serve this movement. Today, westbound traffic on 12 Mile Road backs up from Stephenson Highway and blocks traffic exiting southbound from I-75. Eliminating the loop ramp will allow the southbound off ramp to be shifted east, away from Stephenson Highway and its queuing traffic. This option is approximately \$6 million less costly than the construction of a SPUI. The Road Commission for Oakland County in their comments on the DEIS supported development of SPUI interchanges. In the case of 12 Mile Road, during the design and value engineering processes, the interchange design will be reevaluated.

Analysis for 14 Mile Road found that reconstruction of the existing interchange is the most desirable course. A SPUI was examined, but not found to be practical, as it could not provide an adequate level of service in the design year.

The Preferred Alternative will require reconstruction of the six pedestrian bridges that now cross the below-grade section of I-75. The reconstruction will conform to guidelines issued pursuant to the Americans with Disabilities Act (see Section 3.7 and Figure 3-3) and will consider context sensitive design, where appropriate.

The proposed I-75 lane addition will increase surface water runoff. Because management of storm water is an important issue in the corridor, MDOT performed an analysis of storm water that will be generated by the project. The study and further efforts during the design phase will ensure that storm water from the project does not cause harm either up- or downstream from the project (see Sections 1.3.9 and 4.10).

## **1.3 Impacts**

The following is a summary of the impacts associated with the No Build Alternative and Preferred Alternative (Table 1-1). A more detailed description of impacts is found in Section 4. Proposed mitigation measures are found in Section 5.

### **1.3.1 Traffic and Safety**

The Preferred Alternative was found to improve traffic flow over the No Build Alternative.<sup>9</sup> The mainline lanes over most of the corridor will operate at a Level of Service (LOS) D or better in the design year (2025), compared to breakdown conditions (LOS F) with the No Build Alternative. A *Crash Analysis* identified patterns and concentrations of crashes and developed a set of countermeasures to improve safety with project construction.<sup>10</sup> Countermeasures are summarized in Section 2.2.6. They include such measures as glare screens, warnings signs and flashers, and lengthened acceleration and deceleration lanes.

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<sup>9</sup> *Traffic Analysis Report*, The Corradino Group, November 2003.

<sup>10</sup> *Crash Analysis*, The Corradino Group, June 2003.

**Table 1-1  
Summary of Impacts – Preferred Alternative**

<b>Impact Category</b>	<b>Expected Impact</b>
Traffic and Safety	Mainline I-75 Level of Service D or better (except 11 Mile Road to 14 Mile Road), compared to LOS F with No Build. Safety will improve.
Relocations	Twenty-six single-family residences, one church, and two businesses.
Community Cohesion	Improved access across I-75 for pedestrians and bicyclists.
Environmental Justice	No disproportionately high and adverse human health or environmental effects on minority or low-income populations.
Land Use	Consistent with local and regional planning documents.
Farmland/Act 451, Part 361	No prime or unique farmlands. No Act 451, Part 361 lands.
Economics	Added capacity responds to growth and supports the focal point of Michigan's economic growth. Tax base losses insignificant.
Air Quality	Lower emissions from improved traffic flow. No violations of the National Ambient Air Quality Standard for carbon monoxide. Project is included on air quality conforming <i>2030 Regional Transportation Plan</i> .
Noise	430 dwelling units, 1 school, and 5 churches would be exposed to noise levels exceeding the 66 dBA criterion under future no build conditions compared to 466 dwelling units, 1 school, and 5 churches with the project. Mitigation would substantially reduce impacts under build conditions.
Surface Water	Two crossings of River Rouge and 10 of county drains. Storm water quantity will increase, flow rate will not. Storm water in depressed section will be separated from current combined sewer system, a positive effect.
Wetlands	Preferred Alternative affects 0.41 acres of Palustrine Emergent, and Palustrine Shrub-Scrub. Potential 0.61 acres of mitigation at an approved site.
Threat/Endangered Species	None.
Cultural Resources	No potential <i>National Register</i> eligible sites or districts affected.
Parks/Recreation	No effect on any park. No Section 4(f) or 6(f) involvement.
Visual Conditions	Reduction of grassy banks and landscape plantings from 8 Mile to 12 Mile (depressed section) and grass median north to Square Lake Road (at-grade and elevated section).
Contaminated Sites	One site is recommended for Phase II testing.
Soils	Cutting into banks of depressed section could undermine some existing noise walls, requiring stabilization or reconstruction. Poor soils in north project area, potentially affecting noise wall cost, but no anticipated problems with roadway construction.
Utility Systems	Utility relocation on I-75 bridges. No effect on high-tension electric line at 12 Mile Road or any cell towers. Relocation of MDOT traffic surveillance equipment necessary.
Indirect and Cumulative	Project responds to growth, consistent with local planning. Together with other regional projects, there will be future impacts to resources from development, subject to local, state, and federal laws and regulations.
Energy	Energy used during construction. Fuel savings upon opening.
Project Costs (2005 dollars)	<ul style="list-style-type: none"> <li>• Right-of-way      \$16,000,000</li> <li>• Design             \$93,000,000</li> <li>• Construction     <u>\$463,000,000</u></li> <li>• Total                \$572,000,000</li> </ul>

Source: The Corradino Group of Michigan, Inc.

### 1.3.2 Relocations and Community Cohesion

Right-of-way acquisition and access changes can affect the cohesion of a neighborhood. Physical features of the I-75 project that will require new or additional right-of-way are:

- The lane addition;
- “Braiding” of ramps north of I-696;
- Reconstruction of pedestrian bridges; and
- Storm water detention.

The proposed lane addition itself will not require relocation of dwelling units, but two businesses in Hazel Park would be relocated. Parking from several businesses and a church would also be necessary. Right-of-way acquisition for the lane addition for 18 miles will be approximately one acre.

Right-of-way acquisition will be required for the “braiding” of ramps north of I-696. This safety and operational improvement could involve relocation of occupants of 23 single-family dwellings and one church in Madison Heights and a total of approximately 7 acres of land.

Right-of-way may be acquired with reconstruction of six pedestrian bridges. Reconstruction must conform to the Americans with Disabilities Act (ADA), which presently requires gradually sloping ramps and therefore, more land. Steps, in addition to the ramps, will be provided where feasible, to allow more direct movements for persons without disabilities. The right-of-way acquisition could affect three dwelling units and approximately one acre of land in Hazel Park. These impacts will be refined during the design phase when more detailed information is available. For example, draft ADA guidelines offer the option of providing elevators rather than ramps. Limited-use, limited-access (LULA) elevators are available only to those who qualify and operate only with a pass card. These elevators are not accessible to the general public. Such elevators may eliminate the need for right-of-way acquisition and the attendant relocations that are anticipated with ramp development, and so may be considered when the Preferred Alternative is implemented. Only one comment was received with respect to pedestrian bridges. Madison Heights suggested that the need for the Bellaire pedestrian bridge be evaluated. MDOT has determined that this pedestrian overpass should be reconstructed to serve the adjacent neighborhoods and the St. Denis Elementary School.

Storm water detention requirements in the north section of the project may require as much as seven acres of right-of-way. This acquisition in Troy would relocate no homes or businesses, as a site was identified that is currently undeveloped. Detention will be designed to avoid relocations.

In summary, the braid would impact twenty-three homes and a church, a pedestrian bridge at Harry Avenue would impact three more homes (unless elevators were used), and the lane addition would impact two businesses. So a total of 26 homes, a church, and two businesses would be impacted by the Preferred Alternative. These are preliminary estimates and are subject to change during the design phase.

Community cohesion will not change appreciably as the basic footprint of I-75 will not change. Access across the freeway will be improved where bridges are replaced with the project. Sidewalks or shoulders will be provided on bridges.

### 1.3.3 Land Use

Rapid growth in mid- and north Oakland County puts continued pressure on I-75. Meanwhile, no significant capacity improvement in the project length has occurred since construction in the 1960s. While communities in the northern and western parts of Oakland County have grown, a number of communities in the southern part of the corridor have shown population declines. SEMCOG attributes land use changes during the period 1990-2000 to:<sup>11</sup>

- Local planning and zoning;
- Land availability;
- Transportation;
- Sewer and water services; and,
- Social and policy dynamics, including:
  - ✓ Residential segregation by race and income;
  - ✓ Federal tax subsidies for home mortgage interest and property taxes;
  - ✓ School funding and quality;
  - ✓ Crime and public safety;
  - ✓ Societal ideals of lifestyle and urban design;
  - ✓ Constitutional protection of property rights;
  - ✓ Infrastructure financing policies; and,
  - ✓ The extent of personal vehicle ownership and use.

The cumulative impact analysis found that some farmland conversion occurs because the land is uneconomic for farming purposes. Further, the farming community is aging, and it is likely that some farmers are selling their farms as they move toward retirement.<sup>12</sup>

SEMCOG concludes that undeveloped land will continue to develop as population shifts north and west in Oakland County, as well as to areas in western Wayne County, central Macomb County, Ann Arbor, and southeast Livingston County. Job growth will not be as dispersed as population growth. New jobs will be concentrated in fewer suburban communities, reflecting the stronger role of transportation access and the trend to centralize jobs. The City of Detroit will experience continued job loss until 2020, when the situation will become more stable.<sup>13</sup>

The Preferred Alternative is consistent with local and regional transportation and land use planning, including Oakland County's *Composite Master Plan Map* and SEMCOG's *Regional Transportation Plan*.

Transportation Riders United (TRU) and several individuals commented on the DEIS that the proposed project will cause sprawl and cause people and jobs to move to northern Oakland County. Sprawl is addressed in Section 4.18 of this FEIS and in the *Indirect and Cumulative Impact Analysis Technical Report* (January 2005), especially the section at the end of that report entitled "Regional Issues". As noted above in SEMCOG's work, transportation is but one component of land use change. SEMCOG has noted a number of factors: residential segregation by race and income, federal tax subsidies for home mortgage interest and property taxes, school funding and quality, crime and public safety, societal ideals of lifestyle and urban design,

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<sup>11</sup> *Land Use Change in Southeast Michigan: Causes and Consequences*, SEMCOG, March 2003.

<sup>12</sup> *Draft Environmental Impact Statement, M-15 from I-75 to I-69 – Oakland and Genesee Counties*, The Corradino Group, December 2001.

<sup>13</sup> *2030 Regional Development Forecasts*, SEMCOG.

constitutional protections of private property rights, infrastructure financing policies, and greater personal vehicle ownership and use.

### **1.3.4 Environmental Justice**

The Preferred Alternative will not cause disproportionately high and adverse impacts to minority populations and low-income populations located in and near the project area. Impacts such as relocations, increase in noise levels and construction impacts will affect all populations who live near or travel I-75 each day. MDOT will develop mitigation measures to minimize these impacts. However, a continuing effort will be made to identify any additional impacts that may have a disproportionately high and adverse affect on minority and low-income populations during subsequent phases of this project. If any new impacts are identified, every effort will be made to actively involve these populations in the project development process, and to avoid or mitigate these impacts.

### **1.3.5 Economics**

Economic activity in the project area is generated by a variety of market sectors including retail trade, services, distribution, industry, education, and public administration. The corridor has been subject to rapid development at its north end. South of M-59 this trend is expected to slow.<sup>14</sup> Further north, where developable land is available, and where local planning and zoning permits (and sometimes encourages), this growth is expected to continue.<sup>15</sup>

Between M-102 and M-59, I-75 provides access to substantial residential concentrations, linking these to jobs both south (Detroit) and north (especially near I-75 interchanges such as Big Beaver Road, Crooks Road, and University Drive). Commercial activities, such as the Oakland Mall and the Great Lakes Crossing Mall (and associated retail areas) are heavy generators of traffic. Adding capacity to I-75 is a response to the growth that has already occurred and the growth predicted by the local political jurisdictions in the corridor.

Property acquisition will result in a reduction in real property tax revenues of about \$179,000, based on the right-of-way cost estimate. This represents only very minor percentages of the property taxes collected by Hazel Park, Royal Oak, Madison Heights, and Troy. The largest effect in terms of the percent of tax base would be on Hazel Park, at two hundredths of one percent. Any loss is important to that community, but the increase in State Equalized Value (SEV) of properties over the coming years will outweigh potential losses. (For example, the increase in SEV for corridor communities between 1990 and 2000 was 257% - see Table 4-8.) Because there are few anticipated business or residential relocations, replacement commercial space and housing is available and is not an issue.

### **1.3.6 Air Quality**

Air quality along I-75 will improve with the project, as there will be less idling and smoother traffic flow. A test of carbon monoxide (CO) concentrations along I-75 and at the busiest intersections near I-75, at locations where humans might be present for periods of an hour or more, found one-hour and eight-hour ambient air quality standards for CO would not be violated

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<sup>14</sup> Ibid.

<sup>15</sup> *Land Use Change in Southeast Michigan: Causes and Consequences*, SEMCOG, March 2003.



under either build or no build conditions.<sup>16</sup> The HOV lane of the Preferred Alternative will support transit and ridesharing, which will reduce the number of vehicles on the road.

The project is included in SEMCOG's air quality conforming *2030 Regional Transportation Plan (RTP)*, with construction planned in the 2011 to 2015 timeframe.

### **1.3.7 Noise**

For most of the corridor the noise levels with the project will increase in an imperceptible way. In a situation where noise is already continuous, a doubling of traffic in the loudest hour must occur before most people can discern an increase in noise. This equates to a 3-decibel increase. Based on the proposed improvement in roadway capacity and traffic flow, the noise increase will be just over one decibel in most locations. Nevertheless, because many homes are already exposed to noise levels above abatement criteria, abatement is warranted in several locations.

The analysis found that 430 dwelling units, one school, and five churches would be exposed to noise levels exceeding the 66 dBA criterion (the threshold for determining residential impacts) under future no build conditions compared to 466 dwelling units, one school, and five churches with the proposed project. With the build alternatives, noise mitigation, likely walls, will be included as a normal part of the project's federal funding (subject to local review and approval of property owners). This mitigation will reduce the number of dwelling units exposed to undesirable noise levels by about 400 dwelling units, a substantial positive effect.

With the No Build Alternative, mitigation would only be considered "Type II" or retrofit. While MDOT does undertake Type II projects, funding is very limited. Under MDOT's *Noise Policy*<sup>17</sup> only the southern section of the corridor would be eligible for walls, as the communities to the north allowed residential development to occur in areas too close to the freeway, which exempts them from federal funding.

A *Noise Study*<sup>18</sup> using the FHWA's TNM2.1 computer model found that approximately 4.9 miles of noise walls are warranted (see Figure 4-5). These would provide at least a six-decibel noise reduction in the loudest hour, and "benefit" (defined as a 5-decibel reduction) about 400 dwelling units. Context sensitive design solutions will be explored with the local communities during the design phase of the project.

### **1.3.8 Ecological Resources**

Forty-one wetland areas were identified between 12 Mile Road and South Boulevard.<sup>19</sup> South of 12 Mile Road, I-75 is depressed and there are no wetlands. North of South Boulevard, changes to I-75 are a part of the separate I-75/M-59 project. Most wetlands in the corridor are associated with roadside ditches. As the proposal is to widen I-75 using the median, effects on wetlands are limited to the proposed HOV lane through the Square Lake Road interchange.

Approximately 0.41 acres of wetlands would be directly affected by the Preferred Alternative as the HOV lane traverses the Square Lake Road interchange. Affected wetlands will require

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<sup>16</sup> *Air Quality Impact Analysis, Technical Report*, The Corradino Group, October 2003.

<sup>17</sup> *Noise Abatement*, Michigan State Transportation Commission Policy, July 31, 2003.

<sup>18</sup> *Noise Study Report*, The Corradino Group, December 2004.

<sup>19</sup> *Wetland Report*, Tilton & Associates, Inc., October 2003.

replacement through agreement with the Michigan Department of Environmental Quality (MDEQ).

No known federal threatened, endangered, or special concern or state-listed species will be affected. The project traverses a developed, largely urbanized corridor.

### **1.3.9 Storm Water**

Storm water will increase with the project due to the increased impervious surface of the additional lanes. A *Drainage Study*<sup>20</sup> was performed to determine how best to handle the increase in storm water runoff.

In the south section of the corridor (the depressed section) storm water now flows into the combined (sewage and storm water) sewer system in that section of the corridor. The Preferred Alternative will separate I-75 storm water from this system. The combined system flow now goes by way of the Twelve Towns Drain to the Twelve Towns Retention Treatment Facility (RTF). Under low flow conditions, the combined sewage enters the Dequindre Interceptor, which eventually flows to the Detroit Wastewater Treatment Plant, where the combined sewage is treated. Under high flow (storm) conditions, the combined sewage overflows into the Red Run Drain. By providing its own system for I-75 storm water, MDOT will positively affect water quality by: 1) reducing flow in the combined sewer system so that overflows of sewage into the Red Run Drain occur less frequently; and, 2) reducing flow to the Detroit Wastewater Treatment Plant, so that facility treats less storm water.

In the north section, where I-75 has a rural design, the Preferred Alternative will reduce the retention area now provided by the median and increase impervious surface. Both actions will increase storm water flow. Therefore, detention has been included at a site north of Maple Road on the east side of I-75 to maintain existing flow rates. This will prevent peak flows during storm events (50-year storms) from exceeding existing rates.

### **1.3.10 Cultural Resources and Parkland**

A *Cultural Resources Survey* found no evidence of adverse effects to archaeological (below ground) resources.<sup>21</sup> It also found that of the 165 buildings and structures surveyed within the approved Area of Potential Effect (APE), none are potentially eligible for the *National Register of Historic Places*. Resources that are eligible for the *Register* are afforded special protection under federal law. The State Historic Preservation Officer concurred in these findings in letters dated October 1, 2002 and May 14, 2003.

Maddock Park in Royal Oak is adjacent to the southbound I-75 service drive (see Figure 4-1a). It is separated from I-75 by a noise wall. A grading permit may be necessary near the park, but there will be no effects on the park. The Troy Family Aquatic Center and Huber Park in Troy are adjacent to northbound I-75, but are separated from the road by a berm (see Figure 4-1c). This recreation area will not be affected.

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<sup>20</sup> *Drainage Study*, Orchard, Hiltz & McCliment and Rowe, Inc., October 2003.

<sup>21</sup> *Phase I Cultural Resources Survey of the Proposed I-75 Freeway Improvements, Oakland County, Michigan*, Commonwealth Cultural Resources Group, Inc., December 2002.

### **1.3.11 Visual Conditions**

Visual effects relate to the view of the road and from the road for each of I-75's two distinct sections. The southern, depressed section, between M-102 and 12 Mile Road, is now flanked by grassy banks and occasional ornamental trees (Figure 1-1). Drivers see only the road, bridges over I-75, embankments on either side, adjacent buildings or noise walls. With the project some remnants of grassy banks may remain in wider areas of the depressed section, but overall there will be a more monolithic concrete visual environment, including a concrete median safety barrier. Portions of the depressed section between I-696 and Gardenia are bordered by brick noise walls at the top of the grassy banks. The noise walls will remain (though some may be relocated). Additional noise walls will be built, subject to final analysis and community acceptance. The view of the road in the depressed section is limited, as the road is below grade level. This will change where noise walls are added. The walls will be evident from the surrounding area with the project.

The ramp braiding prompted concern by Madison Heights of visual intrusion, however, the ramp modifications will occur at or below grade level.

The northern at-grade/elevated section has a grassy median. Construction of the Preferred Alternative will remove this vegetation.

North of 12 Mile Road, I-75 is generally above the surrounding landscape at cross roads, so the adjacent land uses are visible. These views will not change as a result of the project. Since construction during the 1960s, vegetation has grown up along the fence lines. The mature vegetation along fence lines should not be disturbed with the project except in areas where noise walls are built. The view from the road would change only in these areas where noise walls are built. Likewise the view of the road will not change as the widening is within the median. Some clearance of vegetation is recommended for safety purposes (sight distance) within interchanges at Big Beaver Road and Rochester Road.

Design elements of the Preferred Alternative would be refined in conjunction with the Crooks/Long Lake I-75 Interchange Project and the I-75/M-59 Interchange Project for continuity.

### **1.3.12 Hazardous Materials**

No substantial problems with contaminated materials are anticipated. One site, just south of 4<sup>th</sup> Boulevard in Royal Oak, where right-of-way acquisition is expected, was identified as a possible former gas station with underground storage tanks. This site was rated medium/high for contamination potential and additional investigation of the site (Phase II) is recommended.

### **1.3.13 Soils and Utilities**

Mucky and peat soils are present in some locations in the north portion of the corridor. This could affect the cost of noise wall construction, but is not expected to affect roadway construction. Geotechnical studies have been performed to support project cost estimates.

The towers for a 120kV electrical transmission line in the north section of the 12 Mile Road interchange would not be affected. A cell tower at Square Lake Road and Adams Road that is close to I-75 would not be affected. Other cell towers are similarly unaffected. There will,

however, be an effect on MDOT traffic monitoring equipment, some of which is located in the median.

Effects on utilities will be consistent with normal utility relocation for roadway projects, particularly in the depressed section, as utilities are carried across I-75 on the crossroad bridges.

### **1.3.14 Indirect and Cumulative Impacts**

Indirect impacts have been examined by determining which roads might be affected by a capacity increase (lane addition) on I-75.<sup>22</sup> Roads that would experience an increase in congestion and would be over capacity were identified. The assumption is that if congestion increases, the next step would be to widen a road to relieve the congestion and thus create impacts. Where this was the case, the impacts of roadway widening were estimated. These indirect impacts are summarized in Section 4-18. Diverting storm water from the combined sewer system in the southern portion of the corridor will have a long-term beneficial effect on water quality by reducing overflows of sewage-containing water into surface waters.

Cumulative effects occur when other planned improvements are examined in conjunction with the lane addition to I-75. Regardless of changes to I-75, growth will continue to occur as individuals and commercial entities develop their properties, consistent with local zoning. The population in the project area has grown dramatically for years with no improvement to I-75. In response, many roadway projects are planned. Analysis found that when these projects are combined with the lane addition on I-75, additional links not identified in the indirect impact modeling show congestion increases. Effects of widening these additional links have been estimated and are considered cumulative impacts.

A review of trends in the economy including: the auto industry; population shifts away from the core of Detroit, especially during the 1970s; the decline in farming and conversion of land to residential and commercial uses; implementation of wetland protection laws; and other factors, finds that development along I-75 reflects a complex mixture of actions, such that widening I-75 will not have significant cumulative effects. Cumulative effects are discussed in Section 4.18.

### **1.3.15 Energy**

Fuel savings to motorists should be realized in the long term due to improved traffic flow and more constant traveling speeds.

### **1.3.16 Cost**

The base cost of the Preferred Alternative will be about \$572 million (2005 dollars). This includes right-of-way and relocation costs of \$16 million. The cost associated with the signing and striping for the HOV, plus the cost of building bridges to carry an HOV lane north through the Square Lake Road interchange, would be approximately \$5 million. Note that the costs of separating I-75 storm water from the combined sewer system in the south section of the corridor are built into the overall construction costs, amounting to \$11 million.

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<sup>22</sup> *Indirect and Cumulative Impact Analysis Technical Report*, The Corradino Group, January 2005.

## 1.4 Areas of Controversy

A principle concern expressed by citizens attending public meetings is that noise walls be constructed with the project. Construction of 4.9 miles of noise walls is proposed, in accordance with FHWA Noise Abatement Criteria and warrants contained in MDOT's Noise Policy.<sup>23</sup>

Several studies in the past have called for rapid transit development in the Detroit-Ann Arbor corridor and Woodward corridor.<sup>24</sup> Extensive analysis of mass transit performed for this EIS supports the view that transit is viable along the Woodward Corridor, but that it cannot substantially change the need for the I-75 project. A concern expressed by some transit supporters is that spending highway dollars diminishes the potential for mass transit development, but major transit projects generally draw largely from distinct (non-highway) federal funding sources. Major transit projects may draw upon Surface Transportation Program funding that is usually used for highway purposes. However, there is most often a capital expenditure on the part of the Federal Transit Administration through "new start" funding authorized by Congress separately from highway funds. Normally this comes only when there is a substantial commitment on the part of local and/or regional government to provide on-going funding to support transit development. Efforts continue through the Detroit Area Regional Transportation Authority (DARTA) to advance transit. MDOT supports DARTA's efforts.

The proposal to braid the ramps from I-696 to northbound I-75 with the northbound exit ramp to 11 Mile Road (to improve safety and traffic flow) resulted in several concerns that emerged after the public hearing. The original proposal would have eliminated the ability to exit from the northbound I-696 ramps to 11 Mile Road, requiring travel further north to 12 Mile Road or use of one of several other available travel paths. These changes in travel paths generated concerns about: 1) increases in traffic in south Royal Oak near the Mohawk exit from I-696; 2) reduction of traffic causing business loss for businesses on 11 Mile Road in Royal Oak and Madison Heights; and, 3) inhibition of emergency vehicle mobility to and across I-75. There was also concern on the part of Royal Oak and some of its residents about traffic shifts and emergency response if the 4<sup>th</sup> Street ramp to southbound I-75 were shifted north as a safety/traffic flow improvement. The proposed shift would have prohibited access from 4<sup>th</sup> Street to I-75.

Additional analysis resulted in a modification of the braid proposed in the DEIS. The modification would maintain access to 11 Mile Road from I-696. Further study of the 4<sup>th</sup> Street ramp found that access to the ramp could be maintained.

The Michigan Department of Environmental Quality (MDEQ) supports a quantitative assessment of emissions, impacts, and risk characterization for select air toxics, plus an impact analysis of PM<sub>2.5</sub>.

These issues and the responses to them are discussed in Section 3.9, Preferred Alternative, and Sections 6.3 and 6.4, which cover public involvement and agency comments.

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<sup>23</sup> Michigan Department of Transportation's *Procedures and Rules for Implementation of the State Transportation Commission Policy 10136 – Noise Abatement*, July 2003.

<sup>24</sup> *Improving Transit in Southeast Michigan: A Framework for Action*, SEMCOG, October 2001.

## 1.5 Permits

Proposed construction activities will involve the need for permits. Impacts on bodies of water such as rivers, drains, and wetlands will require permits under federal and state law:

- Federal Executive Order 11990 protects wetlands.
- The federal Clean Water Act of 1977, as amended requires: state Water Quality Certification of projects (Section 401); permitting of the quality of storm water (Section 402(p) - National Pollutant Discharge Elimination System); and, avoidance, minimization, and mitigation of wetland impacts (Section 404).
- Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Part 31, Water Resource Protection, regulates placement of fill material within any part of a floodplain with a drainage area of two square miles or more.
- PA 451, Part 301, Inland Lakes and Streams, regulates work below the ordinary high-water mark of any inland lake, stream, or drain, including the placement of any permanent or temporary river or stream structure.
- PA Act 451, Part 303, Wetland Protection, regulates any wetland disturbance, permanent, as well as temporary. The Part 303 permit is reviewed and issued as a single permit that also includes Part 301 and Part 31.
- PA Act 451, Part 365, Endangered Species Protection, is required from the MDNR Wildlife Division for any activity that may affect a state-listed threatened or endangered fish, plant, or animal species. No endangered or threatened species were found; however, if any were identified during project implementation, all activity in the immediate area would cease. Coordination with the U.S. Fish and Wildlife Service would be initiated as required by Section 7 of the Endangered Species Act of 1973, and appropriate state and federal permits would be sought.

Final mitigation measures proposed in areas requiring the above permits will be developed in consultation with the appropriate agencies, and will be included in the permit application for implementing the project.

Permits will also be required where Oakland County Roads are involved and where Oakland County drains are involved. These come from the Road Commission for Oakland County and the Oakland County Drain Commission, respectively.

## 1.6 Project Status

This project is listed as a study in MDOT's approved *2004-2009 Five-Year Transportation Program*, which outlines roadway expenditures over the next five years.

It is on SEMCOG's *2030 Regional Transportation Plan (RTP)*, with construction scheduled for the 2011-2015 time period. With its inclusion on the plan, it is shown to be in conformity with the Clean Air Act. After this Final EIS is completed, a Record of Decision (ROD) for the project will be requested. Its signing allows the project to advance to design. However, due to the Governor's "Preserve First" program, the design phase for this project has been deferred. It is expected that by 2008, the condition goals would have been met and the project can move into design. Construction funding has not yet been identified.

Due to modifications that are recommended at the I-696 interchange and 12 Mile Road, an Interstate Break-in-Access Justification Report (IAJR) is being prepared to document the effect of the proposed access changes on the interstate system and affected local roads. Analysis performed for that report has been incorporated into this FEIS.

## **SECTION 2**

### **PURPOSE AND NEED FOR ACTION**

This section sets forth the purpose of the proposed action, including a brief history of activity related to the corridor, then explains in greater detail the need for the project in terms of existing and projected travel demand, existing road conditions on I-75, the physical condition of bridges that do not meet modern engineering design standards, and safety issues.

#### **2.1 Purpose of the Proposed Action**

The purpose of the proposed project is to increase the capacity of the transportation infrastructure in the I-75 corridor to meet travel demand for personal mobility and goods movement.

Meeting the purpose of the project will improve motorist safety, travel efficiency, and reliability. These are essential both to personal mobility and to the movement of freight.

I-75 will continue to play a role as a link in the nation's national system of Interstate and Defense Highways. I-75 connects Detroit and its international border crossings with the expanding economic development in Oakland County. Oakland County has the largest employment base of any county in Michigan and the most manufacturing plants, and is home to over 65 percent of the Detroit Metropolitan Statistical Areas<sup>25</sup> major automotive equipment suppliers. I-75 also links the Southeast Michigan region with the rest of the state to the north. It is the sole means of high-speed freight movement to a large section of Michigan, as it is the only freeway that extends to the north state limit and freight rail coverage is limited.

##### **2.1.1 Project Background**

I-75 is a transcontinental highway connecting Miami, Florida, and Sault Ste. Marie, Michigan. It is a vital component of the overall transportation system in Michigan and the United States. In Michigan, I-75 is the major north-south highway, connecting with other freeways in 16 locations. Within the project area, I-75 provides important access to the cities of Hazel Park, Ferndale, Madison Heights, Royal Oak, Troy, Bloomfield Township, Auburn Hills, and Pontiac. In the study area, I-75 connects with the following state trunklines: M-102 (8 Mile Road), I-696, I-75 BL/BR 24 (Square Lake Road), and M-59.

I-75 was laid out in a stair-step manner following section and property lines to minimize impacts to what development existed at that time (1960s). Its northwest/southeast orientation was designed to roughly parallel Woodward Avenue (M-1) and Dixie Highway (U.S. 24 in portions), serving destinations separated by long distances such as Flint and points north. The diagonal orientation of I-75 forces it to act, in some measure, as a local roadway. It is used by many Oakland County residents and workers for intra-county/local trips. The north/south and east/west local roadway grid system does not serve I-75 travel needs well and does a poor job of providing alternative, direct access between development nodes that have been created along the diagonal of I-75.

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<sup>25</sup> Metropolitan statistical areas consist of one or more counties, as defined by the US Census for a variety of analysis purposes. The Detroit MSA consists of Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties.

In December 1991, the *I-75 Corridor Study for Northern Oakland County*<sup>26</sup> was completed. It identified roadway needs and costs in northern Oakland County in response to rapid growth in the I-75 corridor. It also summarized land use tools available to manage growth. The project report was used as a blueprint for regional roadway development in subsequent years. Since the 1991 study, progress has been made in meeting transportation needs by the Road Commission for Oakland County, MDOT, and local jurisdictions and agencies. Roads have been widened, signal timings have been improved and coordinated, and turning lanes have been added.

The 1991 study was stimulated, in part, by anticipated development in the area, including the Great Lakes Crossing Mall. Development throughout Oakland County made it evident that the comprehensive examination of transportation needs applied to northern Oakland County in the 1991 study needed to be extended to I-75 throughout the county.

In November 2000, a second study called the *I-75 Corridor Study in Oakland County*<sup>27</sup> was completed. That study devised an overall strategy of improvements to I-75, plus the local transportation network complementing it in Oakland County. The study recommended adding a lane in each direction to I-75 throughout Oakland County in areas where there were fewer than four through lanes per direction. The study also recommended improvements to interchanges, improvements to arterial streets, ITS improvements, and a study of how the transit infrastructure could be strengthened and expanded to improve transit's share of travel in the I-75 corridor. The 2000 feasibility study led to the development of this EIS.

## **2.2 Need for the Proposed Action**

I-75 was built in the 1960s. Other sections of I-75 in Southeast Michigan have been reconstructed. By the time this project can be constructed, it will require major reconstruction. This reconstruction is a part of the project. The project need for increased corridor capacity is driven by the growth that has occurred along I-75 since its original construction. The reasons for land use change, are noted in Section 1.3.3. Migration of people and jobs to Oakland County has increased travel demand. The most important factors influencing traffic volumes are population and employment (Tables 2-1 and 2-2). The following subsections present population and employment trends that are relevant to existing and future traffic volumes in the project area. Decreased household size, more women in the work force, and longer commutes have also increased overall travel demand.<sup>28</sup>

### **2.2.1 Population and Employment Growth**

There has been extensive growth in Oakland County in both employment and population and a shift in population and employment north from Detroit and its closest suburbs. Between 1980 and 1990, the population of Oakland County increased seven percent from 1,012,000 to 1,084,000. By 2000, it had increased nearly 10 percent more to 1,194,000. It is expected to grow an additional 13 percent to 1,346,000 over the next 30 years. Employment increased by 34 percent from 681,000 to 910,000 over the last decade. It is expected to grow by an additional 19

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<sup>26</sup>*I-75 Corridor for Northern Oakland County*, The Corradino Group for the Michigan Department of Transportation, December 1991.

<sup>27</sup>*I-75 Corridor Study in Oakland County*, The Corradino Group for the Michigan Department of Transportation, the Southeast Michigan Council of Governments, the Road Commission for Oakland County and the Traffic Improvement Association, November 2000.

<sup>28</sup> *2025 Regional Transportation Plan*, Southeast Michigan Council of Governments, June 2000.



**Table 2-1  
Oakland County I-75 Corridor - Population 1980 to 2030**

PLACE	POPULATION				PERCENT CHANGE		
	1980	1990	2000	2030 est.	80 to 90	90 to 00	00 to 30
Hazel Park	20,914	20,051	18,963	15,860	-4.1%	-5.4%	-16.4%
Ferndale	26,227	25,084	22,105	17,880	-4.4%	-11.9%	-19.1%
Madison Heights	35,375	32,196	31,101	26,564	-9.0%	-3.4%	-14.6%
Royal Oak	70,893	65,410	60,062	52,233	-7.7%	-8.2%	-13.0%
Troy	67,102	72,884	80,959	77,046	8.6%	11.1%	-4.8%
Bloomfield Township	42,876	42,473	43,023	39,180	-0.9%	1.3%	-8.9%
Pontiac	76,715	71,166	66,337	75,544	-7.3%	-6.7%	13.9%
Pontiac Township/ Auburn Hills <sup>a</sup>	15,388	17,076	19,837	21,013	11.0%	16.2%	5.9%
Orion Township	19,566	21,019	30,748	40,948	7.4%	46.3%	33.2%
Independence Township	20,569	23,717	32,581	38,103	15.3%	37.4%	16.9%
Springfield Township	8,295	9,927	13,338	20,326	19.7%	34.4%	52.4%
Holly Township	3,612	3,257	3,902	7,167	-9.8%	19.8%	83.7%
Groveland Township	4,114	4,705	6,150	7,239	14.4%	30.7%	17.7%
Corridor Total	411,646	408,935	429,106	439,103	-0.7%	4.9%	2.3%
Oakland County	1,011,793	1,083,592	1,194,156	1,346,185	7.1%	10.2%	12.7%
Michigan	9,262,044	9,295,287	9,938,444	NA	0.4%	6.9%	NA

Source: *Historical Population and Employment by Minor Civil division, Southeast Michigan, SEMCOG, June 2002*

<sup>a</sup> Auburn Hills was incorporated in 1983 from Pontiac Township

**Table 2-2  
Oakland County I-75 Corridor - Employment 1990 to 2030**

PLACE	EMPLOYMENT			PERCENT CHANGE	
	1990	2000	2030 est.	90 to 00	00 to 30
Hazel Park	5,003	4,883	4,099	-2.4%	-16.1%
Ferndale	10,577	11,312	11,173	6.9%	-1.2%
Madison Heights	27,407	28,848	27,538	5.3%	-4.5%
Royal Oak	34,871	42,252	43,583	21.2%	3.2%
Troy	104,494	135,977	144,882	30.1%	6.5%
Bloomfield Township	15,013	24,943	33,161	66.1%	32.9%
Pontiac	56,308	63,070	76,787	12.0%	21.7%
Pontiac T./Auburn Hills <sup>a</sup>	22,202	54,253	77,684	144.4%	43.2%
Orion Township	7,379	9,057	17,232	22.7%	90.3%
Independence Township	4,445	7,725	10,990	73.8%	42.3%
Springfield Township	1,244	2,685	6,805	115.8%	153.4%
Holly Township	326	815	1,789	150.0%	119.5%
Groveland Township	417	926	2,143	122.1%	131.4%
Corridor Total	289,686	386,746	457,866	33.5%	18.4%
Oakland County	681,037	910,441	1,087,399	33.7%	19.4%
Michigan	4,826,388	5,654,522	NA	17.2%	NA

Source: *Historical Population and Employment by Minor Civil division, Southeast Michigan, SEMCOG, June 2002*

<sup>a</sup> Auburn Hills was incorporated in 1983 from Pontiac Township

percent to about 1,100,000 over the next 30 years.<sup>29</sup> In 2020 Oakland County is expected to have nearly 19 percent of the state of Michigan's total employment and more than 29 percent of its total earnings.<sup>30</sup>

I-75 is used by Oakland County commuters and by through travelers, including truckers carrying goods to points north in Michigan. When I-75 was built, urban land uses extended north only to about 12 Mile Road. As development expanded northward, it focused around I-75's interchanges, without the support of a local grid of arterial streets. Thus, I-75 became the only good way to get to many major traffic generators.

The major traffic generators that developed along I-75 include: the Oakland and Somerset Malls; many large office buildings (especially at Big Beaver Road and Crooks Road), including many corporate headquarters; the Palace of Auburn Hills; and the Pontiac Silverdome.

## 2.2.2 Existing Traffic and Level of Service

The *Traffic Analysis Report*<sup>31</sup> confirms the need for four through travel lanes throughout the project length. Level of Service (LOS) is a standard measure that reflects the degree of congestion and amount of delay experienced by motorists. LOS is expressed as a letter between A and F. LOS A represents a situation where motorists experience minimal congestion, minimal delays, and free flow travel conditions. LOS F represents a situation where motorists experience extreme congestion, long delays, and severely impeded traffic flows. Generally LOS D, i.e., some congestion, is considered the minimally acceptable LOS for freeways, except in urbanized areas, as is the case with I-75, where LOS E is acceptable in peak travel periods. With LOS E traffic flow is continuous, but speeds and maneuverability are reduced.

I-75 in the project area operates from LOS C (light congestion) to LOS F (extremely congested) along the mainline during today's peak periods (Table 2-3 and Figures 2-1 and 2-2). Generally the peaks today are from 6:30 to 8:30 AM and 3:30 to 6:30 PM (the afternoon peak is generally longer than the morning peak). Truck percentages range from five to eight percent of daily traffic. Volumes on I-75 are relatively balanced for the northbound and southbound directions of travel. Furthermore, they are relatively consistent from 6 AM to 8 PM each weekday. This means the full capacity of the road is currently being used.

Analysis of today's LOS for each freeway segment by direction used the latest software from the Transportation Research Board *Highway Capacity Manual 2000* (HCM), Chapters 23 and 25, and 2002 traffic counts from MDOT.<sup>32</sup> Considering both northbound and southbound conditions in the PM peak hour, the analysis determines the LOS would be F (extremely congested) for four segments, as noted by shading in Table 2-3. The situation is similar in the AM peak. Crashes on I-75 (an average of 3.3 per day) add to delays and lane blockages that are not modeled. It is clear that I-75 operates at severe congestion levels, if not at breakdown conditions (LOS F), in the three-lane sections during the existing peak traffic periods. The result is reduced overall speeds,

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<sup>29</sup>2030 *Regional Development Forecast for Southeast Michigan*, Southeast Michigan Council of Governments (SEMCOG), 2001.

<sup>30</sup>1999 *State Profile; Michigan*, Woods and Poole Economics, Inc.

<sup>31</sup> *Traffic Analysis Report*, The Corradino Group, November 2003.

<sup>32</sup> MDOT does ramps counts less frequently, so data ranges from 1997 to 2002.

queuing, and lower observed volumes. This hinders just-in-time delivery for truckers and can delay goods movement within the region and much of Michigan to the north.

**Table 2-3  
Existing (2002) Peak Hour Traffic Volumes and LOS for I-75**

SEGMENT	AM PEAK				PM PEAK			
	VOLUME		LOS		VOLUME		LOS	
	NB	SB	NB	SB	NB	SB	NB	SB
8 Mile Road to 9 Mile Road	4,030	5,260	C	C	5,850	5,370	D	D
9 Mile Road to I-696	4,670	5,600	C	D	6,220	6,060	D	D
I-696 to 11 Mile Road	4,670	6,000	C	E	6,300	6,080	D	E
11 Mile Road to 12 Mile Road	5,210	4,800	F	F	5,900	5,050	F	F
12 Mile Road to 14 Mile Road	5,550	4,380	E	D	5,830	4,500	E	D
14 Mile Road to Rochester Road	5,110	4,040	D	C	4,840	4,300	D	D
Rochester Road to Big Beaver Road	4,710	3,940	D	C	4,120	4,210	D	D
Big Beaver Road to Crooks Road	4,180	4,810	D	D	3,850	4,000	C	C
Crooks Road to Adams Road	3,460	4,980	C	D	3,790	3,640	C	C
Adams Road to Square Lake Road	3,590	5,080	F	F	4,240	3,110	F	F
Square Lake Road (I-75 BL) to M-59	4,720	6,140	C	D	6,090	4,150	D	C

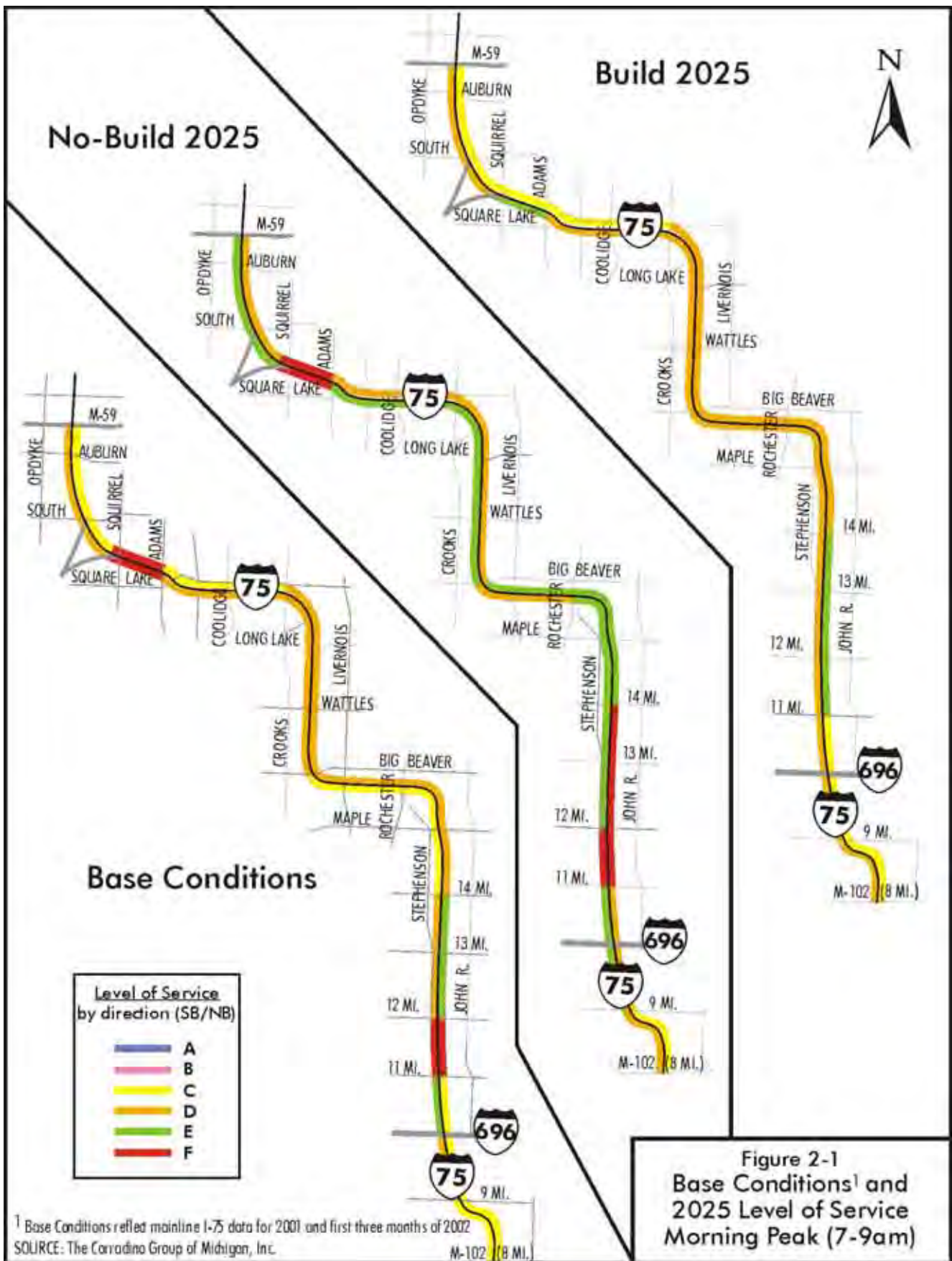
Source: The Corradino Group of Michigan, Inc.

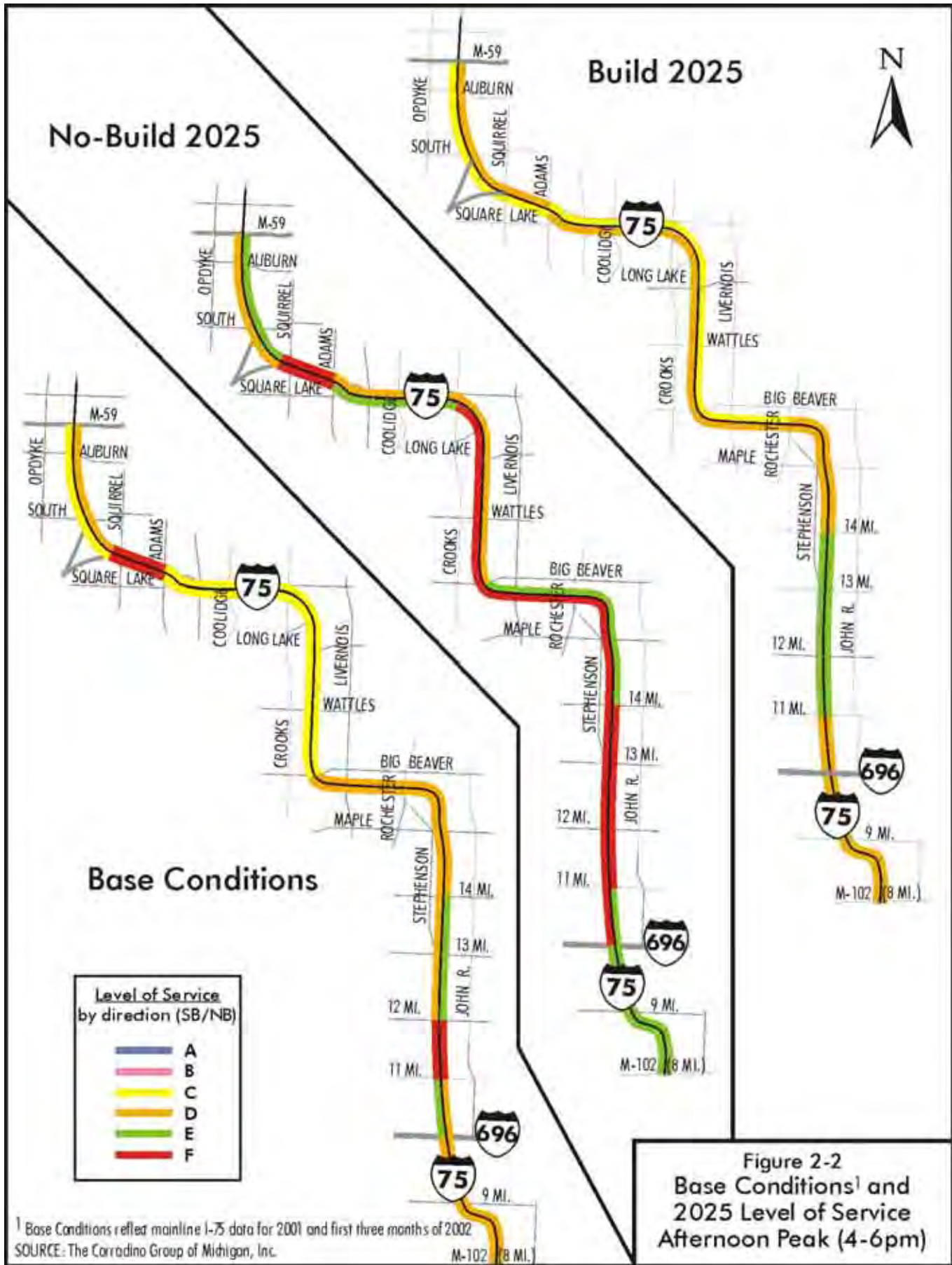
### 2.2.3 Future Traffic and Level of Service

In order to assess the need for the project, i.e. the build alternatives, SEMCOG’s model, as modified by the consultant to account for the analysis of afternoon peak hour conditions as well as transit and HOV testing, was used to forecast traffic conditions with and without the Preferred Alternative for the year 2025. The No Build Alternative assumes that projected population and employment growth will occur, and that committed/cost-feasible road improvements will be built, but that no capacity improvements will be made to I-75 within the project area, other than normal maintenance. The year 2025 was selected because projects constructed with federal funds must address traffic needs projected for at least 20 years into the future.<sup>33</sup> These projections demonstrate that in 2025, without improvements, I-75 will experience severe congestion throughout the project length (Table 2-4 and Figures 2-1 and 2-2). In the AM peak hour, LOS F would be experienced in five segments (shaded in the table). In the PM peak, the situation would be worse with 10 segments at LOS F.

With the project, one lane would be added where needed to bring I-75 to four through lanes between M-102 and M-59 (Table 2-5). It already provides four through lanes to the north and south of these points. In the AM and PM peak hours, there would be no segments where LOS F is expected in either direction. In both peak periods, 13 segments would be at LOS D and either three (AM peak) or four (PM peak) would be LOS E. These are acceptable conditions under limited circumstances in the constrained urban situations.

<sup>33</sup> SEMCOG is updating the horizon year of region’s transportation model to 2030, but that work is not sufficiently complete to be used in this EIS.





**Table 2-4  
2025 Peak Hour Traffic Volumes and LOS for I-75 – No Build Alternative**

SEGMENT	AM PEAK				PM PEAK			
	VOLUME		LOS		VOLUME		LOS	
	NB	SB	NB	SB	NB	SB	NB	SB
8 Mile Road to 9 Mile Road	5,000	6,790	C	D	7,190	7,450	E	E
9 Mile Road to I-696	5,640	7,130	D	E	7,560	8,140	E	E
I-696 to 11 Mile Road	5,670	7,530	D	E	7,640	8,410	E	F
11 Mile Road to 12 Mile Road	6,140	6,250	F	F	7,240	7,380	F	F
12 Mile Road to 14 Mile Road	6,520	5,870	F	E	7,220	6,740	F	F
14 Mile Road to Rochester Road	6,080	5,420	E	E	6,180	6,590	E	F
Rochester Road to Big Beaver Road	5,800	5,050	E	D	5,460	6,710	E	F
Big Beaver Road to Crooks Road	5,140	6,130	D	E	5,300	6,500	D	F
Crooks Road to Adams Road	4,240	6,220	D	E	5,040	6,055	D	E
Adams Road to Square Lake Road	4,400	6,350	F	F	5,530	5,555	F	F
Square Lake Road (I-75 BL) to M-59	5,810	7,670	D	E	7,380	6,555	E	D

Source: The Corradino Group of Michigan, Inc.

**Table 2-5  
2025 Peak Hour Traffic Volumes and LOS for I-75 – Build Alternatives**

SEGMENT	AM PEAK				PM PEAK			
	VOLUME		LOS		VOLUME		LOS	
	NB	SB	NB	SB	NB	SB	NB	SB
8 Mile Road to 9 Mile Road	6,030	7,185	C	D	7,280	7,900	D	D
9 Mile Road to I-696	6,740	7,525	C	D	7,690	8,640	D	D
I-696 to 11 Mile Road	6,740	7,925	C	D	7,850	9,015	D	D
11 Mile Road to 12 Mile Road	7,340	6,645	E	D	7,540	8,045	E	E
12 Mile Road to 14 Mile Road	7,690	6,145	E	D	7,450	7,355	E	E
14 Mile Road to Rochester Road	6,935	5,860	D	D	6,220	6,855	D	D
Rochester Road to Big Beaver Road	6,655	5,490	D	D	5,450	6,965	C	D
Big Beaver Road to Crooks Road	6,195	6,570	D	D	5,110	6,745	C	D
Crooks Road to Adams Road	4,895	7,240	C	D	5,360	5,745	C	D
Adams Road to Square Lake Road	5,055	7,370	C	E	5,830	5,055	D	C
Square Lake Road (I-75 BL) to M-59	6,465	8,690	C	D	7,470	5,855	D	C

Source: The Corradino Group of Michigan, Inc.

## 2.2.4 I-75 and Existing Design Standards

I-75 was built in the 1960s to design standards of that time. This section discusses the relationship of the existing road to current design standards. Section 3 discusses how the Preferred Alternative will address those areas where I-75 falls short of today’s standards. Table 2-6 identifies locations where I-75 does not meet modern standards, based on a review of existing design plans for the road. Specific features include:



**Table 2-6  
Existing I-75 Roadway Features in Relation to Modern Standards**

ISSUE	LOCATION RELATIONSHIP TO MODERN STANDARDS	FEATURE	COMMENTS
HORIZONTAL ALIGNMENT	I-75, south of John R. bridge (between Meyers & Highland)	Superelevation rate	Existing superelevation @ 5% is insufficient for 70 mph design speed (required 7%).
	I-75, south of John R. bridge (between Highland & Rhodes)	Superelevation transition length	Existing transition length between superelevated sections not to standard.
	I-75, north of John R. bridge (between Rhodes & 9 Mile Road) <sup>a</sup>	Superelevation rate Length of curve Radius of curvature	Existing radius of 1315' with existing 5% superelevation is insufficient. 1922' radius is required for desired <sup>a</sup> 7% superelevation
	I-75, northbound at Gardenia	Superelevation rate Radius of curvature	Existing radius of 2360' with existing 5% superelevation is insufficient. 1922' radius is required for desired <sup>a</sup> 7% superelevation.
	I-75, southbound at Gardenia	Superelevation rate Radius of curvature	Existing radius of 2360' with existing 5% superelevation is insufficient. 1922' radius is required for desired <sup>a</sup> 7% superelevation
	I-75, bridge over 12 Mile Road	Superelevation rate Length of curve Radius of curvature	Existing radius of 1932' with existing 5% superelevation is insufficient. 1922' radius is required for desired <sup>a</sup> 7% superelevation
	I-75, north of Maple Mile Road thru Rochester Road	Superelevation rate	Existing superelevation @ 5% is insufficient for 70 mph design speed (required 6.3%).
	I-75, Livernois Road thru north of Big Beaver Road	Superelevation rate	Existing superelevation @ 5% is insufficient for 70 mph design speed (required 6.3%).
	I-75, north of Big Beaver Road thru Squirrel Road	Superelevation rate	Existing superelevation @ 5% is insufficient for 70 mph design speed (required 6.3%).
	I-75, under Squirrel Road	Superelevation rate	Existing superelevation @ 2% is insufficient for 70 mph design speed (required 7%).
	I-75, bridge over Clinton River	Superelevation rate	Existing superelevation @ 5% is insufficient for 70 mph design speed (required 6.1%).
	I-75, Squirrel Rd. thru South Boulevard	Superelevation rate	Existing superelevation @ 5% is insufficient for 70 mph design speed (required 6.3%).
	Grades along I-75 from M-102 (8 Mile Road) to M-59	Longitudinal grades	All locations meet minimum and maximum criteria for longitudinal grades (min 0.3%, max 3.0%).
VERTICAL AND CLEARANCE ALIGNMENT	I-75, under John R. bridge I-75, under 9 Mile Road bridge	Length of vertical curve (sag) at these two locations	Two consecutive sag vertical curves, existing length of either curve is less than standard for 70 mph design speed.
	I-75, north of Meyers Avenue I-75, north of John R. I-75, north of 9 Mile Road on-ramps I-75, at 4th Road	Length of vertical curve (crest) at these four locations	Crest vertical curve, existing length of curve is less than standard for 70 mph design speed.

<sup>a</sup> See MDOT Standard Plan R-107.

**Table 2-6 (continued)**  
**Existing I-75 Roadway Features in Relation to Modern Standards**

ISSUE	LOCATION RELATIONSHIP TO MODERN STANDARDS	FEATURE	COMMENTS
STOPPING SITE DISTANCE	I-75, north of 8 Mile Road, south of Meyers Avenue I-75, under Meyers Avenue bridge I-75, north of Meyers Avenue bridge I-75, under John R. bridge I-75, north of John R. bridge I-75, under 9 Mile Road bridge I-75, north of 9 Mile Road bridge I-75, south of Woodward Heights Bridge I-75, at Woodward Heights Bridge I-75, at Middlesex Road I-75, under 11 Mile Road bridge I-75, under Squirrel Road bridge I-75, at merger of 9 Mile Road on-ramp I-75, at merger of 11 Mile Road on-ramp	Stopping sight distances are not met at these 14 locations	Stopping sight distance for crest curve is less than standard for 70 mph design speed.
CROSS SECTION	Eight Mile to Twelve Mile	None	Existing pavement width and shoulder width meet modern standards.
RAMP EXIT AND ENTRANCE DESIGN	West side of I-75, north of Eight Mile Road West side of I-75, south of John R. Road West side of I-75, north of Nine Mile Road East side of I-75, north of Nine Mile Road West side of I-75, south of Eleven Mile Road East side of I-75, south of Eleven Mile Road West side of I-75, north of Eleven Mile Road East side of I-75, north of Eleven Mile Road 12 Mile Rd. 14 Mile Rd. Rochester Rd. Adams Rd	Ramp exits and entrances do not meet modern standards at these 12 locations.	Profile grades, vertical curves, decision sight distances, and transition lengths do not meet modern standards.
RAMP SPACING	Eight Mile to Twelve Mile	None	Ramp spacing meets modern standards.

Source: The Corradino Group of Michigan, Inc., OHM, and Rowe, Inc. based on MDOT Design Plans (1960s)



- Horizontal alignment
- Vertical clearance and alignment
- Stopping sight distance
- Cross section
- Ramp exit and entrance design
- Ramp spacing

Speed limits on I-75 are now posted at 65 mph from M-102 to Square Lake Road and 70 mph north of this point. There is advisory signing through the 9 Mile curve of 50 mph and through the Rochester curve of 55 mph. No change in posted speed limits is anticipated with the Preferred Alternative. The anticipated design speed for the project is 70 mph. Clear width information is included on a table in Appendix A.

### **Horizontal Alignment**

The horizontal alignment of a road encompasses the radii of curves (i.e., how “sharp” a curve is), their length, and superelevation (i.e., the vertical distance between the heights of the inner and outer edges of the road or how the freeway is “banked”). The steepness of the banking – superelevation - is related to the sharpness of the curve and the design speed. The standards are set to maximize the safety of the curves for a given curve radius and design speed. There are more than 20 locations in the study area where I-75 does not meet modern standards for superelevation rates, superelevation transition lengths, and radius of curvature. These inadequacies reduce travel efficiency and safety, and may cause some vehicles to travel slower. Minor changes in curve radii together with superelevation increases will bring all locations to full, modern standards, except the 9 Mile Road curve (Section 3.7).

### **Vertical Clearance and Alignment**

Vertical clearance is defined as the distance between the surface of the roadway (including shoulders) and the bottom of an overhead bridge structure. Poor (substandard) bridge clearances occasionally result in trucks crashing into bridge beams and require some larger trucks to take alternate routes. Modern standards require a vertical clearance for bridges over I-75 of 16’0”. The proposed I-75 reconstruction will meet this standard north of I-696. South of I-696, the clearance is allowed to be 14’6” as the interstate system in the core of Detroit is held to an earlier standard. Vertical underclearance of pedestrian bridges over service drives in the depressed section of the corridor will be 17’0” (one foot above the structure height). This allows an extra margin of safety for the pedestrian bridges.

The road’s alignment includes vertical grade (i.e., how steep hills are), vertical curves (i.e., the sharpness of crests of hills and dips), and vertical sight distance. These issues affect travel efficiency, traffic congestion, and safety. In the study area, I-75 meets modern standards for vertical grade and vertical sight distance, except two locations where the sags (dips) and four locations where the crests on I-75 do not meet the modern standards for the length of vertical curves. These occur in the depressed section of freeway. They will be fixed with the Preferred Alternative by modifying the roadway profile. The roadway profile is set by the need to go under bridges, and then to rise in order to connect to on and off-ramps. Changing the profile of the mainline will require changing the profile of the ramps.

## **Decision Site Distance and Stopping Site Distance**

Stopping sight distance is the distance a motorist must be able to see in order to stop safely should an object or other threat require. As speeds increase, stopping sight distance requirements also increase. Normally, the stopping sight distance is an adequate sight distance for roadway design.<sup>34</sup> However, there are cases where it may not be appropriate. In areas where information about navigation or hazards must be observed by the driver, or where the driver's visual field is cluttered, the stopping sight distance may not be adequate. In addition, there are avoidance maneuvers that are far safer than stopping, but require more planning by the driver. These may not be possible if the minimum stopping sight distance is used for design. In these instances, the proper sight distance to use is the decision sight distance.

The decision sight distance is the distance traversed while: 1) recognizing an object or hazard; 2) plotting an avoidance course; and, 3) making the necessary maneuvers.

There are 14 areas where stopping sight distances do not meet modern standards. Two of these 14 areas also do not meet the standard for decision sight distance due to merging ramp traffic. All of these deficiencies will be addressed by changing the roadway profile.

### **Cross Section**

The cross section of a road includes travel lane width, shoulder width (both inside and outside shoulders), median width, the cross slope of the travel lanes, shoulder slope, cut/fill slopes, and the ditch slopes. In the project area, the I-75 cross section meets modern standards. With the addition of a fourth through lane in each direction, the I-75 cross section will continue to meet modern standards. (See a discussion of 10-foot versus 12-foot median shoulders in Section 3.7.3.)

### **Ramp Exit and Entrance Design**

Ramp designs do not meet modern standards at 12 locations. The decision sight distances (see definition above) and/or ramp acceleration/deceleration lengths are inadequate. These conditions result in difficult merge conditions and may contribute to crashes. These deficiencies will be addressed by improving the vertical profile of ramps, adjusting obstacles that interfere with sight distance (such as bridge supports), and/or providing longer acceleration or deceleration lanes.

### **Ramp Spacing**

In urban settings, interchanges are typically spaced at least one mile from each other, as required by the Federal Highway Administration (FHWA). This spacing is required to provide adequate distance for motorists to perform merges and exit safely and efficiently. Inadequate interchange separation can create "weaving" conflicts between motorists entering and exiting the freeway. These conflicts result in traffic congestion and may contribute to crashes, in some situations. I-75 interchange ramp spacing meets modern standards in the project area. However, heavy volumes and weaving movements cause problems and necessitate the need for braiding north of I-696. Braiding allows one ramp to pass over another so the traffic from the two are not in conflict.

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<sup>34</sup> [http://www.webs1.uidaho.edu/niatt\\_labmanual/Chapters/geometricdesign/theoryandconcepts/](http://www.webs1.uidaho.edu/niatt_labmanual/Chapters/geometricdesign/theoryandconcepts/)

## 2.2.5 Physical Condition and Relative Performance of I-75

The condition of the existing roadway and of some bridges contribute to the need for the project. Because of the age of this roadway (built in the 1960s), it will require major reconstruction. This will have to occur with or without the proposed project. MDOT monitors its roadway system, in part, by means of “sufficiency ratings.” Every trunkline roadway segment is scored based on the condition of its surface pavement, the condition of the roadway base on which that pavement rests, the roadway’s crash experience, and its capacity (Table 2-7). The four ratings are summed and compared to a possible total of 100 points. In this case no data are available in the sufficiency ratings on crash experience ratings, so this category has been dropped and the totals must be compared to a maximum of 70 total points. See the discussion of crashes below (Section 2.6.6), which is based on the most recent data. A variety of locations show need with respect to crash experience.

**Table 2-7  
Existing I-75 Sufficiency Ratings**

	NORTHBOUND I-75				SOUTHBOUND I-75			
	Surf.	Base	Cap.	Total	Surf.	Base	Cap.	Total
MAXIMUM POSSIBLE POINTS	25	15	30	70	25	15	30	70
Link Start Point								
M-102 (8 Mile Road)	8	15	8	31	8	15	8	31
9 Mile Road	8	15	7	30	8	15	7	30
I-696	8	15	8	31	6	15	8	29
11 Mile Road	8	15	6	29	6	15	6	27
Gardenia Avenue	8	15	6	29	8	15	6	29
12 Mile Road	24	15	7	46	24	15	7	46
13 Mile Road	25	15	7	47	25	15	7	47
14 Mile Road	25	15	9	49	25	15	9	49
Rochester Road	25	15	12	52	25	15	12	52
Big Beaver Road	25	15	9	49	25	13	9	47
Crooks Road	25	15	8	48	25	15	8	48
Adams Road	25	15	8	48	25	15	8	48
South Limit Square Lake Rd.	24	15	6	45	25	15	6	46
North Limit Square Lake Rd.	25	15	17	57	25	15	11	51

Source: MDOT Sufficiency Ratings

The roadway base of I-75 is in good condition. The surface is likewise in good condition north of 13 Mile to M-59, as it was paved in summer 2003. Pavement conditions are poor south of 12 Mile Road. Paving of the segment from 8 Mile Road to 12 Mile Road is now planned for 2007 (MDOT’s 2004-2009 Five-Year Transportation Program). I-75 is consistently rated poor in capacity, scoring for the most part 6 to 8 on a scale of 30. The Preferred Alternative will substantially improve the capacity ratings. A preliminary evaluation of bridges is included in a table in Appendix A. A more detailed evaluation will be included in the next phase of the project.

## 2.2.6 Safety

A *Crash Analysis*<sup>35</sup> was prepared for this EIS. From January 1995 to the end of 2001, more than 8,500 crashes were reported on I-75 between M-102 (8 Mile Road) and M-59. Rear-end crashes were most common (58%), followed by single-vehicle (18%), sideswipe-same direction (14%), other/uncoded (5%), angle (3%), sideswipe-opposite direction (1%), and head-on (1%). There were 2,444 crashes with injuries, and 24 with fatalities. Alcohol was involved in 11 of the fatal crashes and two pedestrians were killed. Nine of the fatal crashes were rear-end, and an equal number were single-vehicle crashes. The fatal crashes involved three head-on, two angle, and one sideswipe/opposite direction incidents.

The average crash rate for the entire corridor is 1.31 crashes per million vehicle miles. The state average for urban freeways is 1.77 crashes per million vehicle miles.<sup>36</sup> For purposes of analysis, the corridor was divided into 15 segments (Figure 2-3). Segments with crash rates above 1.31 are in bold type in Table 2-8 and are discussed in the text. (Other segments are not discussed.) These segments were analyzed to determine whether crash countermeasures could improve safety. Details of the countermeasures are provided in the *Crash Analysis*.

**Table 2-8  
Crash Data by Segment**

SEGMENT	SEGMENT OF I-75	EXISTING AADT <sup>a</sup>	CRASH RATE	
			NB <sup>b</sup>	SB <sup>b</sup>
1	8 Mile Road to South of 9 Mile Road	173,000	0.93	1.22
<b>2</b>	<b>South of 9 Mile Road to South of I-696</b>	182,000	<b>2.51</b>	<b>1.45</b>
<b>3</b>	<b>South of I-696 to North of I-696</b>	185,000	<b>2.44</b>	<b>1.41</b>
<b>4</b>	<b>North of I-696 to South of 12 Mile Road</b>	187,000	<b>2.02</b>	1.26
<b>5</b>	<b>South of 12 Mile Rd. to North of 12 Mile Rd.</b>	186,000	<b>1.60</b>	<b>1.40</b>
6	North of 12 Mile Rd. to North of 13 Mile Rd.	175,000	1.00	0.87
<b>7</b>	<b>North of 13 Mile Rd. to North of 14 Mile Rd.</b>	158,000	<b>1.33</b>	<b>2.28</b>
<b>8</b>	<b>North of 14 Mile Rd. to North of Maple Rd.</b>	141,000	0.90	<b>1.61</b>
<b>9</b>	<b>North of Maple Road to East of Livernois</b>	127,000	0.86	<b>1.94</b>
<b>10</b>	<b>East of Livernois to Wattles Road</b>	119,000	<b>1.64</b>	<b>1.94</b>
11	Wattles Road to Long Lake Road	125,000	0.42	0.59
12	Long Lake Road to North of Crooks Road	120,000	0.74	0.60
13	North of Crook Road to South of Adams Road	116,000	0.55	0.30
<b>14</b>	<b>South of Adams Road to Square Lake Road</b>	119,000	<b>2.68</b>	0.67
15	Square Lake Road to M-59 Ramps	124,000	1.18	1.02

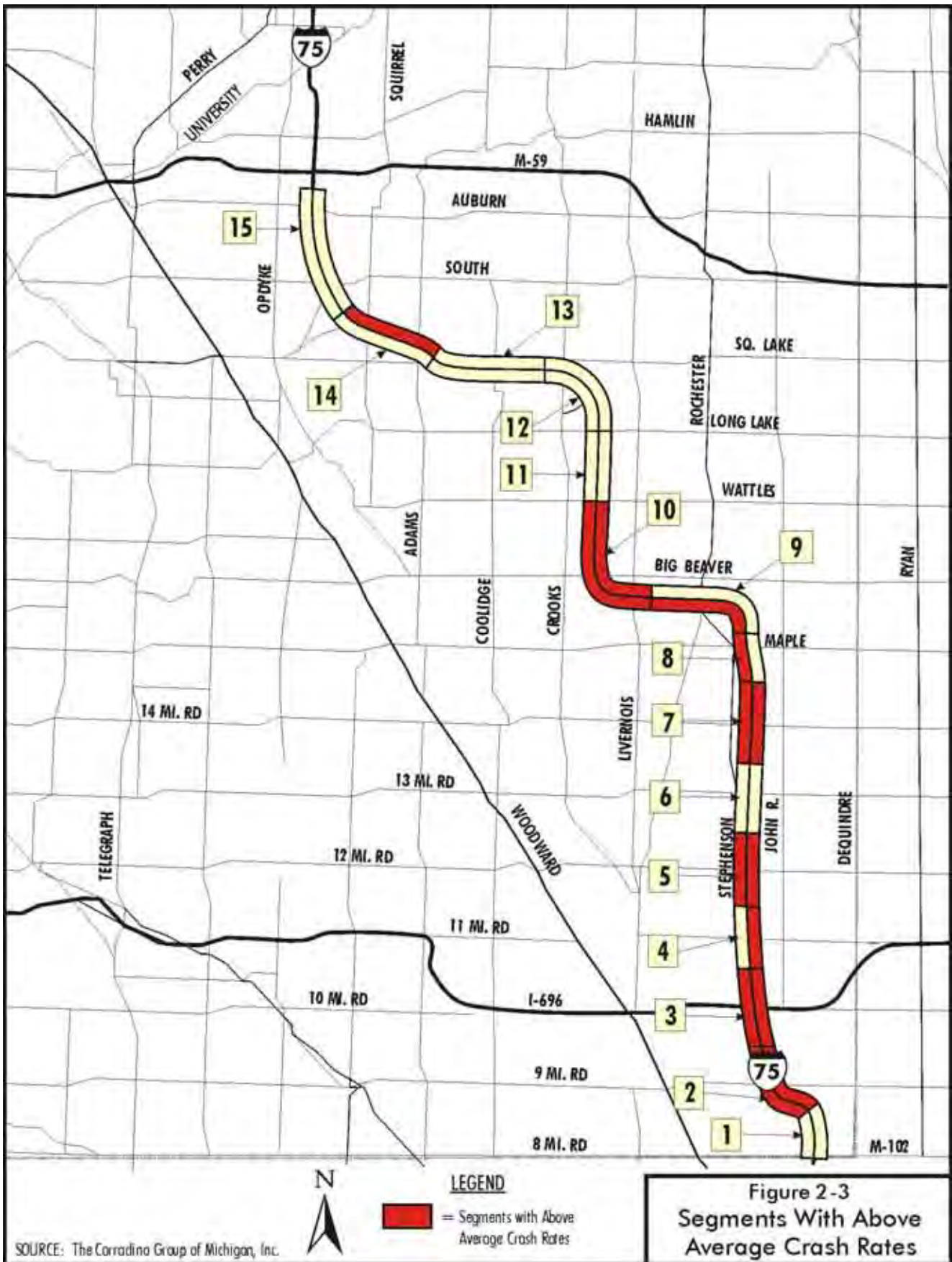
Source: The Corradino Group of Michigan, Inc., Traffic Improvement Association of Oakland County and MDOT  
Note: Segments in **bold** were analyzed for crash countermeasures. See text.

<sup>a</sup> Average Annual Daily Traffic

<sup>b</sup> Crashes per million vehicle miles

<sup>35</sup> *Crash Analysis*, The Corradino Group, June 2003.

<sup>36</sup> *Comparison of Crash Rates and Characteristics in Eight States by Roadway Class*; Transportation Research Board, Paper Number 97, 1997.



Superelevations will be improved with the project. Generally this means the “banking” of the curves will increase, tending to keep vehicles on the road better. Adding an additional lane of capacity will increase maneuverability. Lengthening acceleration and deceleration lanes, where feasible, will allow smoother merges and diverges (exits). This, in turn, will reduce lane shifts in congested ramp areas, which can reduce crashes. Other recommended countermeasures that appear to be feasible are related to improving sight distance, drainage, and vertical curves.

Countermeasures are summarized below by segment. Only those segments with crash rates above 1.31 per million vehicle miles of travel are discussed. Some countermeasures are considered short-term and some are considered long-term. Long-term measures will be considered for implementation during design of the Preferred Alternative. Short-term measures are those that could be implemented sooner, if funding becomes available.

### **Segment 2 - South of 9 Mile Road to South of I-696**

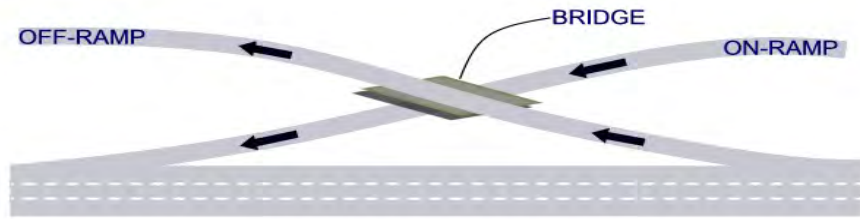
Northbound - Straightening the "S" curve at 9 Mile Road was analyzed, but is not considered reasonable because of significant socioeconomic impacts. Short-term measures include additional advance warning signs and flashers to slow excessive vehicle speeds at the curves. Also recommended are glare screens mounted on the median barrier to minimize or eliminate direct headlight glare from opposing traffic and “gawker” behavior when incidents occur in the opposite direction. Finally, soft attenuation or cushion walls on barriers would reduce the risk of severe injuries. In the long-term, resurfacing the pavement and improving the drainage will help with slick pavement conditions. Relocation to the south of the 8 Mile Road northbound on-ramp, and improving the entrance taper would improve safety. There is a spillback effect from the I-696 northbound on-ramps that will be discussed below.

Southbound – In the short term, additional advance warning signs and flashers would be appropriate to slow excessive vehicle speeds and warn drivers of the lane drop at 8 Mile Road. Glare screens would reduce or eliminate direct headlight glare and reduce gawker behavior. In the long-term, resurfacing and improving the drainage will help with slick pavement conditions. Relocation to the south of the 8 Mile Road southbound off-ramp, and improving the entrance taper would also reduce crashes.

Adding a lane will reduce the potential for crashes due to unexpected stopping and congestion in both directions.

### **Segment 3 - South of I-696 to North of I-696**

Northbound - Adding a lane will reduce the potential for crashes due to unexpected stopping and congestion; however, this segment, like segment 2 above, has unexpected stopping resulting from the northbound merging traffic coming from I-696. Analysis finds that the northbound on-ramps from I-696 should be “braided” with the off-ramp to 11 Mile Road (see schematic on next page). Specifically, the on-ramps would bridge over the exiting off-ramp to 11 Mile Road. The off-ramp to 11 Mile Road would be relocated further south to accomplish the braid. The existing crossover bridge at Dallas Avenue would be removed because it conflicts with the braiding. It would shift north to a point near Lincoln Avenue. It is now a two-way bridge. In the future, it would serve east to west movements only. This improvement is planned as part of the Preferred Alternative. In the short term, advance signing would inform drivers of potential slowdowns and glare screens could minimize distraction from opposing traffic.



**Example of Braided Ramps**

Southbound - Adding a lane will improve operations and reduce the potential for crashes due to unexpected stopping and congestion associated with turbulent merging operations. Advance warning signs and glare screens are considered short-term measures.

**Segment 4 – North of I-696 to South of 12 Mile Road**

Northbound – As noted above, this segment of I-75 experiences crashes from turbulent merging operations that occur as two lanes from I-696 merge with mainline traffic and then exit to 11 Mile Road occur less than 2600’ away. Adding a lane will reduce the potential for crashes due to unexpected stopping and congestion, but lengthening the merge/diverge area is also key. The recommended braiding allows this. The continuation of the glare screen through this segment would be a short-term measure.

Southbound - Adding a lane will improve operations and reduce the potential for crashes due to unexpected stopping and congestion associated with turbulent merging operations.

**Segment 5 - South of 12 Mile Road to North of 12 Mile Road**

Northbound – Reconstruction of the 11 Mile Road on-ramp will improve the merge length and sight distance. Glare screens would continue through the depressed part of this segment as a short-term measure. Reconstruction of the 12 Mile interchange will allow elimination of a poor crest vertical curve and lengthening of the merge ramps.

Southbound – Reconstruction of the 12 Mile Road interchange will lengthen the on-ramp, which is now shorter than desirable, and eliminate the loop ramp, which restricts acceleration to freeway speed.

**Segment 7 - North of 13 Mile Road to North of 14 Mile Road**

Northbound – Reconstruction of the 14 Mile Road interchange will lengthen the off-ramps for improved deceleration. This, with the lane capacity addition will reduce conflicts.

Southbound – Reconstruction of the 14 Mile Road interchange will lengthen the off-ramps for improved deceleration. This, with the lane capacity addition will reduce conflicts.

**Segment 8 - North of 14 Mile Road to North of Maple**

Southbound – The lane capacity addition will smooth traffic flow and aid in reducing the rear-end crashes that predominate in this segment (which are largely the result of downstream, e.g., 14 Mile Road, backups).

### **Segment 9 - North of Maple to East of Livernois**

Southbound - The majority of the crashes in this segment occur at the Rochester Road on-ramp. They include rear-end, single-vehicle and sideswipe crashes at the merge point that results in part from the low entry speeds from the tight loop ramp. Lengthening this on-ramp will help reduce conflicts. This could be accomplished as a short-term measure.

### **Segment 10 - East of Livernois to Wattles Road**

Northbound – Crashes occur at the Big Beaver Road exit and entrance ramps and through the curve at Big Beaver Road. A tall glare screen is recommended through the curve as a short-term measure. Full implementation of MDOT’s ITS Information Management System in this segment could provide better advance warning of slowed conditions. In the long term, ramps should be lengthened.

Southbound – The southbound condition is similar. Adding capacity and lengthening ramps will help reduce conflicts.

### **Segment 14 - South of Adams to Square Lake Road**

Northbound – Most crashes in this segment are rear-end, and likely reflect the lack of through capacity on northbound I-75 at Square Lake Road that was remedied in 2002. With the lane addition northbound at this location, the number of crashes, particularly rear-end, will decrease.

### **Ramps**

Countermeasures could be implemented for several ramps as follows:

- I-696 to I-75 ramps – warning signs - “Congestion Ahead”
- Big Beaver - northbound off-ramp – warning signs to slow upon approach to Big Beaver intersection. Clearing of vegetation on inside of curve to improve sight distance.
- Big Beaver - southbound off-ramp – warning signs to slow upon approach to Big Beaver intersection. Clearing of vegetation on inside of curve to improve sight distance.
- Crooks Road - southbound off-ramp – warning signs to slow upon approach to Crooks Road intersection. Clearing of vegetation on inside of curve to improve sight distance.
- Adams Road - northbound off-ramp - warning signs to slow upon approach to Adams Road intersection.
- Square Lake - southbound ramp - warning signs to slow upon approach to Square Lake Road intersection. Clearing of vegetation on inside of curve to improve sight distance.

### **Intersections**

MDOT, the Road Commission for Oakland County, and local communities have completed two of three phases to optimize traffic signals throughout Oakland County. Significant operational and safety benefits at these intersections have, and will continue to be realized. Countermeasures noted for consideration at intersections are:

- 9 Mile Road - overhead signing and better channelization of traffic.



- 11 Mile Road at northbound service drive – larger, updated or additional traffic control devices.
- 14 Mile Road at northbound off-ramp – improvements on 14 Mile Road in the Oakland Mall area would likely benefit the intersection of the ramp ends with 14 Mile Road.
- Rochester Road at northbound off-ramp/northbound on-ramp – improved pavement markings or barriers to prevent left-turn conflicts between movements to/from these ramps.

Potential short-term and long-term crash countermeasures are summarized in Table 2-9.

### **2.2.7 Goods Movement**

Truck traffic data are embedded in all the previous analysis sections related to travel demand, congestion, and safety. Detailed information on existing and future traffic volumes and truck percentages can be found in the *Traffic Analysis Report*.<sup>37</sup> The I-75 traffic analyses were based on the Highway Capacity Manual (HCM) and Highway Capacity Software. In the software, heavy vehicle (truck) adjustments are made within the specific mainline segment, ramp merge, ramp diverge and weaving section areas by entering truck percentages. Assumed heavy truck percentages were eight percent on mainline segments, and five percent on the ramps, based on count data from MDOT. Freeway flow rates were then adjusted using the HCM software, based on the heavy vehicle percentages and the appropriate passenger car equivalents to get to an equivalent flow rate in passenger cars per hour per lane.

While truck percentages are relatively low on I-75 between M-102 and M-59, the effects of congestion on trucking are important. Daily commercial vehicle volumes are between eight and nine thousand north of I-696 and over 13,000 south of I-696. Many of the 8,000-plus trucks leaving the north study limit deliver goods to Flint and points north in Michigan, all the way to Sault Ste. Marie. Some go to Canada. Adding capacity to I-75 in south Oakland County will improve overall travel times for trucks and increase the reliability of deliveries. Reliability and travel time are both key components of just-in-time delivery, which is an ever-increasing component of goods movement.

### **2.2.8 Conclusion**

I-75 is an important component of the transportation system in Michigan and the Midwest. As a result of population increases, land use changes, and increasing local, regional, and national commerce, traffic volumes have been increasing along I-75 in the project area. Coupled with road features that do not meet modern standards, existing traffic volumes are now causing traffic congestion problems. By the year 2025, increased traffic will cause severe congestion through extended periods of the day. Collectively, these problems demonstrate the need to upgrade the existing I-75 mainline and interchanges in the project area to: improve travel efficiency and motorist safety; increase personal mobility; support goods movement for industry; and, maintain the freeway's connectivity with other freeway systems.

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<sup>37</sup> *Traffic Analysis Report*, The Corradino Group, November 2003.

**Table 2-9  
Summary of Crash Countermeasures**

LOCATION	SHORT-TERM					LONG-TERM		
	Warn. Signs	Warn. Flashers	Glare Screens	Cushion Walls on Barriers	ITS	Main Line Lane Addition	Pavement/ Drainage Improve.	Comments
S of 9 Mile to S of I-696 – NB	X	X	X	X		X	X	Shift NB 8 Mile On-ramp to the south.
S of 9 Mile to S of I-696 – SB	X	X	X	X		X	X	Shift SB 8 Mile Off-ramp to the south.
S of I-696 to N of I-696 – NB	X		X			X	X	Braid NB I-696 on ramps with I-75 NB exit to 11 Mile.
S of I-696 to N of I-696 – SB	X		X			X	X	
N of I-696 to S of 12 Mile – NB			X			X	X	Braid NB I-696 on ramps with I-75 NB exit to 11 Mile.
N of I-696 to S of 12 Mile – SB			X			X	X	Shift SB 11 Mile On-ramp to the north.
S of 12 Mile to N of 12 Mile - NB			X			X	X	Braid NB I-696 on ramps with I-75 NB exit to 11 Mile. Improve 12 Mile ramps with interchange reconstruction.
S of 12 Mile to N of 12 Mile – SB			X			X	X	Improve 12 Mile ramps with interchange reconstruction.
N of 13 Mile to N of 14 Mile - SB						X	X	Improve 14 Mile ramps with interchange reconstruction.
N of 14 Mile to N of Maple – SB						X	X	
N of Maple to E of Livernois - SB						X	X	Lengthen SB Rochester Road On-ramp.
E of Livernois to Wattles – NB			X		X	X	X	Lengthen Big Beaver On-ramps.
E of Livernois to Wattles – SB			X		X	X	X	Lengthen Big Beaver On-ramps.
S of Adams to Square Lake – SB					X	X	X	Improve Adams Off-ramp.
<b>Ramps</b>								
I-696 to I-75	X				X			Warning signs: “Congestion Ahead”. Braid ramps.
Big Beaver NB Off-ramp	X							Clear vegetation on inside of curve. Advisory speed sign.
Big Beaver SB Off-ramp	X							Clear vegetation on inside of curve. Advisory speed sign.
Crooks SB Off-ramp	X							Clear vegetation on inside of curve.
Adams NB Off-ramp	X							
Square Lake SB Off-ramp	X							Clear vegetation on inside of curve.
<b>Intersections</b>								
9 Mile Road								Overhead signing and better channelization of traffic. Access management.
11 Mile Road @ NB Service Dr.								Improved traffic control devices.
14 Mile Road @ NB Off-ramp								Improvements on 14 Mile Road (by agencies other than MDOT).
Rochester Road @ NB Ramps								Improved markings/barriers to prevent conflicts.

Source: The Corradino Group of Michigan, Inc.

Note: NB means northbound and SB means southbound

## **SECTION 3**

### **ALTERNATIVES**

This section describes how the alternatives were developed and the process that led to the Preferred Alternative.

#### **3.1 Alternatives Development**

This EIS examined a variety of alternatives and options that held potential to address the project purpose and need. Environmental and engineering analyses were augmented by computer modeling to examine the effects of developing mass transit and a high-occupancy vehicle (HOV) lane. Technical documentation supports the conclusions reached with respect to these modes.

Alternatives discussion originated with MDOT, FHWA, ideas from the public and the I-75 Council established for the study. The Council consisted of elected officials from the corridor, representatives of planning agencies, and other stakeholders. Interested members of the public also attend these meetings. Meeting dates and key activities at each are listed below. (See Section 6 for more detail).

- May 22, 2002 – Introduction to the project, schedule, information about the first public meeting.
- July 30, 2002 – Review of transit/HOV methodology, indirect and cumulative methodology, the upcoming scoping meeting, and the second public meeting.
- November 7, 2002 – Results of the transit and HOV analyses.
- June 5, 2003 – Review of project status, capacity analysis, crash study results, and preliminary impact analysis results.
- November 20, 2003 – Review of project status and discussion regarding publication of DEIS and public hearing.

Public meetings were held to solicit the views of the public with respect to alternatives development, inform them of the results of the ongoing analysis, and gain their participation in the decision-making process. These meetings and their focus are listed below. The public was encouraged to submit comments on forms provided at each meeting or later, via telephone, fax, or email. Project documents are available on the project web site, which has been continuously updated during the project.

- June 5 and 6, 2002 – Introduction to the project and its schedule.
- August 21, 2002 – Preliminary results of the transit and HOV analyses.
- March 12, 2003 – Preliminary roadway layout, including 12 and 14 Mile Road interchanges. Noise simulation.

No Build, Mass Transit, and several “build” alternatives were analyzed for this EIS, together with Transportation Systems Management (TSM) techniques, Transportation Demand Management (TDM) techniques, and Intelligent Transportation System (ITS) measures. TSM techniques are designed to maximize the efficiency of the arterial street system. TDM involves strategies for managing transportation demand - usually to reduce it or to shift it to different times, locations, routes, or modes. ITS measures involve the collection and dissemination of information to drivers in real time (overhead message boards on freeways), incident management (clearing crashes and breakdowns quickly), traffic signal systems that respond to demand, and similar measures.

A Public Hearing was held January 27, 2004. Based on environmental considerations and public and agency comments received at the hearing and during the comment period, a Preferred Alternative was identified: the HOV Alternative in the peak hours was selected (Section 3.7). The decision making that led to the Preferred Alternative is described in Section 3.9. Below there is a discussion of alternatives considered in the DEIS, including the practical alternatives.

### **3.2 No Build Alternative**

The No Build Alternative consists of continued regular maintenance of I-75. Current bridge and pavement conditions are summarized in Section 2. I-75 was constructed in the 1960s, and it needs major reconstruction. Major reconstruction typically may involve reconstruction of the road base, as well as its surface. Drainage modifications may be required by that reconstruction. This need for major reconstruction of I-75 is independent of the proposed widening project, but would be included in the Preferred Alternative.

Many of I-75's bridges in the project area have undergone rehabilitation/reconstruction since they were constructed. This could involve work on footings, piers, beams, decks, parapet railings, sidewalk/shoulder areas, or other required work. The No Build Alternative would continue a pattern of maintenance and minor adjustments. It would continue use of the combined sewer system in the southern part of the corridor. It would not require the acquisition of additional right-of-way.

The No Build Alternative would result in a breakdown of traffic flow through much of the day.

### **3.3 Transportation Systems Management (TSM) Techniques**

Transportation Systems Management (TSM) techniques apply to the arterial street system, which, in large part, is under the control of local units of government and the Road Commission for Oakland County. The Feasibility Study recommended numerous improvements to arterials. A number of projects are either built or listed in SEMCOG'S *Regional Transportation Plan*. More are needed and await funding. Traffic modeling finds a need for improvements to the arterial system, but because of the way travel demand has developed along I-75, adding capacity to the arterial network cannot alone meet the project purpose and need. Only a lane addition on I-75 can meet that need. TSM techniques are and will continue to be included as area roadway improvements occur.

### **3.4 Transportation Demand Management (TDM) Techniques**

Transportation Demand Management (TDM) means reducing demand or shifting it to different times, locations, routes, or modes. It focuses principally on administrative actions, such as working with major employers to support carpool and vanpool programs, or programs that encourage transit use. MDOT works actively with SEMCOG to promote alternative transportation modes. TDM techniques will continue, but will not alone meet the project purpose and need. These activities will expand, as the HOV Alternative was selected.

Ramp metering is one way to control use of a freeway, by allowing vehicles onto the freeway only when there is capacity. During the Feasibility Study ramp metering was considered, but not included in the recommended plan based upon accumulated experience of similar communities. It is a beneficial TDM technique that has merit on a regionwide basis.

### 3.5 Intelligent Transportation Systems

Intelligent Transportation System (ITS) measures are continually evolving. They are generally defined as use of technology in transportation to save lives, time, and money. The measures are multimodal, but have particular utility for freeways such as I-75. Techniques include the collection and dissemination of information to drivers in real time (overhead message boards on freeways), incident management (clearing crashes and stopped vehicles quickly), coordinating traffic signals at ramp ends with the surrounding signal system, providing intelligent signal systems that adjust to traffic demand, and other similar measures. With the build alternatives, conduit could be laid at the time of construction in anticipation of future ITS needs.

MDOT and the Road Commission for Oakland County (RCOC) are national leaders in ITS. RCOC's FAST-TRAC program in Oakland County uses SCATS (Sydney Coordinated Adaptive Traffic System). FAST-TRAC is a system that makes better use of existing roadways by employing advanced traffic management technologies to respond, in real time, to actual traffic flow, thus minimizing traffic tie-ups and improving safety. Seven regional computers are connected to a central management system at RCOC's Traffic Operations Center, where traffic engineers monitor conditions and balance traffic flow along major corridors. Along the project length of I-75, FAST-TRAC has been implemented in Hazel Park, Madison Heights, Troy and Auburn Hills. The system is undergoing continued expansion. Improvements in the interface with MDOT's ITS program are likewise ongoing.<sup>38</sup> The FAST-TRAC program will continue independently of the proposed I-75 project and will support it.

MDOT's ITS program in Southeast Michigan includes 180 miles of freeways, with closed circuit television cameras, changeable message signs, and traffic detecting loops. There are plans for additional surveillance and detection equipment on I-75, and additional changeable message signs near M-59.<sup>39</sup> The Michigan Intelligent Transportation System (MITS) Center in downtown Detroit operates the system and houses the Michigan State Police's 911 Regional Dispatch Center. Further, there has been research performed on a "511" system and DIRECT (Driver Information Radio). These systems would provide current traveler information. MDOT's 511 Feasibility Study has just been initiated.

Research indicates that more than fifty percent of total delay experienced by urban motorists results from incidents (accidents, stopped vehicles, debris in the road, and other conditions or distractions).<sup>40</sup> Recognizing this reality, MDOT, in conjunction with a number of Southeast Michigan governmental units and private sector participants, sponsors the Freeway Courtesy Patrol program. This program keeps service vans ready to clear incidents along several area freeways. Patrols currently operate over the entire length of I-75 from downtown Detroit to the north Oakland County line. SEMCOG has performed an analysis of 2002 data that found significant air quality and travel time benefits from the program.<sup>41</sup>

ITS maximizes use of the existing transportation infrastructure, but cannot substitute for physical expansion of roadway capacity, once efficiency is maximized. For this reason, while ITS will be an ongoing component of traffic management on I-75, it will not alone meet the project purpose and need.

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<sup>38</sup> *Draft ITS Predeployment Study*, Cambridge Systematics, 2002.

<sup>39</sup> *Ibid.*

<sup>40</sup> *The 2002 Urban Mobility Report*, Schrank and Lomax, Texas Transportation Institute, June 2002.

<sup>41</sup> *MDOT Courtesy Freeway Patrol in Southeast Michigan: 2002 Evaluation Report*, SEMCOG, July 2003.

### 3.6 Mass Transit

The EIS included an extensive study of whether a rapid transit system can meet the purpose and need for the project (Figure 3-1). Rapid transit has significant potential in the Woodward Corridor (which parallels I-75) south of 9 Mile Road, but analysis shows rapid transit and an extensive supporting bus system do not eliminate the need for the proposed lane addition on I-75 through the study area of M-102 (8 Mile Road) to M-59.<sup>42</sup>

A high performance, generic transit concept was evaluated on Woodward Avenue from downtown Detroit (Jefferson Avenue) to Pontiac. The Woodward Corridor has been the historic focus of mass transit analysis, and there has been general agreement that when rapid transit develops, it will be done first in the Woodward Corridor.<sup>43</sup> The mass transit system was given every opportunity in the modeling effort for this project to attract riders, e.g., frequent feeder bus service in Oakland County (which does not exist today), rapid transit vehicles on exclusive right-of-way along Woodward Avenue at speeds as high as physically feasible, and optimal spacing of stations/stops between downtown Detroit and Pontiac along Woodward Avenue. More specifically, the system was characterized by:

- High speed (60 mph where distances and conditions permit);
- High quality vehicles with a quiet, smooth ride;
- Separation from other traffic to avoid congestion;
- Short headways – 3 minutes;
- Short dwell times at stations – 15 seconds or less;
- Timed transfers with intersecting routes to avoid missed transfers;
- Communication between buses also to avoid missed transfers;
- Park-and-ride lots at stops north of, and including, the Michigan State Fairgrounds;
- Fare integration with intersecting transit to permit a single fare for all trip segments; and,
- Pre-paid fares at platforms to reduce boarding times.

The result is a rapid transit system that attracts almost 50,000 daily riders. But, ridership was found to fall off sharply north of M-102 (8 Mile Road) (Table 3-1). As a result, even the rapid transit system that was modeled does not eliminate the need to add a lane to I-75 in Oakland County. Several reasons are apparent:

- Oakland County residential development is too dispersed to support a high level of transit service.
- Many I-75 trips are internal to Oakland County and not easily diverted to transit.
- There is more travel demand in the I-75 corridor than there is capacity. This means that when rapid transit diverts motorists from I-75, others who would typically use the road, except for its heavy congestion, quickly replace them.

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<sup>42</sup> *I-75 Corridor Planning/Environmental Study Refined Analysis of Transit and HOV Concepts (Technical Memorandum No. 2)* by The Corradino Group for the Michigan Department of Transportation, October 2002.

<sup>43</sup> Between December 1975 and April 1977 the Southeast Michigan Transportation Authority conducted detailed studies of Southeast Michigan's travel corridors and concluded that the first-stage light rail element that resulted from planning would be in the Woodward Corridor.



**Table 3-1  
Rapid Transit Station Activity**

STATION LOCATION	STATION ACCESS TYPES <sup>a</sup>	DAILY ONS + OFFS	DAILY 2-WAY LOADINGS
Pontiac Transportation Center	Auto, Walk, Bus	2,204	2,204
Square Lake Road	Auto, Walk, Bus	3,047	2,567
Long Lake Road	Auto, Walk, Bus	244	2,645
Big Beaver Road	Auto, Walk, Bus	674	2,747
Maple Road	Auto, Walk, Bus	1,533	3,586
14 Mile Road	Auto, Walk, Bus	2,339	4,675
13 Mile Road	Auto, Walk, Bus	3,968	6,517
12 Mile Road	Auto, Walk, Bus	3,511	7,254
11 Mile Road	Auto, Walk, Bus	1,252	7,428
10 Mile Road	Auto, Walk, Bus	1,312	7,902
9 Mile Road	Auto, Walk, Bus	5,217	8,933
M-102 (8 Mile Road)	Auto, Walk, Bus	4,395	12,016
7 Mile Road	Walk, Bus	3,892	13,594
McNichols Road	Walk, Bus	4,851	15,119
Woodland Avenue	Walk, Bus	1,693	15,914
Trowbridge Road	Walk, Bus	2,889	17,749
Hazelwood	Walk, Bus	4,243	19,508
Mount Vernon	Walk, Bus	4,661	21,169
Grand Boulevard	Walk, Bus	3,039	20,868
Antoinette	Walk, Bus	4,901	20,901
Warren	Walk, Bus	6,306	22,295
Alexandrine	Walk, Bus	3,841	22,258
Mack Avenue	Walk, Bus	511	22,237
Alfred	Walk, Bus	5,018	22,145
I-75	Walk, Bus	1,639	21,206
Grand Circus Park	DPM, Walk, Bus	4,884	16,376
Campus Martius	Walk, Bus	12,321	5,179
Jefferson Avenue	Walk, Bus	5,179	0

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup> Stations north of 7 Mile Road have parking. All stations have walk and bus access. Walk access is much better in the south, where people live closer to stations. The DPM is the Detroit People Mover.

The section of I-75 between 8 Mile Road and I-696 would experience the greatest potential diversion of trips with a rapid transit system in the Woodward Corridor, about 100 vehicles in the peak hour. By comparison a single freeway lane can carry upwards of 2000 vehicles per hour. Thus, modeling indicates only a small diversion of trips from I-75. But, traffic demand is so strong these “diverted” auto users are replaced by others. The current status of rapid transit planning in the corridor is discussed in Section 4.2.3.

In summary, a rapid transit system along the Woodward Corridor clearly shows viability, at least as far north as 9 Mile Road, but it cannot meet the project purpose and need. A rapid transit system would offer an alternative means of travel and has merit, independent of the I-75 project, and MDOT supports such transit development.



## 3.7 Build Alternatives

The “build alternatives” included adding a through travel lane between M-102 (8 Mile Road) and M-59 to bring the total to four lanes in each direction.<sup>44</sup> The lane could be implemented for general use by all vehicles all the time, or could be restricted to use by HOVs during peak travel periods. The lane addition supplement the planned major reconstruction of I-75. Both alternatives also included reconstruction of the 12 Mile and 14 Mile interchanges and braiding the ramps from I-696 to northbound I-75 with a shifted off-ramp to 11 Mile Road. Six pedestrian bridges would be reconstructed over I-75. A sidewalk would be added along the service drive north-south through the I-696 interchange. Bridges in the depressed section would be replaced, as the lane addition would require all these bridges to be longer. The bridges at the 12 and 14 Mile Road interchanges will be reconstructed along with the entire interchange. At 13 Mile Road, and all locations north of 14 Mile Road, bridges will be widened to the inside.

The development of a general-purpose lane or HOV lane is described below. Then there is discussion of 10-foot inside (median) shoulders, the curve on I-75 at Big Beaver Road, special considerations at Square Lake Road, and ties to the separate I-75/M-59 project. Finally, there is discussion of proposed changes at the I-696, 12 Mile Road, and 14 Mile Road interchanges.

### 3.7.1 I-75 Lane Addition for General Purpose Use – GP Alternative

Between M-102 (8 Mile Road) and a point south of 12 Mile Road, I-75 is in a “cut” section. Crossroads are at grade and I-75 passes under these roads. “Slip ramps” serve traffic entering and exiting the freeway from adjacent service drives (parallel, one-way, local roads adjacent to the freeway). Addition of a fourth through lane in this section would occur by cutting into the existing side slopes (Figure 3-2). In some cases, the adjacent service drives will be narrowed to prevent the need for acquisition of right-of-way from bordering properties. At each low point in I-75, under the crossroads, a pump station now exists in the embankment area. These pump stations move storm water up and away from the low points into receiving pipes that now flow to a combined sewer system (handling sewage and storm water in the same system). The pump stations will have to be relocated or modified. The Preferred Alternative will direct I-75 storm water away from the combined sewer system to improve water quality (see Section 4.10.2).

Six pedestrian bridges now provide access across I-75 in the depressed section south of 12 Mile Road. These would be reconstructed, because their supporting piers would be affected by the lane addition. The bridges are at: Bernhard Avenue, Harry Avenue, Highland Avenue, Orchard Avenue, Browning Avenue, and Bellaire Street. The underclearance of the bridges must be increased two to three feet<sup>45</sup> and reconstruction must conform to the Americans with Disabilities Act (ADA), which requires more gradually sloping ramps. Example layouts are provided in Figure 3-3. These would be subject to refinement during the design phase of the project. Note that the Harry Avenue pedestrian bridge could require relocation of three homes. An option that may become available is the construction of elevators rather than ramps. Elevators in conjunction with stairs (rather than ramps) offer the possibility of eliminating the need for right-of-way acquisition in reconstructing the pedestrian bridges (see Section 4.2.2).

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<sup>44</sup> During the 2000 Feasibility Study the concept of a reversible lane was considered. However, north-south travel demand is so balanced that a reversible lane was not reasonable.

<sup>45</sup> Pedestrian bridges have an extra-high under-clearance of 17'3" over the service drives to prevent bridges from being hit by vehicles passing underneath.



I-75 in Depressed Section

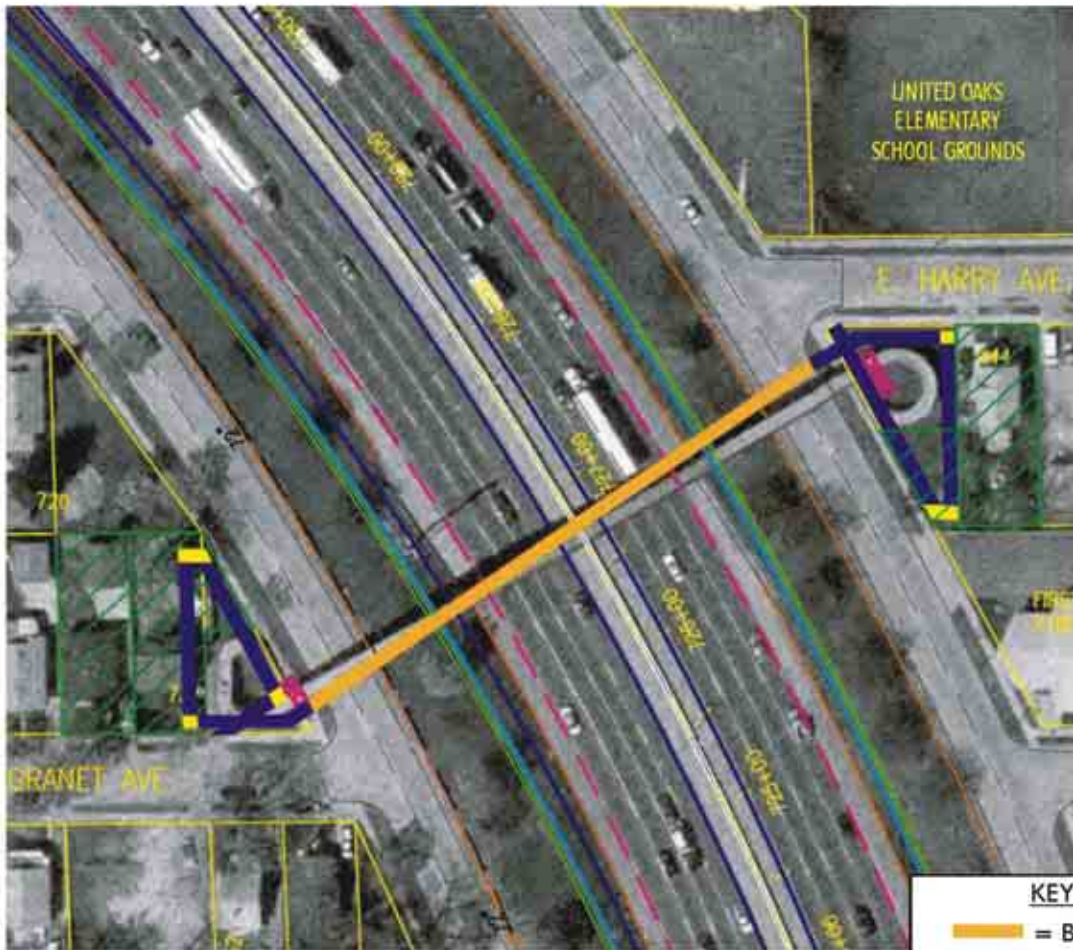


I-75 in At-Grade Freeway Section

Figure 3-2  
Lane Additions on I-75

SOURCE: The Carradino Group of Michigan, Inc.

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Harry Avenue

KEY	
	= Bridge
	= Ramp
	= Stairs
	= Relocation



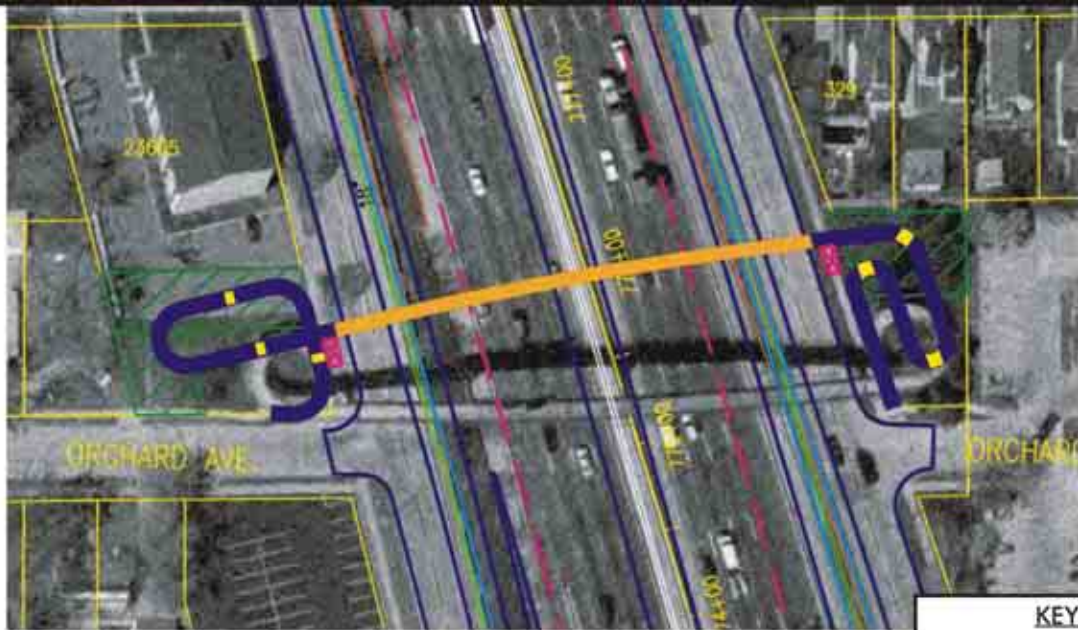
Bernhard Avenue

Figure 3-3a  
Pedestrian Bridge Reconstruction

SOURCE: Rowe, Inc. & The Corradino Group of Michigan, Inc.

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Orchard Avenue

KEY	
	= Bridge
	= Ramp
	= Stairs
	= Relocation



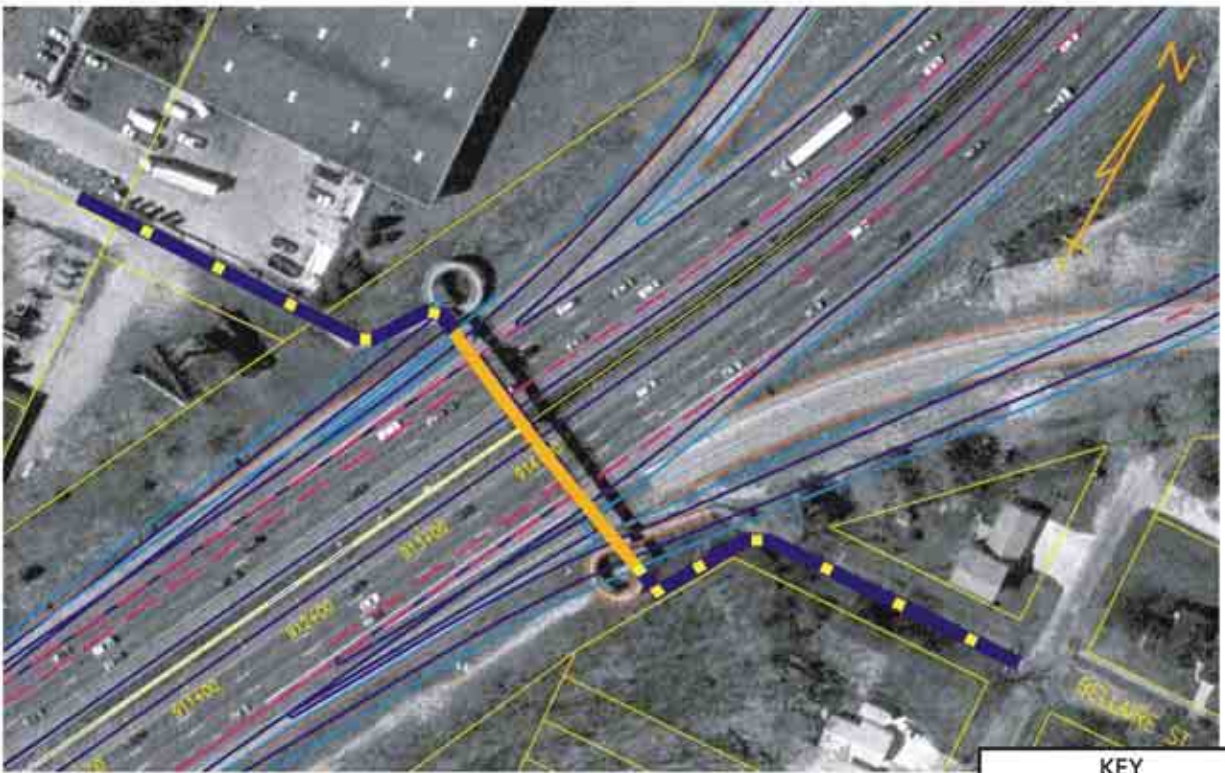
Highland Avenue

Figure 3-3b  
Pedestrian Bridge Reconstruction

SOURCE: Rowe, Inc. & The Corradino Group of Michigan, Inc.

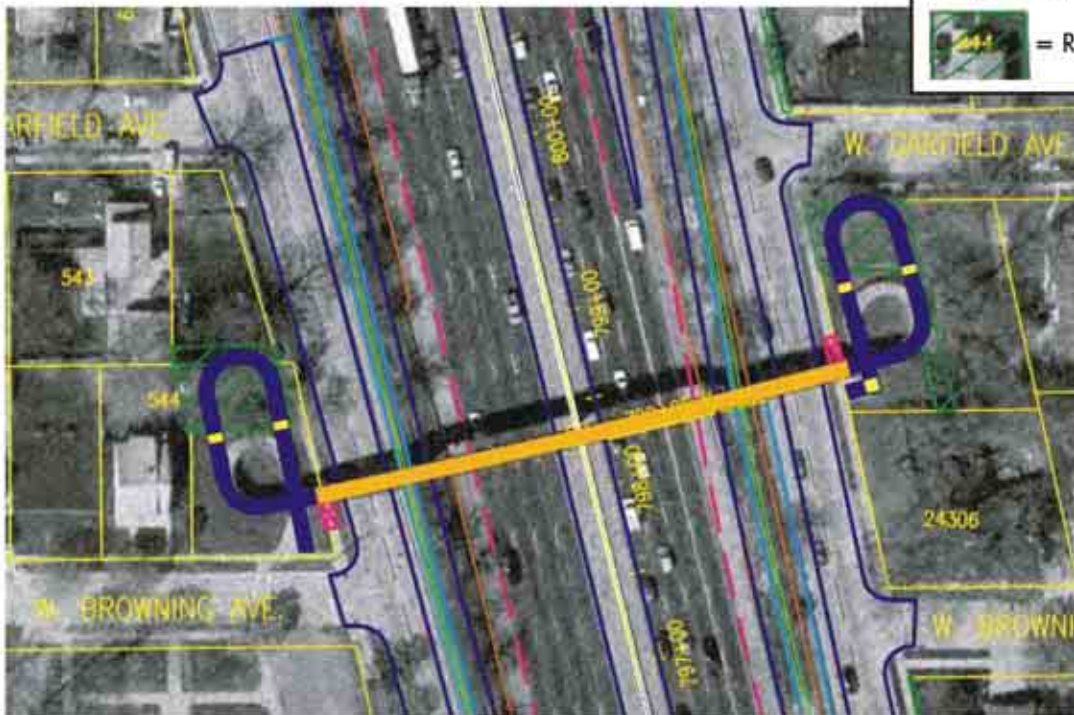
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Bellaire Street

KEY	
	= Bridge
	= Ramp
	= Stairs
	= Relocation



Browning Avenue



Figure 3-3c  
Pedestrian Bridge Reconstruction

SOURCE: Rowe, Inc. & The Corradino Group of Michigan, Inc.

LP:prosc2010/mich/rowe/PedBridc3b

I-75 is either at grade or elevated in the northern part of the project length. I-75 passes under Gardenia Avenue, then over 12 Mile Road, the next crossroad to the north. The lane addition in this section would be constructed in the existing median north as far as Square Lake Road (Figure 3-2). Because there is a left exit from northbound I-75 to westbound Square Lake Road, and a left entrance from eastbound Square Lake Road to northbound I-75, the northbound lane addition would have to be modified, as the median ends. The left exit and entrance interfere with the continuation of the additional lane on the median side. Therefore, a general-purpose lane addition northbound would have to transition from inside to outside through the interchange.

North of Square Lake Road to beyond M-59 there are already four through lanes. Two auxiliary lanes are planned with the I-75/M-59 project. These will form the exit lanes to M-59. The north limit of the I-75 lane addition project is north of South Boulevard where the two lanes (eastbound-to-northbound) from Square Lake Road join the four northbound lanes of I-75 to form the planned six lanes proceeding north.

On southbound I-75 five lanes now pass under South Boulevard. Two lanes exit to westbound Square Lake Road and three continue as southbound I-75. With the project, the three inside (median) lanes would maintain their current position under the South Boulevard bridge. The fourth lane (counting from the inside to the outside) would become a “decision lane.” Drivers in that lane will be able to exit to westbound Square Lake Road or continue south on I-75 (see Section 3.7.3). As this fourth lane proceeds south, it would be a “new” lane, positioned on the outside of the three existing lanes. But, south of Square Lake Road, the new lane is to be on the inside (median side). This means I-75 will be reconstructed in this section to align the four southbound lanes properly.

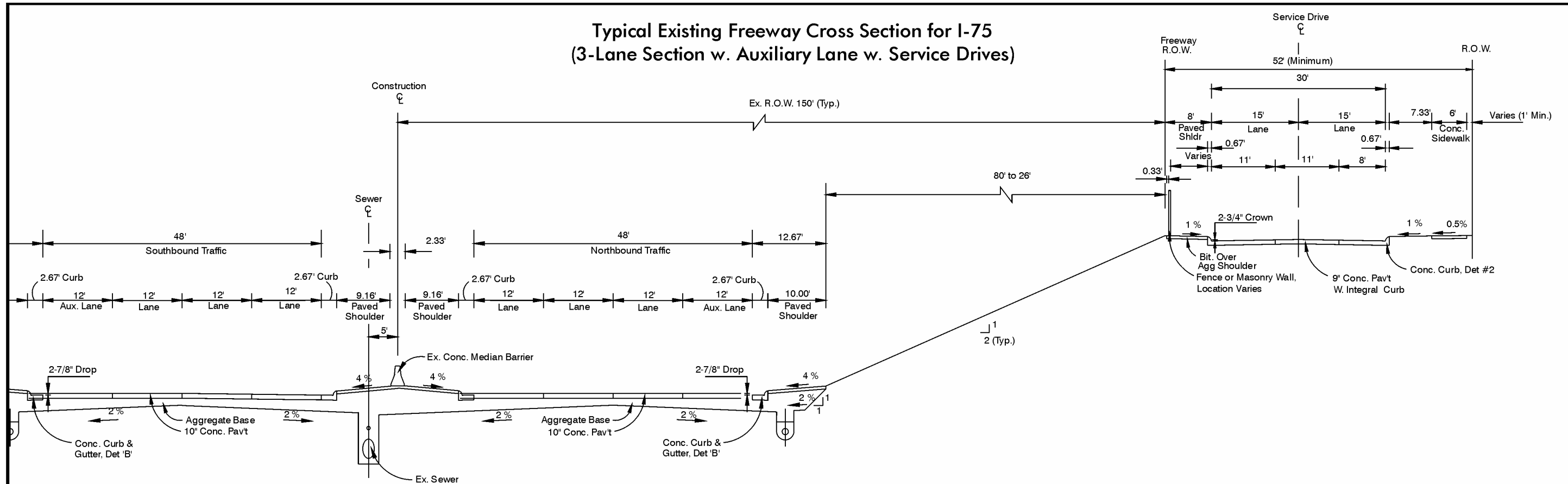
The lane additions just described will almost entirely occur within existing MDOT right-of-way. Figure 3-4 shows typical sections.

With the exception of the 9 Mile Road “S” curve discussed in the following paragraphs, the Preferred Alternative will bring I-75 up to full, modern, design standards. This will be accomplished by changing the roadway profile, increasing superelevations in curves, making compatible changes to curve radii and lengths (these need be very minor only), and changing ramp profiles and lengths. A 70 mph design speed is planned.

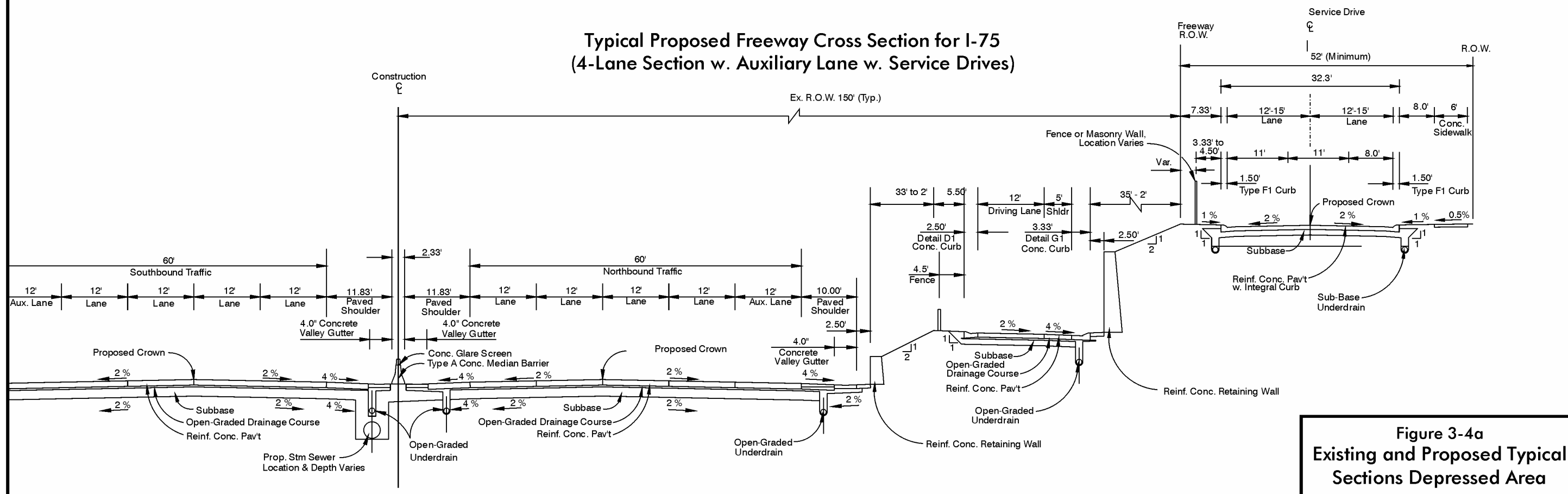
### **I-75 Lane Addition to Full Standards**

The GP alternative would bring I-75 to full, modern standards, with the exception of the 9 Mile Road “S” curve. The south curve is designed for 70 miles per hour and meets standards. However, there is no tangent (straight) section between that curve and the return curve to the immediate north. And, the north curve is too sharp. An analysis was performed of adding the appropriate tangent section between the curves and redesigning the north section of the “S” curve. There is advisory signing to drive at 50 miles per hour through the curve today and the crash rate for northbound traffic in this curve is higher than for other sections of I-75 (see Table 2-8). Adding the appropriate transition length between the two curves and bringing the north curve up to standards would push I-75 into the adjacent neighborhood to the west. More than 150 parcels would likely be affected, including approximately 100 residential units, 20 business structures, a church, an elementary school, and vacant lots (Figure 3-5). The additional cost would exceed \$100 million. The safety benefit is marginal. In this confined driving environment benefits would come from a reduction in the non-fatal accident rate and the benefit/cost ratio would be only 0.44:1. Due to the significant social impacts and cost, this option is not considered practical. Crash countermeasures are recommended in Section 2.2.6.

### Typical Existing Freeway Cross Section for I-75 (3-Lane Section w. Auxiliary Lane w. Service Drives)



### Typical Proposed Freeway Cross Section for I-75 (4-Lane Section w. Auxiliary Lane w. Service Drives)

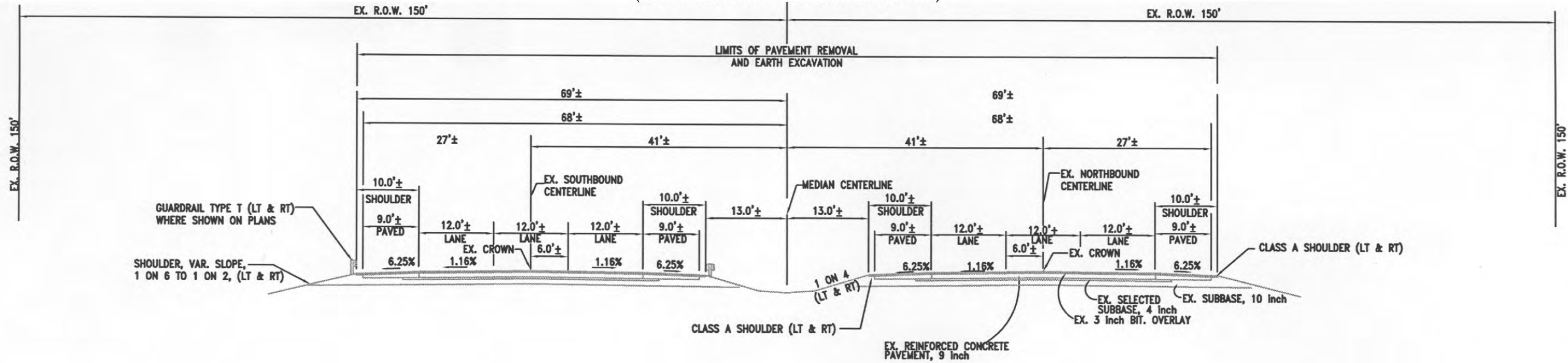


**Figure 3-4a**  
Existing and Proposed Typical  
Sections Depressed Area





Typical Existing Rural Freeway Cross-Section for I-75  
 From Twelve Mile Rd. to South of M-59  
 (3-Lane Section w. Full Bit. Pavement)



Typical Proposed Rural Freeway Cross-Section for I-75  
 From Twelve Mile Rd. to South of M-59  
 (4-Lane Section w. Pavement)

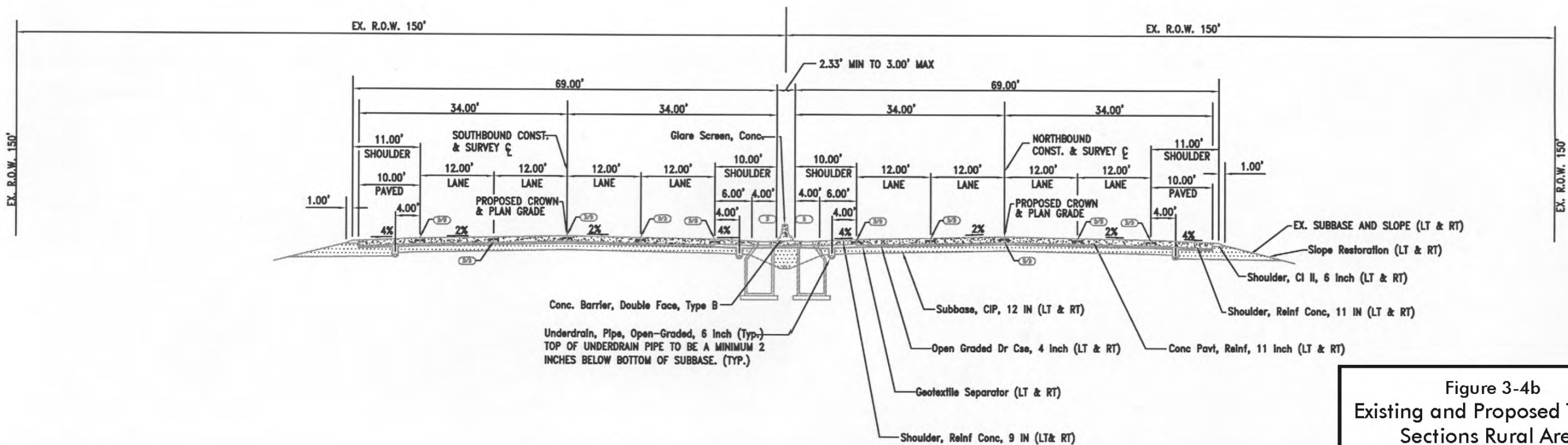


Figure 3-4b  
 Existing and Proposed Typical  
 Sections Rural Area



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### 3.7.2 I-75 Lane Addition for HOV Use – HOV Alternative

The proposed fourth lane would be dedicated for use by high-occupancy vehicles in peak hour periods only. The proposal is to limit this lane for use by vehicles carrying two or more persons (carpools, vanpools, and buses) during the morning and afternoon peak periods (preliminary analysis of traffic data suggests a morning period of 7 to 9 AM, and an afternoon period of 4 to 6 PM.) Computer modeling found that limiting the HOV lane to 3 or more persons restricted use to the point that the lane is not viable. For the lane to be effective, enforcement must be strict.<sup>46</sup>

Based on the experience with HOV in other locations nationwide, a standard, 12-foot highway lane can be marked for HOV use (Figure 3-6). The HOV lane would be on the inside, concurrent with other I-75 traffic flow. It would be designated by signing and pavement markings.

Three HOV options were tested during DEIS analysis.<sup>47</sup> Testing extended north to M-15, as this was the northern limit of its viability, according to the modeling effort. This does not mean HOV would extend that far north under the Preferred Alternative. It merely provided the background of analysis necessary to test the inclusion of HOV in the final practical alternatives.

Option A called for one new HOV lane in each direction between M-102 and M-15, with modifications at interchanges (except M-102) to allow direct access to the HOV lane on the inside of the freeway. Flyovers or special ramps would connect directly to the HOV lane. This approach would require right-of-way acquisition because, wherever a ramp enters or exits, a space must be created between the general-purpose travel lanes and the HOV lane for the special access ramp to occupy (Figure 3-7). Option B took a similar approach (special access), but limited the extent of HOV to the section of I-75 between I-696 and M-59, which computer modeling found to be the most attractive for HOV. Option C called for only striping and signing of the HOV lane, from M-102 to M-15 and special construction northbound through the Square Lake interchange (Figure 3-8).

The result of the impact analysis found the differences among the options were significant (Table 3-2). Option C would not require relocation of homes or businesses. Option A, between M-102 and M-59, could result in impacts to 24 business structures, 78 single-family dwellings, 74 multi-family dwellings, 3 churches, 3 institutions and 8 acres of wetlands. Option A would also substantially increase the project's construction cost, adding an estimated \$262 million that does not include right-of-way costs. If the full-access HOV concept were limited to the section between I-696 and M-59 (Option B) the impacts would be less: 9 businesses, 37 single-family dwellings, 74 multi-family dwellings, 2 churches, 3 institutions, and 8 acres of wetlands, at a construction cost of \$179 million. Options A and B were not considered practical.

Option C, basic HOV designation through signing and striping (shaded in Table 3-2), had few additional impacts relative to the GP Alternative. The exception was 0.4 acres of wetland and a minimal additional cost. This HOV approach would require special construction through the Square Lake Road interchange in the northbound direction (Figure 3-8). The HOV lane would separate from the northbound through lanes of I-75 to allow it to pass over the left exit to Square Lake Road and the left entrance from Square Lake Road. The bridges associated with this treatment would cost an estimated \$2.5 million. The Option C approach, which required no special access and minimal impacts was incorporated into the Preferred Alternative within the project limits only.

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<sup>46</sup> *I-75 Corridor Planning/Environmental Study Refined Analysis of Transit and HOV Concepts (Technical Memorandum No. 2)* by The Corradino Group for MDOT, October 2002.

<sup>47</sup> *Ibid.*

### Signing



### HOV Operation

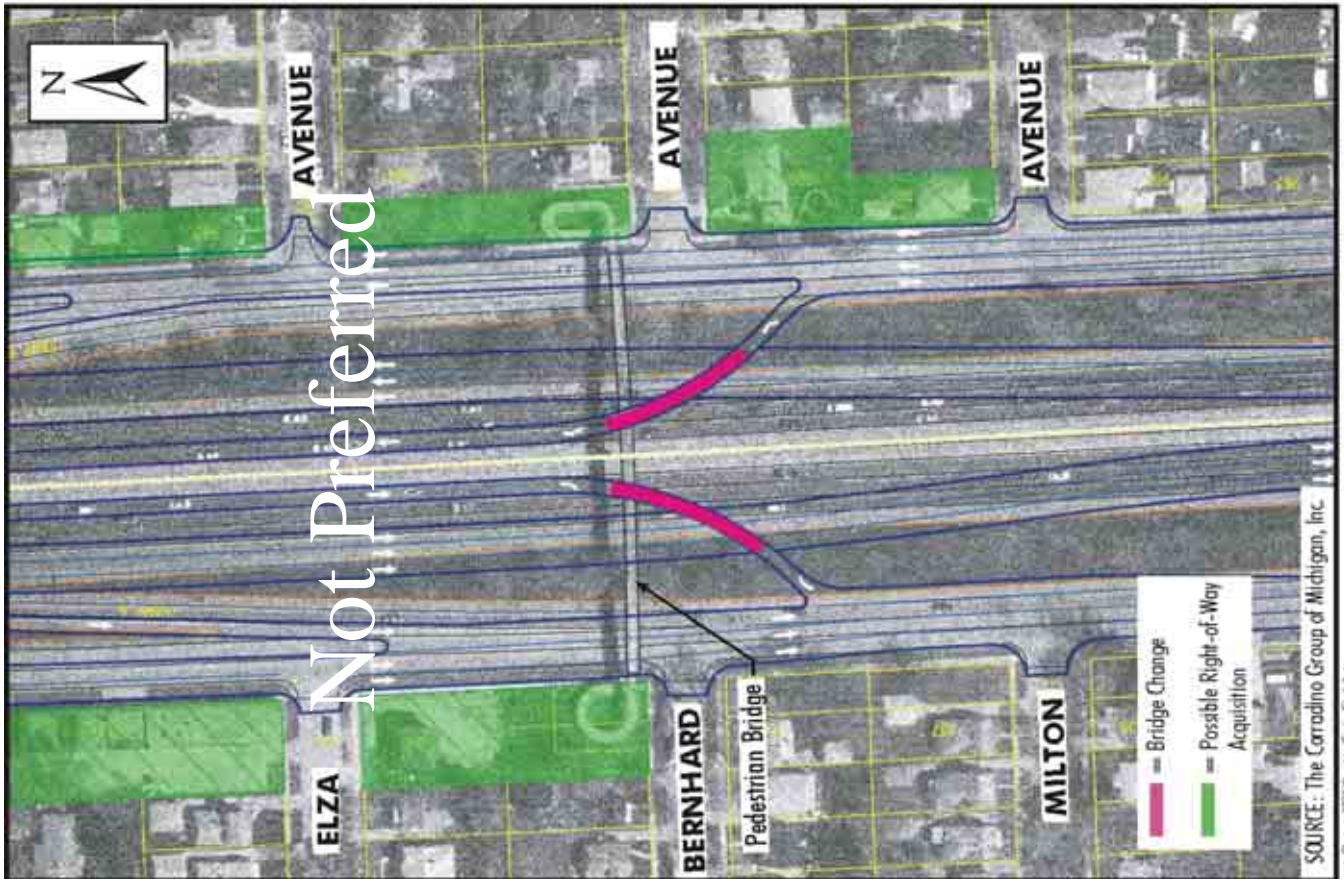


### Enforcement

Figure 3-6  
Basic HOV  
Example Facilities

SOURCE: HOV Interactive 1.0, Federal Highway Administration, 1996

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**Table 3-2  
Impacts of HOV Options**

TYPE OF IMPACT	OPTION A	OPTION B	OPTION C
Relocated Business Structures	24	9	0
Relocated Single-family Dwellings	78	37	0
Relocated Multiple-family Dwellings	74	74	0
Relocated Churches	3	2	0
Relocated Institutions	3	3	0
Wetlands Taken (acres)	8	8	0.4
Cost	\$262,000,000	\$179,000,000	\$6,000,000

Source: The Corradino Group of Michigan, Inc.

Note: Option A is special access from M-102 to M-15. Option B is special access from I-696 to M-59.

Option C is signing and striping only and is shaded, as it is the preferred option.

For any HOV option, capital costs related to signing and striping could amount to another \$3.5 million. And, enforcement is essential for the proper functioning of the lane. Costs could range from \$1 to \$4 million, annually, depending on the level of stringency. The more enforcement, the greater the effectiveness of the HOV lane. Enforcement responsibilities would need to be discussed among the Michigan State Police and local jurisdictions.

The above analysis led to the conclusion that the costs and impacts of the full-access HOV lane make Options A and B infeasible, especially considering that special access ramps led to virtually no additional use of the HOV lane. The additional costs and impacts cannot be justified. Therefore, only the basic HOV concept (Option C) was advanced for consideration in this EIS.

Four through lanes are already present on I-75 north of Square Lake Road to west of M-24. To carry the HOV lane north of Square Lake Road will require federal approval to convert the existing fourth through lane from a general-purpose lane to an HOV lane. Long-range planning calls for the fourth lane on I-75 to be constructed north to the Oakland / Genesee county line. Computer modeling indicates the portion of I-75 north to M-15 meets the criteria for HOV designation. So, if that section is built later, the HOV lane could extend to M-15.

The key to determining whether HOV should be pursued is how well it performs relative to development of a general-purpose (single-occupancy) lane and how well it may be received by institutions and the public. Enforcement is an important component of public acceptance.

Tests indicate an HOV lane as proposed under Option C would meet the following, generally accepted criteria for HOVs:<sup>48</sup>

- There should be at least 700 vehicles in the HOV lane during the peak hour.
- The HOV lane should carry more people than the adjacent general-purpose lane.
- The total freeway throughput should be greater with the HOV lane than without.

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<sup>48</sup> SEMCOG's regional transportation computer model was used as a base. A "mode-choice" component was added to the model by The Corradino Group for the HOV analysis for this EIS. SEMCOG has developed peak hour factors that can be used for the afternoon peak hour, but there are no such factors for the morning peak, so all model runs are for the PM peak. More detailed model results are in *Technical Memorandum 2, Refined Analysis of Transit and HOV Concepts*, December 2002.

To test the HOV lane in a realistic manner, the assumption was made that “violators” - driver-only (single occupant) vehicles would try to take advantage of the reduced congestion and higher speed of the HOV lane. The violation rate in the computer model was set at 20 percent. This reflects real world experience when there is a moderate rate of enforcement. Option C meets all three criteria in the northbound direction with the 20 percent violation assumption (Table 3-3). The HOV lane, as noted previously, was assumed to extend to M-15 which modeling showed to be the northern limit of HOV viability. Also, the modeling was for 2+ HOVs. A test of three or more persons per vehicle did not satisfy any of the three criteria listed above.

An examination of the southbound HOV conditions found that even in the non-peak direction (the travel model represents peak afternoon conditions only) two of three criteria are met. But for M-102 to M-59, all three criteria are met and those are the limits of this project. This test was run with no violations to minimize the number of vehicles in the HOV lane (Table 3-4).

**Table 3-3  
HOV Tests - 2025 PM Peak Hour – Northbound – 20% Violation Rate**

Key Segment	Total HOV Lane Vehicles per Hour	Person Throughput per Lane		HOV Increase in Total Freeway Person Throughput	Passes Test
		HOV Lane	General Purpose Lane Average		
M-102 to I-696	1,660	3,630	1,920	30+	Yes
I-696 to 12 Mile	2,270	5,020	2,390	840+	Yes
12 Mile to 14 Mile	2,020	4,480	2,080	410+	Yes
Square Lake to M-59	2,140	4,710	2,170	660+	Yes
Sashabaw to M-15	1,110	2,340	1,540	240+	Yes

Source: The Corradino Group of Michigan, Inc.

**Table 3-4  
HOV Tests - 2025 PM Peak Hour – Southbound – No Violators**

Key Segment	Total HOV Lane Vehicles per Hour	Person Throughput per Lane		HOV Increase in Total Freeway Person Throughput	Passes Test
		HOV Lane	General Purpose Lane Average		
M-102 to I-696	1,450	3,620	1,820	180+	Yes
I-696 to 12 Mile	2,150	5,350	2,410	1,190+	Yes
12 Mile to 14 Mile	1,780	4,420	1,950	370+	Yes
Square Lake to M-59	1,540	3,800	1,970	80+	Yes
Sashabaw to M-15	320	770	1,050	10+	No

Source: The Corradino Group of Michigan, Inc.

Because the test was for the non-peak direction, the viability of an HOV lane all the way to M-15 is still supported. However, this result highlights a common problem with the implementation of HOV lanes - the “empty lane” syndrome. For an HOV lane to function properly, it must carry fewer vehicles than the adjacent general-purpose lane. Some motorists feel that the lane is “not being used” and “taxpayer’s money is being wasted,” when in fact, the lane should be somewhat “empty” since the real test of HOV is whether the overall throughput of the road is increased.



An examination of traffic data available from two MDOT permanent traffic count recorder stations assisted in a determination that operation of HOV lanes should be in both directions during both the morning and afternoon peak periods, likely from 7 to 9 AM and 4 to 6 PM. This scenario will be subject to review at the time of HOV implementation. As HOV has become the Preferred Alternative, the development of additional carpool lots and park-and-ride facilities<sup>49</sup> along this corridor is being pursued to support the implementation of the HOV lane (see Section 3.9).

### **3.7.3 Specific Design Issues**

This section documents consideration of several specific design elements that were considered for inclusion in the build alternatives.

#### **10-Foot Inside (Median) Shoulders**

Ten-foot inside shoulders meet modern design standards, but 12-foot inside (median) shoulders are desirable compared to 10-foot shoulders when more than 250 trucks are present in the peak travel hour, as would be the case on I-75. I-75 is now designed with 10-foot shoulders. To add the two additional feet would require total reconstruction of all the bridges from 12 Mile Road north to the north project limit. With 10-foot shoulders the bridges could be widened. Ten-foot median shoulders are considered practical. Twelve-foot shoulders are not, for the following reasons:

- **Consistency/Safety:** The Square Lake interchange improvements constructed in 2002 included a 10-foot median shoulder. The designs for I-75 at its interchanges with M-59 and Crooks/Long Lake roads are designed with a 10-foot median shoulder. And, I-75 to the south of M-102 and north of M-59 have 10-foot median shoulders.
- **“Gapping out”:** meaning limiting 12-foot median shoulders to those locations where they fit, would limit its use to about half of the project’s 18 miles between M-102 and M-59. Changing the median shoulder width to 12 feet in some sections of I-75 will negatively affect driver expectation and, potentially, safety.
- **Community Relocations:** There would be impacts to four churches and four residential parcels (no more than 0.1 acres total of land purchased from frontages over the 10-foot median condition).
- **Cost:** Development of a 12-foot median shoulder would lead to an increase in project costs of over \$100 million.

#### **Redesigning the Big Beaver Road Curve**

The curve at the Big Beaver interchange does not conform to the rural standards to which it was designed, but the area is now urbanized. It does meet urban standards. Redesigning the curve to the rural standard would require reconstruction of the interchange. The interchange could be shifted to smooth the curve, but a motel and buildings of the City of Troy government complex, which are located on the inside of the curve, would be affected. Therefore, this option is not considered practical.

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<sup>49</sup> Carpool lots are managed by MDOT. SEMCOG assists in management of park-and-ride facilities, which include transit service. Lots along I-75 could be served by SMART – the Suburban Mobility Authority for Regional Transportation.

## Eliminating the Left Exit/Entrance on Northbound I-75 at Square Lake Road

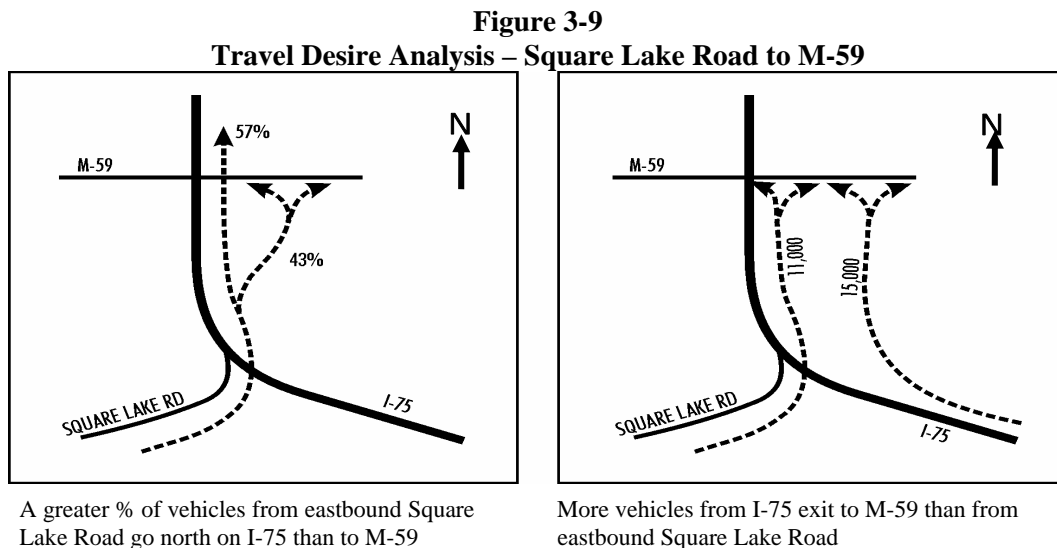
The policy of the American Association of State Highway and Transportation Officials (AASHTO) is that “left-hand entrances and exits are contrary to the concept of driver expectancy when intermixed with right-hand entrances and exits.”<sup>50</sup> To convert the left exit and entrance to a right exit and entrance on northbound I-75 at Square Lake Road would require the construction of two flyover type ramps (Figure 3-10). Both would require new right-of-way acquisition or realignment of the northbound lanes of I-75.

Shifting the **left exit** to the right would impact an estimated 11 single-family homes, 0.1 acres of wetland, a private retention pond, and a noise wall, which would have to be relocated. Shifting the **left entrance** to the right would affect an additional 37 townhouse-style condominiums and a second noise wall would have to be relocated.

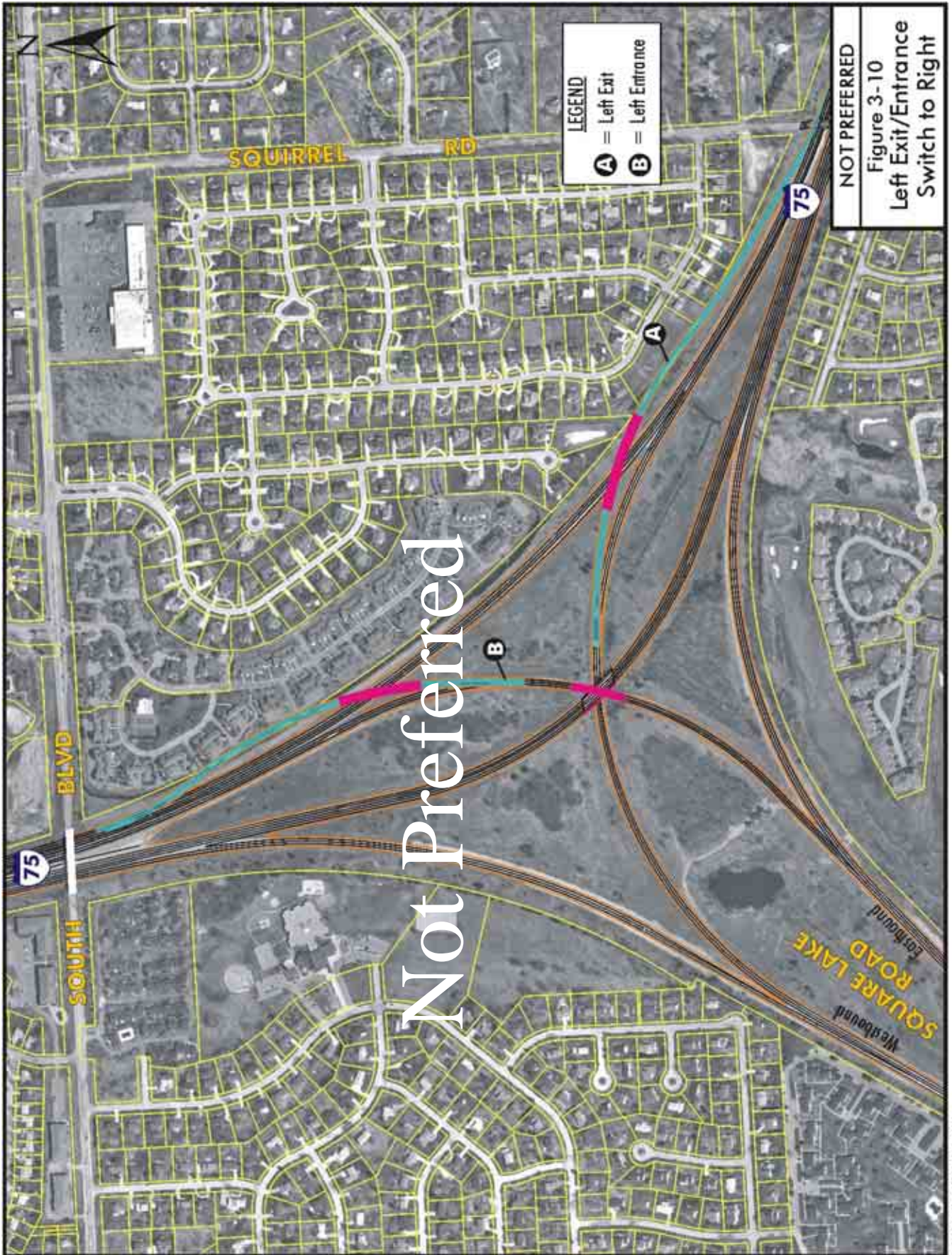
The construction cost of the flyovers, the noise wall relocations, wetland mitigation and a new retention pond would be about \$8.2 million. Right-of-way acquisition for the residences at the exit and entrance ramps would add \$22 million more for a total of \$30.2 million. Shifting the mainline lanes of I-75 to avoid right-of-way impacts would be very costly, as the geometry of the interchange would be affected.

An analysis based on data from the computer travel model found that those vehicles entering northbound I-75 from eastbound Square Lake Road generally want to go north on I-75, rather than weaving over to the right to get to M-59 (Figure 3-9). And, the number of vehicles northbound on I-75 that want to go to M-59 is greater than the number from eastbound Square Lake Road that want to go to M-59. So, the analysis supports leaving the left exit and entrance where they are.

Crash data in Table 2-8 do not indicate a problem at the Square Lake interchange. Potential relocations, cost, environmental impacts, and the examination of travel patterns support leaving the left exit and entrance. Therefore, it is recommended that the existing configuration be left in place.



<sup>50</sup> A Policy on Geometric Design of Highways and Streets, Chapter 10, p. 845, American Association of State Highway and Transportation Officials, 2001.

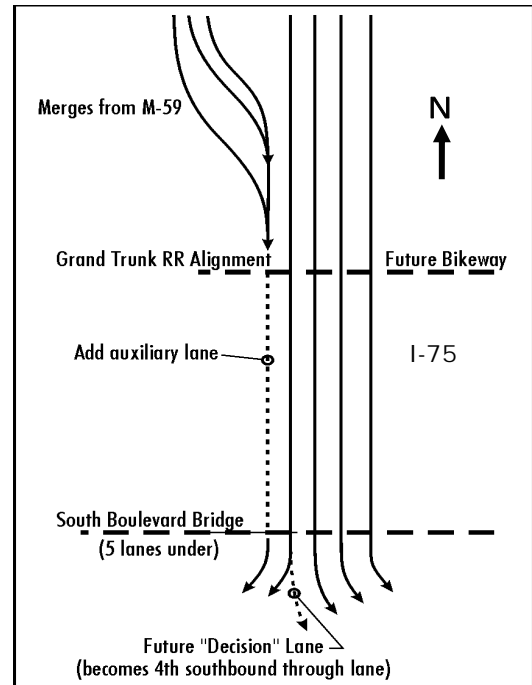




**Figure 3-11**  
**Southbound Lane Use M-59 to Square Lake**

**Auxiliary Lane, Southbound I-75 from M-59 to Square Lake Road**

The M-59 interchange with I-75 is to be reconstructed as a separate project. When that interchange is rebuilt, a collector-distributor road that carries local traffic southbound through the interchange and the ramps from M-59 will merge, successively, with southbound I-75 (Figure 3-11). Discussion with M-59 designers indicates that an auxiliary lane should be carried south all the way to the Square Lake Road interchange. The successive southbound merges from the I-75/M-59 interchange will reduce, in the end, to one. That lane will continue as an auxiliary lane to become an exit-only lane at the Square Lake Road interchange. So, the Preferred Alternative will tie to the separate I-75/M-59 interchange project to the north of South Boulevard.



**Auxiliary Lane, Northbound I-75 from Square Lake Road to M-59**

Northbound, two lanes from Square Lake Road now join the three lanes of I-75 to form the five-lane section that proceeds north to M-59. In the future, an additional northbound lane will be added. Six lanes will then carry under the South Boulevard bridge and continue north to the I-75/M-59 interchange. At that point, two lanes will exit (to eastbound and westbound M-59) and four lanes will continue through the interchange.

**I-696 Interchange**

Traffic exiting eastbound I-696 to northbound I-75 backs up frequently, blocking through-movements on I-696. Reconstruction of the entire four-level interchange linking these interstates is not practical, because of significant impacts and costs. The primary cause of backups at this location is an inability to merge into the northbound traffic flow on I-75. Increasing the length of the merge will help alleviate this situation. To do this, the recommendation is to shift the off-ramp to 11 Mile Road to a point south of Lincoln Avenue so it can pass under the merged northbound on ramps from I-696 (Figure 3-12). This avoids the conflict between the two ramps. This safety and operational improvement could require relocation of 23 single-family dwellings and a church (subject to refinement during the design phase). The ramps from eastbound I-696 and from westbound I-696 would merge first, as they do today. Then, this merged ramp would pass over the off-ramp to 11 Mile Road. The two-way crossover bridge at Dallas Avenue would be removed to accomplish the braiding. Its function would be replaced by a new bridge just south of Lincoln Avenue serving the east-to-west movement. The west-to-east traffic now served at the existing Dallas Avenue bridge is minimal and would be served by the Lincoln Avenue bridge. Royal Oak and Madison Heights favor retaining the Dallas bridge, but the braid cannot be built without its removal.



Figure 3-12  
I-696 Ramp Braiding

## 12 Mile Road Interchange

The I-75 Feasibility Study suggested the interchange at 12 Mile Road should be reconstructed as a Single-Point Urban Interchange (SPUI) (Figure 3-13a). The SPUI design brings ramp ends together at a single point and provides for a three-phase traffic signal operation. The three phases control: 1) left turns from the ramps ends; 2) left turns to the entrance ramps; and, 3) the through movement of the cross road (12 Mile Road). The SPUI proposed for 12 Mile Road would reduce the footprint of the interchange, releasing the land for other uses. The Road Commission for Oakland County supports SPUI development (see letter dated January 15, 2004 in Section 6.4, Letter 12).

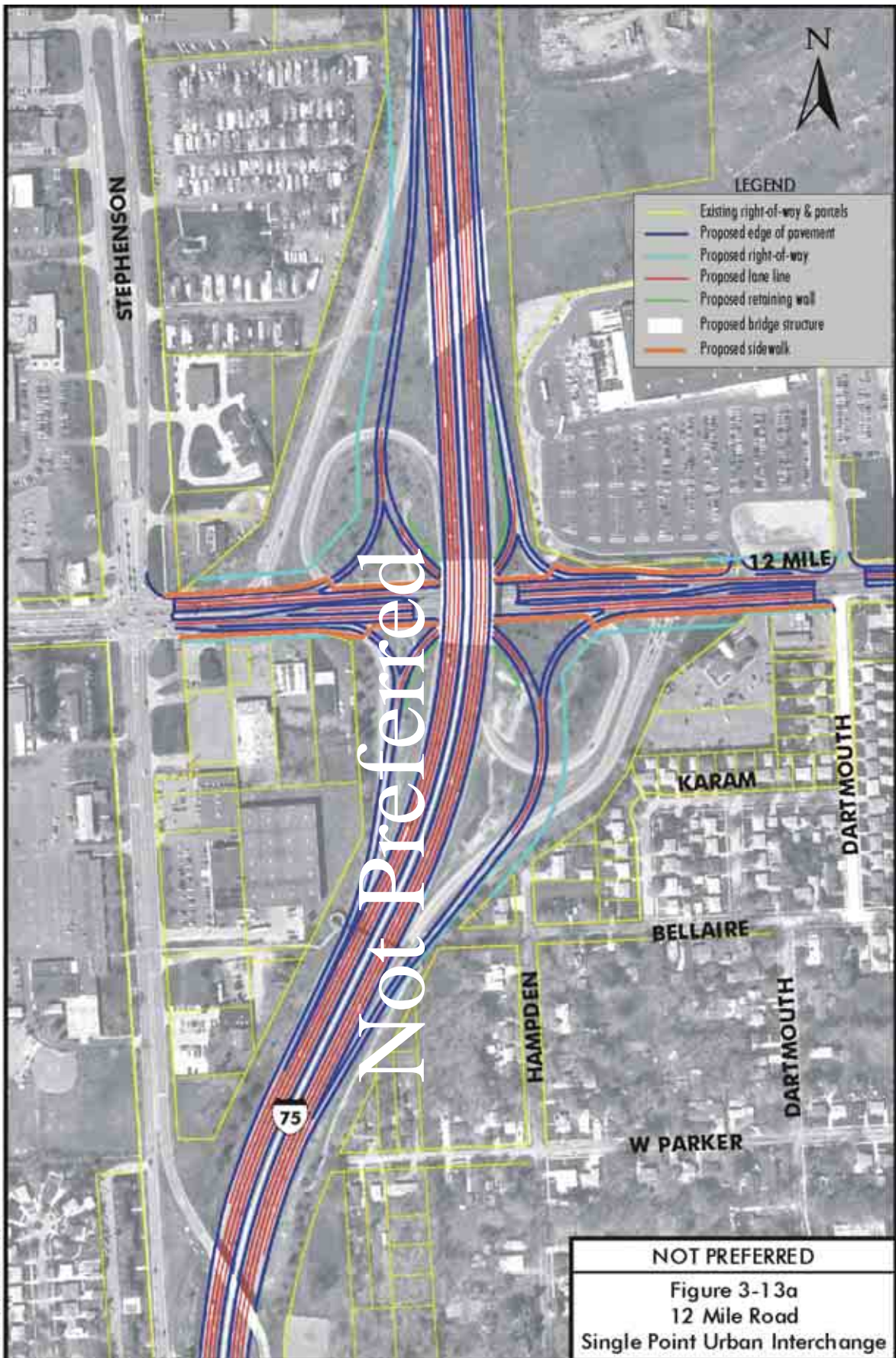
More detailed analysis for this EIS found that the existing interchange could be modified to serve traffic adequately (Figure 3-13b), as volumes at this interchange are relative low. Backups on 12 Mile Road from Stephenson Highway block vehicles exiting the southbound off-ramp. To remedy this situation, the loop ramp in the northwest quadrant could be eliminated to allow the end of the southbound off-ramp to be shifted east, away from Stephenson Highway. The substitute for the loop ramp would be a left turn from westbound 12 Mile Road to the existing southbound on-ramp in the southwest quadrant of the interchange. 12 Mile Road and the southbound on-ramp would be modified. The necessary widening of 12 Mile Road would require reconstruction of the I-75 bridges over 12 Mile Road. The signalized intersection at the end of the southbound off ramp would also control the westbound to southbound left turn from 12 Mile Road. The overall 2025 PM peak hour level of service of this intersection would be C, but the left turn would be E. The LOS of the intersection at the end of the northbound off ramp would be C. These compare to a LOS with the SPUI of C (Table 3-5).

**Table 3-5**  
**Level of Service – 12 and 14 Mile Road Interchange Options**

		Signalized Intersection	2025 AM Peak Hour	2025 PM Peak Hour
12 Mile	SPUI	Central Signal	C	C
	Modification	West	C	C
		East	B	C
14 Mile	SPUI	Central Signal	D	F
	Modification	Southbound Off	C	C
		Southbound On	B	B
		Northbound Off	C	D
		Northbound On	A	A

Source: URS Corporation

Both options that were considered provided sidewalks along the north and south sides of 12 Mile Road (see the orange lines in Figures 3-13a and 3-13b). With the SPUI, most ramp traffic is stopped at some point by signals. (The exceptions are right turns from off-ramp ends and right turns to entrance ramps.) Reducing the speed of vehicles at crossing points helps pedestrians and bicyclists. The speed of vehicles in the SPUI can be controlled by minimizing the radius of curvature of the ramps near where pedestrians cross, consistent with design standards.









Because both options at 12 Mile Road are feasible and practical, MDOT will re-examine the interchange design (modification, SPUI, etc.) in the design and value engineering phases of the project. The reconstruction of the interchange is included as a part of the Preferred Alternative.

### **14 Mile Road Interchange**

The I-75 Feasibility Study made a preliminary determination that the 14 Mile Road interchange would be reconstructed as a SPUI. More detailed analysis for this EIS found that modification of the existing interchange would serve traffic better than the SPUI design. SPUIs operate well in situations where the turn movements are relatively balanced (i.e., opposing left turns or through movements have similar volumes). This is not the case at 14 Mile Road. With the SPUI, the LOS of the single intersection would be F (Table 3-5). Modifying the existing configuration would result in a LOS of C at the terminus of the southbound off ramp and an LOS D at the terminus of the northbound off ramp. The intersections that control entrance to the on ramps would operate at LOS B (west) and LOS A (east).

The Oakland Mall and associated developments draw travel to the east of I-75. This attraction is much stronger than it is to the west. This unbalanced situation will continue and is better served by adding capacity to the existing interchange (Figure 3-14). In particular, through capacity will be added on 14 Mile Road, and left-turn capacity from 14 Mile Road to I-75 will be increased. These changes will necessitate the reconstruction of the I-75 bridges over 14 Mile Road.

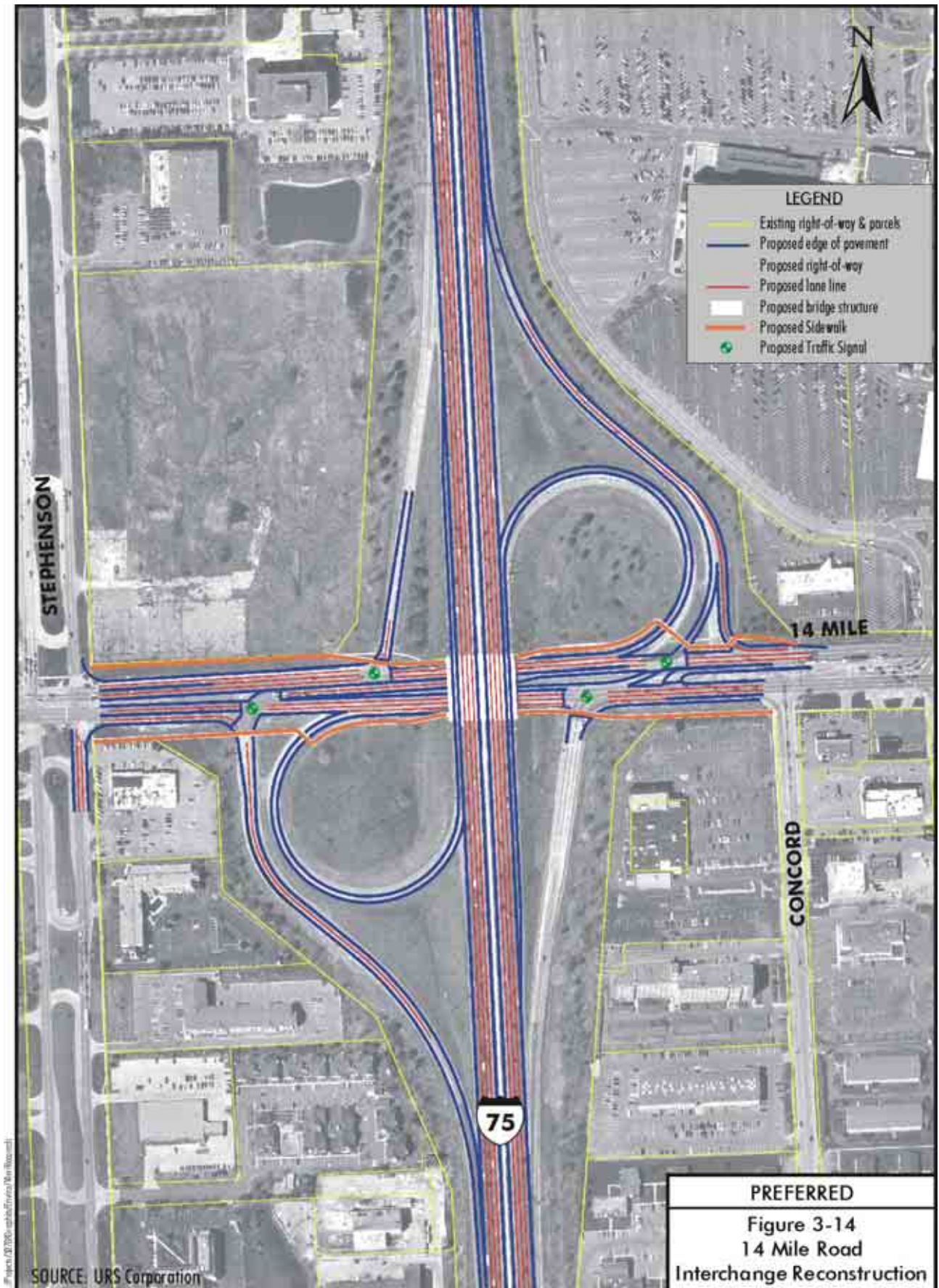
Substantial improvement in traffic flow in the vicinity of the 14 Mile Road interchange can only be realized if improvements are made to 14 Mile Road at the Oakland Mall. MDOT has sponsored meetings on this subject with the Road Commission for Oakland County, the cities of Troy and Madison Heights, and representatives of the Oakland Mall. Dialogue on improvements to 14 Mile Road is expected to continue beyond this project.

Sidewalks will be provided along both the north and south side of 14 Mile Road through the interchange. Workers and shoppers at the Oakland Mall walk to and from the transit service provided on Stephenson Highway. There is a sidewalk only on the north side, but the City of Madison Heights is planning to construct a similar sidewalk on the south side. Sight distance is critical to the safety of pedestrians and bicyclists where they cross the loop ramps. These areas should be kept clear of landscaping materials.

### **3.8 Practical Alternatives**

Several key impacts of the potential build alternatives that led to the determination of practical alternatives are noted in Table 3-6. Construction of the lane addition to full standards (fixing the 9 Mile Road curve) and the special access HOV options had significantly greater impacts and cost than the GP Alternative or the basic HOV (Option C) Alternative. Therefore, the practical alternatives carried forward through the DEIS were:

- No Build Alternative – Continued regular maintenance with no capacity improvements.
- GP Alternative – Addition of a general-purpose travel lane between M-102 and north of Square Lake Road to bring the number of through travel lanes to a total of four in each direction.



**Table 3-6**  
**DEIS Build Alternatives Impact Summary**  
 (Note that these alternatives are distinct from the Preferred Alternative, but the refinement of Option C led to the Preferred Alternative)

Alternative	Cost (millions 2004)	Wetlands (acres)	Relocations		
			Dwelling Units	Businesses	Institutions
General Purpose	\$530	0	1	2	0
Lane Addition - Full Standards <sup>a</sup>	\$649	0	100	22	2
HOV - Option A - Special Access M-102 to M-15	\$816	8	152	24	6
HOV - Option B - Special Access I-696 to M-59	\$730	8	111	9	5
HOV - Option C - Signing & Striping	\$546	0.4	11	2	0

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup>This alternative would have reconstructed the 9 Mile curve to modern standards. Totals to the right do not include 30 vacant lots.

- HOV Alternative – Addition of an HOV lane in the same manner as the general-purpose lane, but signed and striped for HOV use during the peak hours (Option C). The HOV lane is carried through the Square Lake Road interchange.

The GP and HOV practical alternatives were to be accompanied by:

1. Replacement of all bridges in the depressed section from north of M-102 to south of 12 Mile Road, as all need to be lengthened.
2. Widening of all I-75 bridges north of 14 Mile Road (plus the I-75 bridge over 13 Mile Road) to accommodate the lane addition.
3. Improvements at the 12 Mile Road interchange (two options) and 14 Mile Road interchange;
4. Ten-foot, rather than 12-foot inside (median) shoulders;
5. The ramp braiding north of I-696 (with the relocation of the Dallas Avenue crossover bridge to south of Lincoln Avenue);
6. Reconstruction of the pedestrian bridges over the depressed section of the freeway, and addition of a sidewalk through the I-696 interchange on the east side of I-75;
7. Construction of a new storm water system in the south part of the corridor; and,
8. New storm water retention in the north section of the corridor.

Computer modeling finds that mass transit is viable in the Woodward Corridor, but clearly shows that, even under the best-case scenario, a Mass Transit Alternative cannot eliminate the need for four travel lanes in each direction through the project length on I-75. Nevertheless, the transit concept has been included in the background system, along with the roadways in the cost-feasible *Regional Transportation Plan*. TSM, TDM, and ITS are also incorporated into all alternatives.

The practical alternatives included auxiliary lanes planned with the separate I-75/M-59 project. The interchanges of I-75 with M-59 and Crooks/Long Lake Road, while not part of this project and EIS, are considered part of the background system. The designs of the three projects will be integrated with each other, even though each has independent utility.

These practical alternatives were presented at the public hearing.

### 3.9 Preferred Alternative

A Preferred Alternative was identified after the public hearing and comment period when all comments had been considered. It includes the HOV approach of Option C within the project limits, as identified in Section 3.8. This HOV application is consistent with the findings of an MDOT study conducted in 1999 to identify potential HOV lane development locations in Southeast Michigan.<sup>51</sup> The Preferred Alternative lane addition will be built as shown in Figure 1-1. The Preferred Alternative will also include:

1. Replacement of all bridges in the depressed section from north of M-102 to south of 12 Mile Road, as all need to be lengthened.
2. Widening of all I-75 bridges north of 14 Mile Road (plus the I-75 bridge over 13 Mile Road) to accommodate the lane addition.
3. Improvements at the 12 Mile Road interchange (two options) and 14 Mile Road interchange;
4. Ten-foot, rather than 12-foot inside (median) shoulders;
5. The ramp braiding north of I-696 (with the relocation of the Dallas Avenue crossover bridge to south of Lincoln Avenue);
6. Reconstruction of the pedestrian bridges over the depressed section of the freeway, and addition of a sidewalk through the I-696 interchange on the east side of I-75;
7. Construction of a new storm water system in the south part of the corridor; and,
8. New storm water retention in the north section of the corridor.

#### 3.9.1 Additional Considerations Not Included in Preferred Alternative

Several refinements and additions considered as a consequence of the public hearing / comment process were not included in the Preferred Alternative or require further study. These are:

- A shift of the southbound I-75 on ramp that is south of 11 Mile Road.
- A modified treatment over the Red Run Drain so the option of a non-motorized path under I-75 is not precluded, and inclusion of a non-motorized path extending north from Gardenia or 12 Mile Road to 14 Mile Road.
- HOT lanes.

#### Shifting the 4<sup>th</sup> Street Southbound On Ramp North to 11 Mile Road

In comments on the DEIS, the City of Royal Oak and a number of citizens opposed this shift. They maintain that traffic will divert to three local residential streets, as traffic on 4<sup>th</sup> Street found its way north to 11 Mile Road to access the shifted ramp. They further indicate that the emergency response time to incidents on I-75 will suffer. These issues are discussed in Section 6.3. MDOT and FHWA have studied this location. Shifting the ramp will not occur and the geometrics of the entry point to the ramp at 4<sup>th</sup> Street will be improved.

#### Modified Bridge over the Red Run Drain and Non-motorized Path Extending north from Gardenia or 12 Mile Road to 14 Mile Road

The DEIS recommended that the bridge over the Red Run Drain be eliminated. In their comments on the DEIS, Madison Heights requested that the potential for non-motorized access

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<sup>51</sup> *Southeast Michigan High-Occupancy Vehicle (HOV) Feasibility Study, Final Report*, Parsons Brinckerhoff Michigan, Inc. for the Michigan Department of Transportation, May 7, 1999.

under the I-75 bridge not be eliminated. The Red Run Drain is in a 14'3"x13'3" triple box culvert beneath the ground surface that one sees under the I-75 bridge. There is soil, rather than a watercourse under the existing bridge. Due to the presence of the drain below ground level, modification of the existing bridge over the drain must account for the loading placed on the drain and the maintenance of access to it. The design phase will consider all these factors in replacing/modifying this structure.

Madison Heights also requested continuing non-motorized access along the east side of I-75 from Gardenia north to 14 Mile Road. This recommendation would be subject to an adopted county-wide plan.

### **HOT Lanes**

The Road Commission for Oakland County has indicated they do not support the development of HOV lanes at the loss of through lanes (see letter dated January 15, 2004 in, Section 6.4, Letter 12). This project will not develop HOV at the loss of a through lane; a lane is to be added. RCOC also suggests considering the development of high occupancy toll lanes (HOT) lanes. That suggestion is considered here.

HOT lanes combine HOV and pricing strategies, (i.e. tolls) to maximize capacity of existing freeways, while providing revenue. An HOV lane is intended to move traffic faster than adjacent general-purpose lanes, otherwise there is no travel time advantage and no reason for the lane. Experience has shown the general public sometimes perceives the lane to be "underused" at the expense of its own mobility. The result is what is described as the "empty lane" syndrome.

HOT lanes offer a means of adjusting demand up or down through dynamic pricing (i.e., the application of fees/tolls) to maximize use of an HOV lane, while maintaining a high level of service. The advantages of HOT lanes indicated by proponents are that they:

1. Expand mobility options in congested areas for those willing to pay;
2. Generate a new source of revenue, which can pay for transportation improvements, including transit development; and,
3. Improve the efficiency of HOV facilities by utilizing unused capacity.

A review of the literature<sup>52</sup> on HOT lanes, and discussion with FHWA staff involved in HOV and HOT lane development, finds that HOT lanes and pricing strategies have only been implemented in situations where monitoring and enforcement are manageable. On freeways, the HOV lanes that have been converted to HOT lanes are barrier-separated from general-purpose lanes.<sup>53</sup> There are no known examples of concurrent-flow, 12-foot HOT lanes with continuous access and egress from adjacent general-purpose lanes (i.e., barrier free).

Analysis presented earlier in this EIS noted that to expand the freeway by only a few feet in the median area would result in substantial costs and impacts (see discussion related to a 12-foot median barrier in Section 3.7.3). The provision of a barrier to separate the lane addition for use as an HOT lane would result in such costs and impacts and is not considered practical for those reasons. However, after implementation of the HOV lane and if conditions warrant it, HOT lanes may be studied in the future.

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<sup>52</sup> Especially, *A Guide for HOT lane Development*, by Parsons Brinckerhoff, with Texas Transportation Institute, in partnership with the Federal Highway Administration, 2003.

<sup>53</sup> Examples are SR 91 in Orange County, California, I-15 in San Diego, California, and the Katy Freeway and US 290 in Harris County (Houston), Texas.

### **3.9.2 Additional Considerations Included in Preferred Alternative**

Ongoing analysis after the public hearing resulted in the following modifications that have been included in the Preferred Alternative.

- A recommended safety improvement to shift the northbound on and southbound off ramps serving M-102 (8 Mile Road).
- A modified braid design at I-696.
- A reconstructed 12 Mile Road interchange, rather than a SPUI, subject to review during the design and value engineering phases.

#### **Shifting 8 Mile Road Ramps**

As noted in Section 2.2.6, shifting the ramps on the north side of 8 Mile Road to the south would provide for better spacing of ramps along I-75. These ramps are now closer than desired to the 9 Mile Road ramps. Apart from safety, the effect of shifting the ramps to the south will be to reduce traffic over portions of the adjacent service drives. Northbound, the shift will reduce traffic between Hayes and Maxlow Avenues. Southbound traffic will be reduced between Bernhard and Milton Avenues. The noise analysis took these shifts into account.

#### **Modified Braid Design**

Due to concerns of the cities of Royal Oak and Madison Heights, the braid design included in the DEIS has been modified so that access to 11 Mile Road is maintained from I-696.

#### **Reconstruction of 12 Mile Road Interchange**

Review of engineering and other considerations led to the conclusion that the 12 Mile Road interchange should be reconstructed as shown in Figure 3-13b. This design is approximately \$6 million cheaper than construction of a SPUI. It satisfies the need to provide a greater distance between Stephenson Highway and the end of the southbound off ramp from I-75 to 12 Mile Road. Today, westbound traffic on 12 Mile Road waiting for the traffic light at Stephenson Highway backs up into the intersection of the I-75 southbound off ramp with 12 Mile Road. This causes traffic to back up onto the ramp. During design and value engineering, the SPUI design will be reexamined.

### **3.9.3 Conclusion**

The determination to dedicate the lane addition to HOV is based on the success of similar designations elsewhere that have increased corridor capacity. More persons can be moved per lane with HOV. There are few alternatives to I-75 for mid- to long-range trips. Transit analysis has found that, even with a rapid transit system on Woodward Avenue (the corridor designated through other planning studies as the priority corridor for high-type transit), little relief is provided to I-75. HOV is the best way to get the maximum use out of I-75. HOV lanes support bus transit development, vanpooling, and conventional carpooling. The potential exists to substantially increase people movement in these higher density modes.

In conclusion, the Preferred Alternative will add a lane to I-75 in each direction between M-102 (8 Mile Road) and M-59, to bring the number of through travel lanes to four in each direction. One lane in each direction will be dedicated to High-Occupancy Vehicle use during the morning

and afternoon peak periods (for example, 7 AM to 9 AM and 4 PM to 6 PM). The lanes would be available to all vehicles at all other times. All bridges in the depressed section of the project between M-102 and south of 12 Mile Road will be replaced. The 12 Mile and 14 Mile Road interchanges will be reconstructed. Pedestrian bridges that cross over I-75 will be replaced. The storm water system in the depressed section of I-75 will be separated from the existing combined sewer system. The eastbound and westbound I-696 ramps to northbound I-75 will be modified to improve traffic flow and safety. The result is that the Preferred Alternative is the environmentally preferred alternative.

## SECTION 4

# AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the existing conditions of the natural and human environmental resources that were investigated as part of this study. It also discusses the impacted resources and the environmental consequences of the Preferred Alternative. Those impacts with a reasonable possibility for individual or cumulative significant impacts were analyzed further. The results are discussed below. For the most part, the impacts are unchanged, and remain as noted in the DEIS. Where the project has been modified or changes have been made from the DEIS, changes are noted below.

### 4.1 Relocations

To construct the Preferred Alternative, permanent fee right-of-way and grading permits will be required at the time of right-of-way acquisition.<sup>54</sup> New right-of-way that MDOT will likely need to acquire is identified in the *Engineering Report*<sup>55</sup> prepared for this project. Acquisition of right-of-way will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. A *Conceptual Stage Relocation Plan* (Appendix B) was developed based on a review of real estate available in the corridor. It has been changed for this FEIS to reflect changes in the proposed I-75/I-696 braid design. It was determined that there are an adequate number of residences and business properties for sale to allow relocation without hardship.

Physical features of the project that will require right-of-way acquisition are:

- The lane addition;
- “Braiding” of ramps north of I-696;
- Reconstruction of pedestrian bridges; and
- Storm water detention.

The proposed lane addition will require no dwelling units, but approximately one acre of land is needed, and two businesses in Hazel Park must be relocated. One business currently encroaches on the existing right-of-way and another is so close that it cannot be avoided. Also in Hazel Park, about 16 parking spaces of 340 could be needed from one commercial area, and about 17 spaces of 380 spaces could be required from a church.

Right-of-way will be required for the “braiding” of ramps north of I-696. This safety and operational improvement will relocate approximately 23 single-family dwellings and a church. The land taken would be approximately 7 acres.

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<sup>54</sup> Grading permits allow MDOT to temporarily enter private property to make minor grading changes - those that will not alter the permanent nature of the ground significantly or negatively. Basically, MDOT pays a fee for "renting" the property for a short period of time to make these minor changes. Often the result is an improved driveway grade. If a large grade change is made, mitigation may be necessary, i.e. timber retaining walls, vegetation, etc. Decisions on grading permits are made during the design phase.

<sup>55</sup> *Engineering Report*, The Corradino Group and Orchard Hiltz and McCliment, January 2005.



Approximately an acre of right-of-way will be required as six pedestrian bridges are reconstructed. The northernmost is in Madison Heights. The others are in Hazel Park. The clearances under the bridges must increase (for safety) and reconstruction must be in accordance with the Americans with Disabilities Act (ADA), which requires more gradually sloping ramps and, therefore, more land.<sup>56</sup> Steps will be provided, where feasible, in addition to the ramps to provide more direct routings for ambulatory persons. The pedestrian bridge at Harry Avenue in Hazel Park could require the relocation of three homes. The relocation impacts of the pedestrian bridges will be refined during the design phase when more detailed information is available.

Storm water pump stations in the depressed section of the corridor will be relocated to other locations within the right-of-way to avoid land acquisition. Storm water detention requirements in the north section of the project could require right-of-way acquisition of up to seven acres in Troy southeast of Rochester Road. Detention will be designed to avoid relocations. Managing the storm water within the right-of-way in pipes is an option, however, this option is more costly.

A summary of relocations is presented in Table 4-1. Adequate housing is available close to the residential units that would be relocated, and sufficient commercial space is likewise available. Relocations are subject to refinement during the design phase.

**Table 4-1  
Relocation Summary**

IMPROVEMENT	DISPLACEMENTS
Lane Addition	2 businesses
Ramp Braiding	23 single-family dwellings and one church
Pedestrian Bridges	3 single-family dwellings
Storm Water Detention	None
TOTAL	26 single-family dwellings, 2 businesses, and one church

Source: The Corradino Group of Michigan, Inc., Rowe, Inc., and Orchard, Hiltz, and McCliment

## 4.2 Social Impacts / Community Cohesion

This section reviews the relationship of the project to community facilities, pedestrian access and bicycle use, mass transit service and carpooling, maintaining local and regional access during construction, population, employment trends, and other socioeconomic characteristics.

The section of I-75 south of 12 Mile Road follows a historic travel corridor. The neighborhoods that grew up around this corridor after World War II were thus divided by a wide right-of-way from the time of their origin. The creation of I-75 within this right-of-way did, however, have an effect on access across the right-of-way, as the construction of the freeway and its depression meant that travel across I-75 could occur only at vehicular and pedestrian bridges. North of 12 Mile Road, development mostly occurred with I-75 in place.

<sup>56</sup> Draft ADA guidelines under review may allow the option of ramps or elevators. There are issues with regard to elevators with respect to ongoing maintenance, but their implementation may avoid right-of-way acquisition. For more discussion see Section 4.2.2.

Community cohesion will not change with the Preferred Alternative, as the footprint of I-75 will not change. Pedestrian and bicycle access across the freeway will be improved. (See Section 4.2.2 and Table 4.2.)

#### **4.2.1 Community Facilities**

Community facilities such as emergency services (fire, emergency medical, and police), schools, medical centers, and other institutions are described below from south to north (Figure 4-1).

##### **Emergency Services (Fire, Emergency Medical and Police)**

Fire stations in close proximity to I-75 are located at:

- The city offices of Madison Heights on the north side of 13 Mile Road. This office also houses the community's ambulance service. 13 Mile Road does not connect to I-75. There would be no effect on this station or its services.
- Troy Fire Station No. 6 is on the west side of Coolidge Highway and south side of I-75. Coolidge Highway does not connect to I-75. There would be no effect on this station or its services.
- Near the city offices of Royal Oak at 215 E Sixth Street. Emergency medical services also operate out of this location.

The City of Royal Oak indicated opposition to several elements in the DEIS (see response to comments in Section 6.4, Letter 9). Several meetings were held with Royal Oak staff (engineering and emergency services) to better understand their concerns and work together to resolve design issues.

When noise walls are built, provisions must be made for fire hydrant access through the walls. Discussions with all adjacent municipalities will be necessary during the design phase to identify these locations, and other locations where emergency access through the wall may be necessary.

Police stations in the vicinity of I-75 are:

- Hazel Park - 111 East 9 Mile Road;
- Ferndale - 310 East 9 Mile;
- Madison Heights - 280 West 13 Mile Road;
- Royal Oak - 221 East Third Street; and
- Troy – 500 West Big Beaver Road.

The Royal Oak Police Department had concerns similar to those of the Fire Department that were addressed by meeting with city officials.

The City of Madison Heights has indicated that it will not commit to enforcement of the HOV lane. Enforcement of traffic laws is a responsibility shared by the Michigan State Police and local political jurisdictions.

Today, there are no median cuts for emergency vehicles in the depressed portion of the I-75 project length. There were numerous median cuts between 12 Mile Road and Square Lake Road until a median safety barrier was installed in 2001. Crossovers are now present at only three locations: north of 13 Mile Road, south of Long Lake Road, and midway between Crooks Road

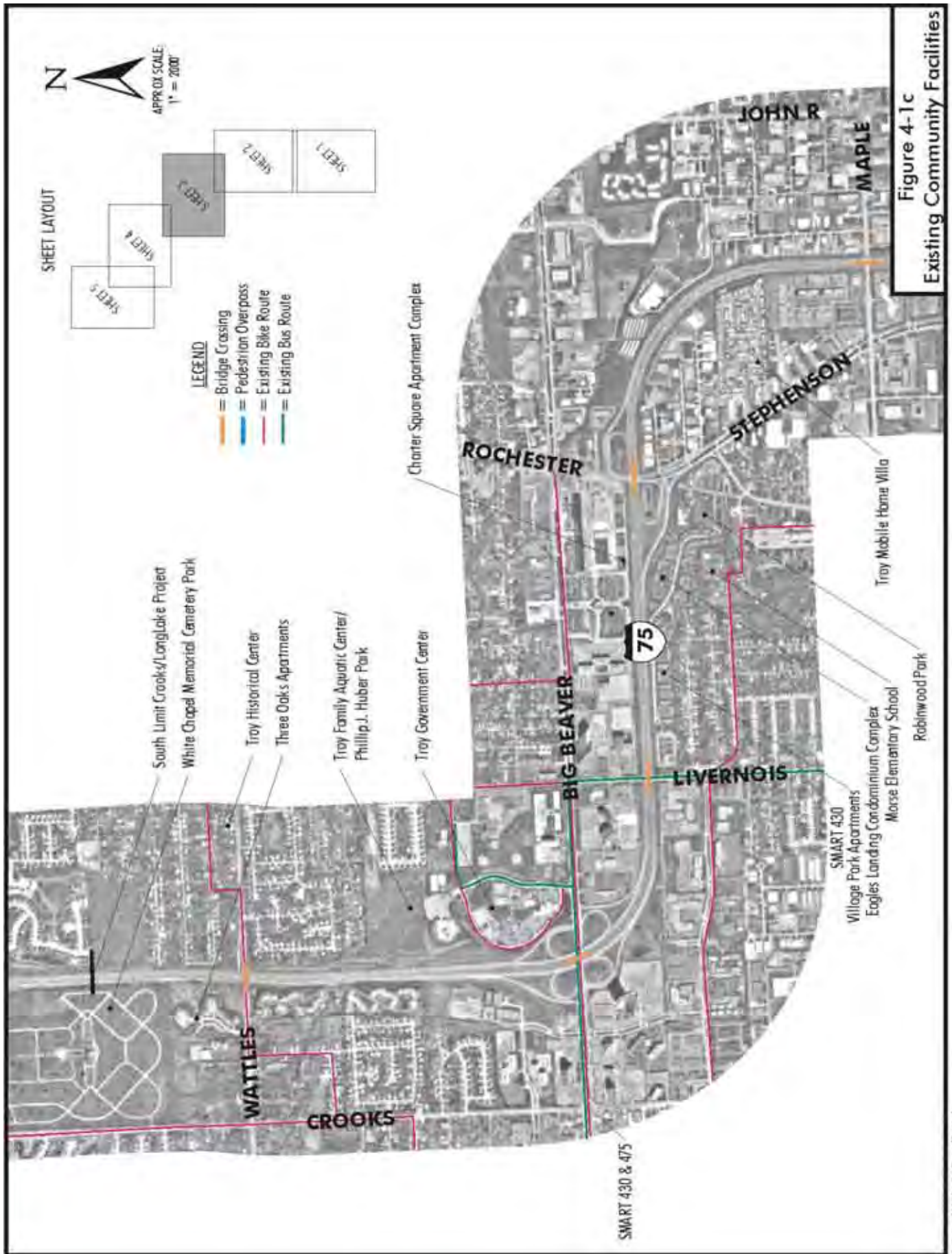


**Figure 4-1a**  
**Existing Community Facilities**

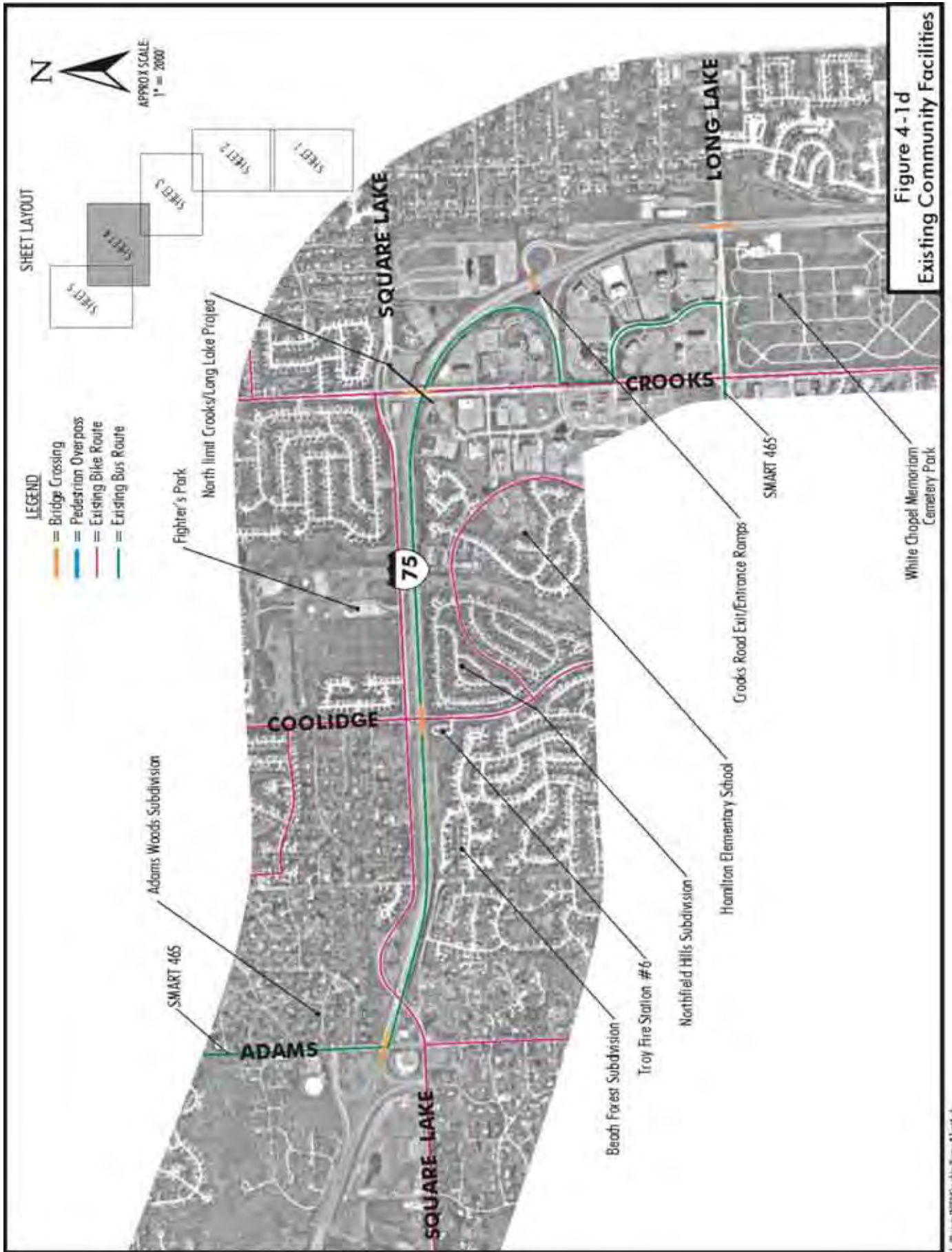




1. Project/Map/Scale/From Sheet/Date









**Figure 4-1 e**  
**Existing Community Facilities**

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and Coolidge Highway. With the construction of the median concrete safety barrier proposed with this project, these three existing median crossovers would be closed. With this project, emergency vehicles will use interchanges to get from the northbound lanes to the southbound lanes and vice versa.

Hazel Park requested that the crossover bridges north and south of 9 Mile Road be moved further away from 9 Mile Road for capacity purposes, and the Preferred Alternative does so. In addition, these crossovers will be widened to accommodate larger trucks, including fire apparatus.

## **Schools**

Each municipality has its own school district, with each providing bus services to its schools. No routes use I-75. Conversations with school officials did not indicate any problems with the planned I-75 improvements related to bus use. Schools along I-75 are listed below.

- The United Oaks Elementary School is on the north side of Harry Avenue, one block east of I-75. The grounds are extensive. A new school building (2003) is approximately 150 feet from I-75. There would be no effect on school access or functions, except that the pedestrian bridge over I-75 at Harry Avenue would be modified. As the clearance height under the bridge must be increased and the ramps lengthened to meet ADA standards, the ramps would be longer. Stairs are planned for non-handicapped persons. Elevators for handicapped persons may be an option in the future (Section 4.2.2).
- Beecher Junior High School is one block south of 9 Mile Road on the east side of I-75. The school has been newly reconstructed (2003). The existing main building is approximately 250 feet from I-75. There would be no effect on school access or functions. The pedestrian bridge over I-75 at Highland Avenue serving this school would be reconstructed with stairs and either longer ramps or elevators to meet ADA standards.
- Roosevelt School serves special needs children. It is on the southbound service drive, just north of Woodward Heights Avenue. The students at this school would not be using the adjacent pedestrian bridge over I-75. There would be no effect on school access or functions. A grading permit may be needed during reconstruction of the service drive. Noise would increase in a way that most people would not notice.
- Oakland Elementary School is a block south of Lincoln Avenue, one block west of I-75. Access is off Brockton Avenue south of the school and Kalama Avenue north of the school. Both connect to the southbound service drive of I-75. There would be a minimal effect on school access or functions. The City of Royal Oak has noted that eliminating the Dallas Avenue bridge will increase traffic on the southbound service drive, impacting parents and buses going to and from the Oakland School. Observations and counts at the school found traffic volumes to be low. Volumes on the service drive could go up, but would be well below volumes on numerous streets in the area.
- The Lincoln Early Childhood Center is on the north side of 11 Mile Road three blocks west of I-75. Its access is from 11 Mile Road. There would be no effect on school access or functions.
- The St. Denis Parrish Elementary School is on the west side of Stephenson Highway, on the south side of 12 Mile Road. There would be no effect on school access or functions.

- Bishop Foley High School is located north of 13 Mile Road three blocks west of Stephenson Highway. There would be no effect on school access or functions.
- Lamphere High School is on the north side of 13 Mile Road one block east of I-75. There would be no effect on school access or functions.
- Mark Twain Elementary School is on the east side of Campbell Road midway between 13 Mile Road and 14 Mile Road. Its access is from Campbell Road. There would be no effect on school access or functions.
- Morse Elementary School is in the southwest quadrant of the Rochester Road interchange, separated from I-75 by a condominium complex. Its access is from Robinwood Street. There would be no effect on school access or functions.
- Hamilton Elementary School is in the Northfield Hills Subdivision on Northfield Parkway. There would be no effect on school access or functions.
- Fields and open space of the Bowers School Farm is located adjacent to I-75 west of Adams Road. It is part of the science instructional program of Bloomfield Hills Schools, serving as a land laboratory for students from preschool through adult. Its access is from Square Lake Road. There would be no effect on school access or functions.

In summary, a grading permit may be necessary at Roosevelt School for reconstruction of the service drive.

### **Libraries**

- Hazel Park Library is at 123 East 9 Mile Road. Its access is via 9 Mile Road. It is approximately 700 feet east of I-75. No facilities or parking would be affected.
- Ferndale Library is at 300 East 9 Mile Road. Its access is via 9 Mile Road. It is approximately 0.8 miles west of I-75. No facilities or parking would be affected.
- Royal Oak Library is at 222 East 11 Mile Road. Its access is via 11 Mile Road. It is approximately 1.4 miles west of I-75. No facilities or parking would be affected.
- Madison Heights Library is at 240 West 13 Mile Road. Its access is via 13 Mile Road. It is approximately 0.3 miles east of I-75. No facilities or parking would be affected.
- Troy Library is at 510 West Big Beaver Road. Its access is via Big Beaver Road. It is approximately 800 feet east of I-75. No facilities or parking would be affected.

No library facilities or parking would be affected by the Preferred Alternative.

### **Government Offices and Services**

- Hazel Park's offices are at 111 East 9 Mile Road, approximately 800 feet east of I-75. These would be unaffected.
- Ferndale's offices are at 300 East 9 Mile Road, approximately 0.8 miles west of I-75. These would be unaffected.
- Royal Oak's offices are at 211 South Williams Street, approximately 1.4 miles east of I-75. These would be unaffected.
- Madison Heights's offices are at 300 West 13 Mile Road, approximately 0.3 miles east of I-75. These would be unaffected.

- Troy's offices are at 500 West Big Beaver Road in the northeast quadrant of the I-75 Big Beaver interchange. These would be unaffected.
- Auburn Hill's offices are 1827 North Squirrel Road, approximately 1.0 mile east of I-75. These would be unaffected.

No government offices or services would be affected by the Preferred Alternative.

### **Medical Facilities**

- The Madison Community Hospital is south of 13 Mile Road at Stephenson Highway on the west side of I-75. It would be unaffected by the project.

No medical facilities would be affected by the Preferred Alternative.

### **Churches**

Churches contiguous to I-75 or along the service drive right-of-way are:

- First Free Will Baptist Church is on the northbound service drive, north of Meyers Avenue.
- Tabernacle Baptist Church is on the southbound service drive, north of Highland Avenue.
- First Baptist Church is on the southbound service drive, one block north of 9 Mile Road.
- St. Margaret's Episcopal Church is on the northbound service drive, one block north of Woodward Heights Boulevard.
- Calvary Baptist Church is on the northbound service drive at Shelvin Avenue, just south of I-696.
- Korean First Central United Methodist Church is on the southbound service drive at Dallas Avenue.
- Our Savior Lutheran Church is on the northbound service drive, one block north of Lincoln Avenue.
- Royal Oak Baptist Church is on the northeast corner of the northbound service drive and Gardenia Avenue.

Very minor strips of land (typically in the five- to ten-foot range) could be taken from the First Baptist Church, St. Margaret's Episcopal Church, Calvary Baptist Church, and the Korean First Central United Methodist Church, totaling 0.14 acres. The Calvary Baptist Church would lose 17 of 380 parking spaces and the Korean First Central United Methodist Church would lose its sign. The churches would be compensated in accordance with standard mitigation (see Section 5.1). Grading permits are possible at all the above-listed churches, particularly from those whose property is affected. Our Savior Lutheran Church would likely be relocated based on the modified braid design.

### **Parks**

- Hazel Park - Maxlow Park is about 0.1 miles north of 8 Mile Road off Madge Avenue, two blocks west of I-75.
- Hazel Park - Madge Park is about 0.5 miles north of 8 Mile Road off Madge Avenue, two blocks east of I-75.

- Hazel Park – Caledonia Community Park is just north of Meyers Avenue, one block west of I-75 on Caledonia Avenue.
- Hazel Park - Scout Park is south of 9 Mile Road off East Otis Avenue, three blocks east of I-75.
- Hazel Park - Felker Field is one block north of 9 Mile Road off of Felker Avenue, three blocks east of I-75.
- Ferndale - Martin Road Park is two blocks north of 9 Mile Road off Orchard Avenue, three blocks west of I-75.
- Hazel Park - Green Acres Park is south of I-696 off Woodward Heights Boulevard, one block west of I-75.
- Hazel Park – Mapledale Park is 0.2 miles south of I-696, three blocks west of I-75.
- Royal Oak – Maddock Park is south of Lincoln Avenue adjacent to the southbound I-75 service drive. It is the only park that is actually contiguous to a service drive.
- Royal Oak - Bassett Park is north of 11 Mile Road off University Avenue, four blocks west of I-75.
- Royal Oak - Kenwood Park is one block south of Gardenia Avenue off Forest Avenue, two blocks west of I-75.
- Madison Heights – Huffman Park is north of Lincoln Avenue, four blocks east of I-75.
- Madison Heights – Edison Park is midway between 11 Mile Road and Gardenia, two blocks east of I-75.
- Madison Heights – Lions Club Park is on the north side of 12 Mile Road, two blocks west of I-75.
- Madison Heights - Red Oaks County Park follows Red Run Creek between 12 Mile Road and 13 Mile Road, east of John R.
- Madison Heights – Gravel Park is two blocks south of 13 Mile Road and two blocks east of I-75.
- Madison Heights - Greenleaf Park/Civic Center Park is north of 13 Mile Road two blocks east of I-75.
- Troy – Redwood Park is north of 14 Mile Road and west of Stephenson Highway.
- Troy – Robinwood Park is in the southwest quadrant of the interchange of I-75 with Rochester Road.
- Troy – Troy Family Aquatic Center/Phillip J. Huber Park is at the north end of the Troy Civic Center in the northeast quadrant of the interchange of I-75 with Big Beaver Road.
- Troy – The Troy Historical Center is on the north side of Wattles Road 0.4 miles east of I-75.
- Troy – Firefighters Park is on the north side of Square Lake Road between Coolidge Highway and Crooks Road.

There will be no impacts to any of these parks.

#### **4.2.2 Considerations Relating to Pedestrian Access and Bicycle Use**

Hazel Park, Troy, and Auburn Hills have signed bike routes<sup>57</sup> that cross I-75 at Meyers Avenue, Big Beaver, Wattles Road, Crooks Road, Coolidge Highway, Square Lake, and South Boulevard (Figure 4-1). A bike path constructed in 2003 bridges over I-75 on the former Grand Trunk

<sup>57</sup> *Oakland County Linked Path/Trail System Map*, Oakland County Department of Community and Economic Development.

Railroad alignment parallel to and south of Auburn Road. It is part of the Clinton River Trail planned to cross all of Oakland County.

Six pedestrian bridges now provide access across I-75 in the depressed section south of 12 Mile Road. These would be reconstructed with the project because their supporting piers would be affected by the lane addition. The bridges are at: Bernhard Avenue, Harry Avenue, Highland Avenue, Orchard Avenue, Browning Avenue, and Bellaire Street. The first five pedestrian bridges are in Hazel Park. The Bellaire Street bridge is in Madison Heights.

The underclearance of the bridges must be increased two to three feet<sup>58</sup> and reconstruction must conform to the Americans with Disabilities Act (ADA). Under current regulations (2004) more gradually sloping ramps are required. Together the effect is longer ramps and, therefore, more land. Steps will be provided, where feasible, to provide more direct routings for ambulatory persons, as the ramp lengths would approximately double (from about 150 feet to 300 feet per ramp). The ADA guidelines are undergoing revision. The first draft of the ADA guidelines released to the public required an elevator where there is a change of more than five feet in elevation. A second draft is now being prepared. It may allow use of ramps or elevators. At the time of project implementation, the new guidelines will likely be in effect. MDOT may or may not have the option of elevators. A recent development that is becoming more widespread is use of Limited Use, Limited Access (LULA) elevators. These are small elevators designed to accommodate wheelchairs. They are not available to the general public; only qualifying individuals can use them. Qualifying persons are issued access cards. The small footprint of such elevators means that the existing pedestrian bridges could likely be reconstructed without the need for right-of-way acquisition. This would reduce capital costs and impacts, but would require ongoing maintenance. MDOT will make the determination regarding how best to provide ADA compliant access during the design phase, when the guidelines are likely to be in effect and there is more experience with LULAs, if they, in fact, become an option.

In May 2002, at the beginning of the study, officials of the municipalities along the corridor were interviewed to record their unofficial thoughts regarding pedestrian and bicycle activity related to I-75. These comments are noted below by community from south to north, and any likely design elements that would be part of any build alternative are provided after the comments.

### **Hazel Park**

- Wants no reduction of pedestrian crosswalks.
- Sees opportunity to rework/refurbish pedestrian crosswalks, which desperately is needed.
- Desires screening on road bridges across I-75 that have sidewalks, especially the Woodward Heights Boulevard bridge.

### **Royal Oak**

- Had no comments specific to pedestrian or bicycle needs.

### **Madison Heights**

- Has pedestrian bridge over I-75 near Gardenia.

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<sup>58</sup> Pedestrian bridges have an extra-high under-clearance of 17'3" over the service drives to prevent bridges from being hit by vehicles passing underneath.

- Has a “Sidewalk Program and Gap Map” that highlights improvements and/or additions to the city’s sidewalk system, including the installation of sidewalks along the south sides of the 14 Mile Road/I-75 Bridge and the 12 Mile Road/I-75 Bridge. Has a concern about the timing of a proposed pedestrian path with the proposed changes to the 14 Mile Road Bridge. Currently have workers trying to access public transportation in a very unfriendly pedestrian environment.
- Desires new sidewalks.
- Wants true pedestrian access over all of the bridges – wheelchair ramps.
- Wants bicycle connections to go north/south as well as with other cities.
- Wants sidewalks for schools maintained. Currently children from one Madison Heights neighborhood at 11 Mile Road and the service drive go to a Royal Oak School on the other side of freeway.

### **Troy**

- Desires sidewalks on at least one side of all bridges, as today – most of the sidewalks are underneath the interstate. There are appearance and safety issues concerning these pathways.
- Sees no need for any new exclusive pedestrian bridges.

### **Bloomfield Township**

- Sees no issues if their existing infrastructure is not reduced. Few children cross I-75 to reach school – almost all children ride buses.

### **Auburn Hills**

- Supports MDOT plans to build pedestrian bridge south of Auburn Road using old Grand Trunk Railroad right-of-way.
- Plans a comprehensive pedestrian trail along South Boulevard.
- Almost all children ride school buses to school – almost no children directly cross the interstate.

In response to the concerns of the communities noted above, all vehicular bridges will be reconstructed to accommodate bicyclists and pedestrians (including wheelchairs), where appropriate. With the exception of the bridges specifically designed for U-turns by vehicles, which are not designed for pedestrian use, links across the freeway would be improved. Walk/wait signals will be provided where warranted. Sidewalks will be reconstructed within project limits where existing sidewalks are affected. New sidewalks will be added within project limits as indicated in Table 4-2.

It is noted that MDOT requires that all bridges over I-75 where pedestrians are present have screening so that objects cannot reach the pavement below. Also, all new facilities will be designed to conform to the Americans with Disabilities Act.

**Table 4-2  
Sidewalk and Shoulder Conditions – Existing and With Project**

BRIDGE/UNDERPASS LOCATION	SIDEWALKS	SHOULDERS	HANDICAP ACCESS	PROJECT EFFECT
Pedestrian Overpass at East Bernhard	NA	NA	Yes <sup>a</sup>	New ADA pedestrian bridge
Meyers Avenue Bridge	N & S	No	Yes	New bridge - w/sidewalks
Pedestrian Overpass at Harry Avenue	NA	NA	Yes <sup>a</sup>	New ADA pedestrian bridge
Pedestrian Overpass at Highland Avenue	NA	NA	Yes <sup>a</sup>	New ADA pedestrian bridge
One-Way Cross-Over for SB to NB Service Drive	No	No	No	New bridge - vehicles only
John R. Bridge	E & W	No	Yes	New bridge - w/sidewalks
One-Way Cross-Over for NB to SB Service Drive	No	No	No	New bridge - vehicles only
One-Way Cross-Over for SB to NB Service Drive	No	No	No	New bridge - vehicles only
9 Mile Road Bridge	N & S	No	Yes	New bridge - w/sidewalks
Pedestrian Overpass at Orchard Street	NA	NA	Yes <sup>a</sup>	New ADA pedestrian bridge
Woodward Heights Boulevard Bridge	N & S	No	Yes	New bridge - w/sidewalks
Pedestrian Overpass at West Browning	NA	NA	Yes <sup>a</sup>	New ADA pedestrian bridge
Two-Way Cross-Over at W. Shelvin	No	No	No	New bridge - vehicles only
Sidewalks along Service Drives through I-696 Interchange	West side only	No	West side only	New sidewalk on east side to match west.
Two-Way Cross-Over at Dallas Avenue	No	No	No	New bridge - vehicles only - shifted north, NB to SB only
Lincoln Avenue (10 ½ Mile Road) Bridge	N & S	No	No	New bridge - w/sidewalks
11 Mile Road Bridge	N & S	No	No	New bridge - w/sidewalks
Gardenia Avenue Bridge	N & S	No	No	New bridge - w/sidewalks
NB Stevenson Bridge	No	W	No	New Bridge - vehicles only
Pedestrian Overpass at Bellaire Avenue	NA	NA	Yes <sup>a</sup>	New ADA pedestrian bridge
12 Mile under I-75	N	No	No	Interchange reconstruct continues one loop ramp. Sidewalks both N & S
Red Run under I-75	N	No	No	Potential future non-motorized access <sup>b</sup>
13 Mile under I-75	N & S	No	Yes	Sidewalks will remain
14 Mile under I-75	N	Yes	Yes	Interchange reconstruct continues loop ramps. Sidewalks both N & S
15 Mile (Maple Road) under I-75	N & S	No	Yes	Sidewalks will remain
Rochester Road under I-75	E & W	No	Yes	Sidewalks will remain
Livernois Road under I-75	E & W	No	Yes	Sidewalks will remain
Big Beaver under I-75	N & S	No	Yes	Sidewalks will remain
Wattles Rd Pedestrian over I-75	S	No	Yes	Combine w/new vehicular bridge
Wattles Road (17 Mile) over I-75	Yes	No	Yes	New bridge - w/sidewalk
Coolidge Road under I-75	Yes	No	Yes	New bridge - w/sidewalk
Square Lake Road under I-75	N	No	Yes	Sidewalk will remain
Adams Road under I-75	N	No	No	No sidewalks planned
Squirrel Road over I-75	No	No	No	New bridge - w/shoulders
South Boulevard over I-75	Yes	Yes	Yes	Existing bridge remains

Source: The Corradino Group of Michigan, Inc. and Schutt & Company

<sup>a</sup> Ramps are present, but do not meet Americans with Disabilities Act requirements.

<sup>b</sup> A study is to be undertaken by MDOT to determine non-motorized needs associated with Michigan's trunkline system in Southeast Michigan on a county-by-county basis. Access under I-75 at Red Run would be included in that analysis.

Note: N/A means Not Applicable, N = North, S = South, E = East, and W = West.



At an I-75 Council Meeting on June 5, 2002, it was noted that travel through the I-696 interchange area was difficult for pedestrians. There is a continuous sidewalk today on the west side of I-75 that follows the service drive through the interchange. On the east side of I-75, there is no such continuous sidewalk. This project would include addition of such a sidewalk on the east side.

At the 12 Mile Road interchange sidewalks would be provided along both sides of 12 Mile Road.

At 14 Mile Road, the presence of loop ramps makes safe pedestrian and bicycle movements through the interchange difficult. This intersection is planned for reconstruction in the same basic configuration as currently exists. Madison Heights is planning a sidewalk on the south side of 14 Mile Road through the interchange, similar to the existing walk along the north side. Pedestrian access through this area will be a focus of detailed analysis during the design phase.

### **4.2.3 Considerations Relating to Mass Transit Service and Ridesharing**

The Suburban Mobility Authority for Regional Transportation (SMART) provides fixed-route bus services in Oakland County, including the I-75 corridor (Figure 4-1). Fixed-route service close to I-75 is provided on John R Road and Campbell Road. Routes cross I-75 at 8 Mile Road, 9 Mile Road, 11 Mile Road, 12 Mile Road, 14 Mile Road, Maple Road, Livernois Road, Big Beaver Road, and Coolidge Highway. SMART Route 465 is the only route using I-75 (between Crooks and Adams Roads). Park-and-ride lots served by SMART are located in the Oakland Mall and Troy Civic Center. Dial-a-ride service<sup>59</sup> is provided in Troy.

As discussed in Section 3.6, computer modeling for this EIS found rapid transit to be viable in the Woodward Corridor as far north as 9 Mile Road, but it cannot meet the purpose and need of this project. There are no current plans for significant expansion of transit services in Oakland County. In fall of 2002, county residents approved a referendum to continue SMART service. Planning continues for improved transit along the Woodward Corridor in the City of Detroit. The *Woodward Corridor Transit Alternatives Study*<sup>60</sup> confirmed that bus rapid transit or light rail transit are the preferred technologies. In May 2003, the Regional Transportation Coordinating Council, with representatives from Macomb, Oakland, and Wayne counties and the City of Detroit, signed an interlocal agreement to form the Detroit Area Regional Transportation Authority (DARTA). This group is expected to pursue rapid transit development in the Woodward Corridor at some future point in time. If rapid transit were to develop in the corridor it would have a beneficial effect and would provide an alternative to use of I-75. In particular, if its implementation preceded that of the lane addition on I-75, it would provide an alternative means of travel during construction, reducing the traffic diversions that will occur.

MDOT maintains five carpool lots along I-75 in Oakland County (Table 4-3). Expansions are planned. MDOT is also actively looking for additional lots to develop. Data for four lots date to 1984, when the population of the north corridor (where three lots are located) was substantially lower. The Grange Hall lot was opened recently and data are not yet available. Overall, lot usage is principally related to the condition of the economy and gasoline prices.

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<sup>59</sup> Dial-a-ride service is usually a point-to-point bus service that is provided to qualified users who call ahead and schedule their trips.

<sup>60</sup> *Woodward Corridor Transit Alternatives Study*, IBI Group, May 2000.

**Table 4-3  
Average Daily MDOT Carpool Lot Use**

LOT LOCATION	EXIT #	CAPACITY	1984	1996	1997	1998	1999	2000	2001	2002	2003
Auburn Hills – Baldwin Road	Exit 84 SW Quadrant	44	18	6	18	44	29	29	29	25	25
Clarkston NE – Sashabaw Road	Exit 89 NE Quadrant	100	30	32	45	68	83	60	63	58	46
Clarkston N – M-15	Exit 91 SW Quadrant	32	25	12	17	15	15	10	6	11	9
Clarkston NW – Dixie Highway	Exit 93 NE Quadrant	41	30	22	17	23	29	46 <sup>a</sup>	33	21	19
Grange Hall	Exit 101 SE Quadrant	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Totals		217	103	72	97	150	156	145	131	115	99

Source: MDOT

<sup>a</sup> The capacity of this lot is often exceeded. Cars park on the grass adjacent to the lot.

Transit and carpooling will be important components of maintaining traffic during construction (see next section). If transit routes developed during the construction period build a sound ridership base and an ongoing funding source can be found, the opportunity exists to maintain these services after construction ends.

#### **4.2.4 Maintaining Local and Regional Access During Construction**

During the construction of the Preferred Alternative both local and regional access will be maintained. A minimum of two lanes of traffic in each direction will be maintained on I-75 at all times. Staged construction will be employed. For most of the corridor, part-width construction techniques will be used. This means maintaining traffic on a portion of the road, while the other portion is being reconstructed. Part-width construction is applicable when a road is being widened, such as with this project. But, as total reconstruction of I-75 is planned to coincide with the lane additions, the entire road width will be closed at one time or another. In the depressed section, bridges will be replaced. This means there will be brief periods when one side of the freeway will have to be totally closed as bridge beams are removed and new ones put in place.

MDOT will establish official detour routes over the state trunkline system. The project will be built in phases so that the entire length of I-75 is not under construction at once. Consequently, the posted detours will vary depending on the section under construction. It is likely that detour routes will include all state trunklines in the area, including M-1 (Woodward Avenue), M-102 (8 Mile Road), I-696, I-75 BL/BR 24 (Square Lake Road), and M-59. Construction phasing and official detour routes will be developed during the next phases of the project in consultation with local jurisdiction.

The service drives on either side of the depressed section are available for traffic diversion and will undoubtedly be used. Due to the short blocks that prevail in this section of the corridor, access can be maintained to local properties.

MichiVan is the Michigan operation of a nationwide organization that promotes ridesharing strategies. MDOT and MichiVan have collaborated in concert with SEMCOG to encourage vanpooling. Implementation of an HOV lane offers a unique opportunity to expand the existing collaboration by providing a strong incentive to rideshare. MDOT will meet with MichiVan well

in advance of the implementation date of the project to discuss strategies to expand the rideshare efforts as much as feasible prior to the start of construction.

Based on available funding, special transit services will be initiated for the construction period. MDOT will, in conjunction with SMART (or DARTA), SEMCOG, and MichiVan develop and coordinate park-and-ride locations, in addition to the existing ones at the Troy Civic Center and Oakland Mall. At the same time, MDOT will work with transit providers to offer high-quality, low-cost transit service designed to maximize relief of travel demand on I-75.

#### **4.2.5 Population and Employment Trends**

There has been extensive growth in Oakland County in population and employment, and a shift in population and employment north from Detroit and the suburbs in southern Oakland County (Table 4-4). Between 1980 and 1990 Oakland County's population increased seven percent from 1,012,000 to 1,084,000. By 2000 it had increased nearly 10 percent more to 1,194,000. It is expected to grow an additional 12 percent to 1,330,000 over the next 30 years. Because household size is shrinking, the rate of household growth is even greater than population growth.

The growth in households supports the maintenance of the tax base (see next section). For communities contiguous to the project, Auburn Hills is greatest in recent population growth (in terms of percentage), followed by Troy. Other communities lost population. All are projected to lose population by 2030 except Auburn Hills. If the remaining townships within Oakland County along I-75 are included, the population growth in the last decade was five percent. This total is expected to grow another two percent by 2030.

Employment in Oakland County has increased by 34 percent from 681,000 to 910,000 over the last decade (Table 4-5). It is expected to increase by an additional 19 percent to almost 1,100,000 over the next 30 years.<sup>61</sup> Oakland County now leads the state in jobs. In 2020 Oakland County is expected to have nearly 19 percent of the state of Michigan's total employment and more than 29 percent of its total earnings.<sup>62</sup>

#### **4.2.6 Other Socioeconomic Characteristics**

An examination of communities adjacent to I-75 finds the northern townships have higher income levels and median home values than those to the south (Table 4-5). The percentages of minorities vary from less than ten percent in Hazel Park, Ferndale and Royal Oak, to the teens in Madison Heights, Troy and Bloomfield Township, to 24 percent in Auburn Hills. The townships to the north of Pontiac have minority percentages of seven percent or less.

For contiguous communities the percentage of households in poverty is eight percent or less except for Hazel Park. Hazel Park has the lowest median household income, the lowest median house value, and the highest percentage of households in poverty. All the communities contiguous to the project have elderly populations in the double digits, compared to the townships further north, which are all under ten percent, except Holly Township. This reflects the fact that Hazel Park, Ferndale, Royal Oak, and Madison Heights are older communities with populations who arrived early in the development of Oakland County and have, in many cases, remained.

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<sup>61</sup>2030 *Regional Development Forecast for Southeast Michigan*, Southeast Michigan Council of Governments (SEMCOG), 2001.

<sup>62</sup>1999 *State Profile; Michigan*, Woods and Poole Economics, Inc.

**Table 4-4  
Population and Household Growth**

Place	Population							Households				
	Totals				Percent Change			Totals			Percent Change	
	1980	1990	2000	2030 est.	80 to 90	90 to 00	00 to 30	1990	2000	2030 est.	90 to 00	00 to 30
Hazel Park	20,914	20,051	18,963	15,860	-4.1%	-5.4%	-16.4%	7,284	7,284	7,179	0.0%	-1.4%
Ferndale	26,227	25,084	22,105	17,880	-4.4%	-11.9%	-19.1%	9,845	9,871	9,899	0.3%	0.3%
Madison Heights	35,375	32,196	31,101	26,564	-9.0%	-3.4%	-14.6%	12,850	13,299	13,538	3.5%	1.8%
Royal Oak	70,893	65,410	60,062	52,233	-7.7%	-8.2%	-13.0%	28,344	28,880	29,168	1.9%	1.0%
Troy	67,102	72,884	80,959	77,046	8.6%	11.1%	-4.8%	26,167	30,018	32,621	14.7%	8.7%
Bloomfield Township	42,876	42,473	43,023	39,180	-0.9%	1.3%	-8.9%	15,734	16,804	17,409	6.8%	3.6%
Pontiac Twp./ Auburn Hills <sup>a</sup>	15,388	17,076	19,837	21,013	11.0%	16.2%	5.9%	6,453	8,064	9,753	25.0%	20.9%
Contiguous Communities Subtotal	280,755	277,164	278,050	249,776	-1.3%	0.3%	-10.2%	108,667	116,220	119,567	7.0%	2.9%
Pontiac	76,715	71,136	66,337	75,544	-7.3%	-6.7%	13.9%	24,763	24,234	30,204	-2.1%	24.6%
Orion Township	19,566	21,019	30,748	40,948	7.4%	46.3%	33.2%	7,331	11,048	16,030	50.7%	45.1%
Independence Township	20,569	23,717	32,581	38,103	15.3%	37.4%	16.9%	7,977	11,765	15,381	47.5%	30.7%
Springfield Twp.	8,295	9,927	13,338	20,326	19.7%	34.4%	52.4%	3,276	4,619	7,854	41.0%	70.0%
Holly Township	3,612	3,257	3,902	7,167	-9.8%	19.8%	83.7%	1,095	1,321	2,890	20.6%	118.8%
Groveland Twp.	4,114	4,705	6,150	7,239	14.4%	30.7%	17.7%	1,534	2,106	2,819	37.3%	33.9%
Corridor Total	413,626	410,925	431,106	439,103	-0.7%	4.9%	1.9%	154,643	171,313	194,745	10.8%	13.7%
Oakland County	1,011,793	1,083,592	1,194,156	1,333,573	7.1%	10.2%	11.7%	410,488	471,115	581,838	14.8%	23.5%
Michigan	9,262,044	9,295,287	9,938,444	NA	0.4%	6.9%	NA	3,419,331	3,785,661	NA	10.7%	NA

Source: *Historical Population and Employment by Minor Civil division, Southeast Michigan*, SEMCOG, June 2002

<sup>a</sup> Auburn Hills was incorporated in 1983 from Pontiac Township.

**Table 4-5  
Socioeconomic Characteristics**

Place	Employment					2000 Socioeconomic Characteristics					
	Totals			Percent Change		Median House- hold Income <sup>a</sup>	Median House Value	Percent Renters	Percent Minority	% House- holds in Poverty	% Older Than 65
	1990	2000	2030 est.	90 to 00	00 to 30						
Hazel Park	5,003	4,883	4,099	-2.4%	-16.1%	\$ 37,045	\$77,000	25%	8%	12%	11%
Ferndale	10,577	11,312	11,173	6.9%	-1.2%	\$45,629	\$102,900	28%	9%	8%	10%
Madison Heights	27,408	28,848	27,538	5.3%	-4.5%	\$42,326	\$110,600	29%	10%	8%	14%
Royal Oak	34,871	42,252	43,583	21.2%	3.2%	\$52,252	\$150,900	29%	5%	5%	15%
Troy	104,498	135,977	144,882	30.1%	6.5%	\$77,538	\$219,800	22%	18%	3%	10%
Bloomfield Township	15,013	24,943	33,161	66.1%	32.9%	\$103,897	\$356,800	9%	12%	3%	18%
Auburn Hills	22,202	54,253	77,684	144.4%	43.2%	\$51,376	\$137,200	45%	24%	7%	15%
Contiguous Communities Subtotal	219,572	302,468	342,120	37.8%	13.1%	NA	NA	NA	NA	NA	NA
Pontiac	56,308	63,070	76,787	12.0%	21.7%	\$31,207	\$74,300	43%	60%	21%	9%
Orion Township	7,379	9,057	17,232	22.7%	90.3%	\$73,755	\$199,100	15%	5%	3%	5%
Independence Township	4,445	7,725	10,990	73.8%	42.3%	\$74,993	\$203,600	16%	4%	2%	8%
Springfield Township	1,244	2,685	6,805	115.8%	153.4%	\$71,977	\$209,100	8%	3%	4%	6%
Holly Township	326	815	1,789	150.0%	119.5%	\$67,813	\$158,400	9%	7%	5%	11%
Groveland Township	417	926	2,143	122.1%	131.4%	\$72,188	\$197,300	5%	3%	5%	5%
Corridor Total	509,263	689,214	799,986	35.3%	16.1%	NA	NA	NA	NA	NA	NA
Oakland County	681,037	910,363	1,087,399	33.7%	19.4%	\$61,907	\$181,200	24%	17%	5%	11%
Michigan	4,826,388	5,654,522	NA	17.2%	NA	\$44,667	\$115,600	26%	18%	12%	12%

Source: *Historical Population and Employment by Minor Civil division, Southeast Michigan, SEMCOG, June 2002*

<sup>a</sup> 1999 data, most recent available.

### 4.3 Environmental Justice

The purpose of *Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Although the project will affect minority and low-income populations within the project area, the proposed action will not have a disproportionately high and adverse human health or environmental effects on any minority and low-income populations within the project area.

The presence of minority and low-income populations within the project area was determined by analyzing census data, field reviews, and public involvement efforts. The census tracts adjacent to the I-75 corridor were examined with respect to minorities and low-income populations (Table 4-6 and Figure 4-2). The census tracts with the highest proportion of minorities are tracts 1406 and 1810, each with minority populations of 35 percent. In tract 1810, the minority populations include Asian/Pacific Islanders (20 percent), African Americans (9 percent), American Indian/Eskimo and “other” (both 1 percent), and Multiple Race (5 percent). The Hispanic population is 2 percent of the total population of tract 1810. “Hispanic Population” is a separate category, because Hispanic individuals can consider themselves any of a number of races. In tract 1406, the minority population consists of African American (27 percent), Asian/Pacific Islander (5 percent), and Multiple Race (2 percent). The Hispanic population is 2 percent of the tract total.

The census tract with the highest percentage of low-income persons is tract 1810 with 19.3 percent. In Madison Heights the percentage is 8.8 percent, while the percentage of low-income persons in Oakland County and the State of Michigan is 5.5 percent and 10.5 percent respectively.

The proposed project will affect minority and low-income populations within the project area. Project impacts include relocations (Section 4.1), an increase in noise levels (Section 4.8), and temporary impacts during construction (Sections 5.11, 5.13, 5.14).

Most of the project impacts are relocations that would occur in tract 1815 in Madison Heights, where homes will need to be relocated due to the I-696 ramp braiding improvements. Tract 1815’s boundaries are Stephenson Highway on the west, John R on the east, 10 Mile Road on the south, and 11 Mile Road on the north. In Tract 1815, the percent of minorities is 6 percent, which is lower than Madison Heights (10 percent), Oakland County (20 percent), and the State of Michigan (20 percent). The percent of persons in poverty in Tract 1815 is 8.4 percent, which is lower than that of Madison Heights as a whole (8.8 percent), and the state of Michigan (10.5 percent), but higher than Oakland County (5.5 percent). Although the relocations will affect minority and low-income populations as well as other populations in the project area, these impacts are not disproportionate to minority or low-income populations.

MDOT will provide mitigation measures for acquiring impacted properties, increased noise levels and minimizing impacts during construction. For a complete description of these mitigation measures refer to Section 5 – Mitigation of Impacts and the Green Sheet: Project Mitigation Summary.

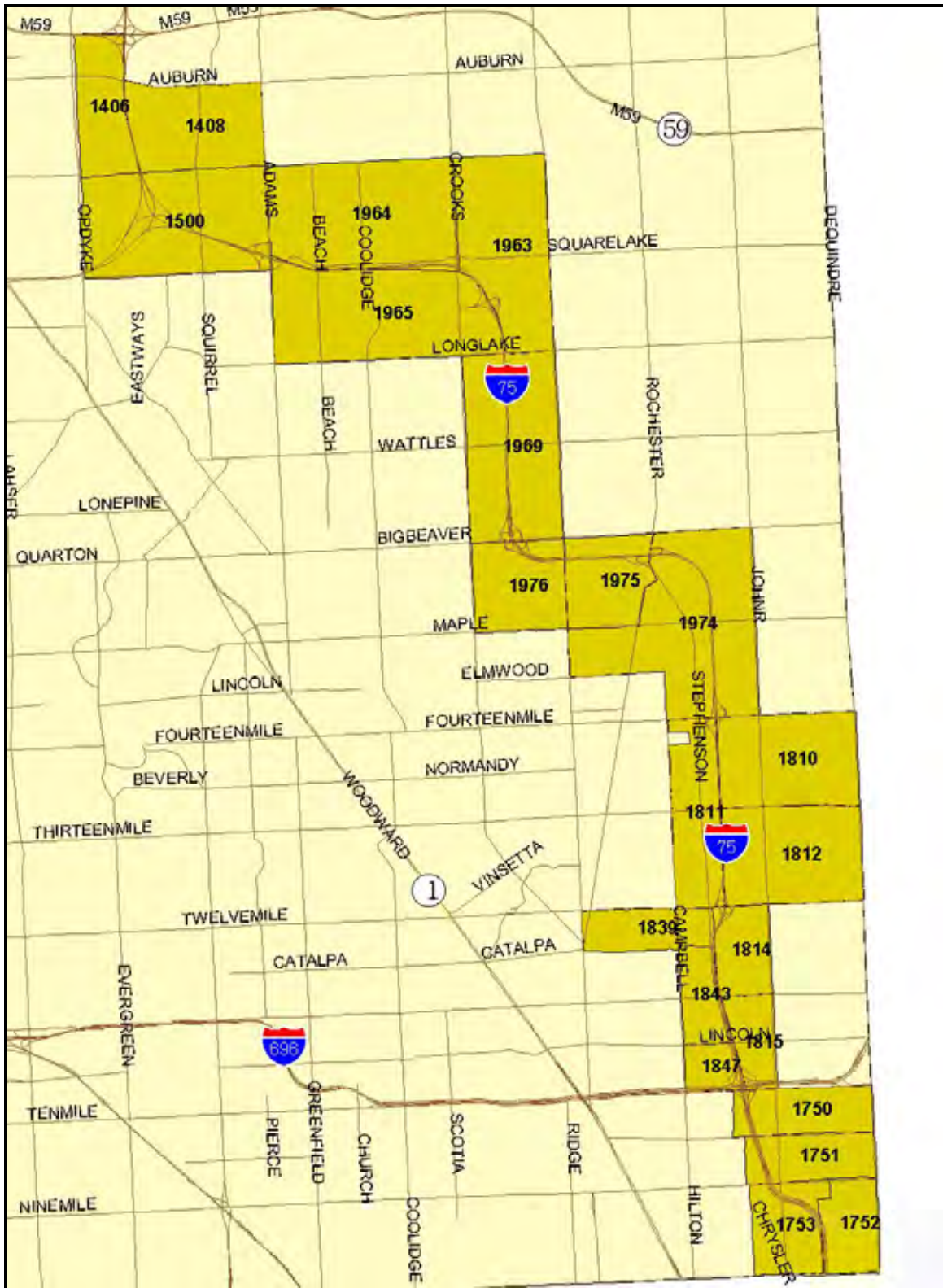


**Table 4-6  
Minority and Low-Income Populations in Contiguous Census Tracts**

<b>Community</b>	<b>2000 Census Tract</b>	<b>% Low-Income Persons (1999 data)</b>	<b>Percent Minority (2000 data)</b>	<b>Percent Hispanic (2000 data)</b>	<b>Top Three Non-White Races (2000 data)<sup>a</sup></b>
Hazel Park	1750	11.1%	6%	3%	MR/B/A
	1751	11.5%	9%	2%	MR/B/A
	1752	11.8%	10%	2%	MR/A/B
	1753	14.3%	9%	2%	MR/A/B
	All tracts	12.3%	8%	2%	MR/A/B
Royal Oak	1839	2.6%	4%	2%	B/MR/A
	1843	3.3%	5%	1%	MR/A/B
	1847	5.8%	3%	2%	MR/A/B
	All tracts	4.2%	5%	1%	A/B/MR
Madison Heights	1810	19.3%	35%	2%	A/B/MR
	1811	4.8%	3%	1%	A/MR/B
	1812	5.6%	9%	1%	A/MR/B
	1814	6.7%	8%	3%	A/MR/B
	1815	8.4%	6%	2%	A/MR/B
	All tracts	8.8%	10%	2%	A/MR/B
Troy	1963	1.8%	16%	1%	A/B/MR
	1964	0.8%	16%	1%	A/B/MR
	1965	0.9%	22%	1%	A/B/MR
	1969	2.3%	23%	1%	A/MR/B
	1974	6.1%	7%	2%	MR/A/B
	1975	6.1%	34%	2%	A/B/MR
	1976	2.6%	24%	4%	A/B/MR
	All tracts	2.7%	18%	1%	A/B/MR
Bloomfield Twp	1500	2.7%	20%	2%	A/B/MR
	All tracts	2.5%	12%	1%	A/B/MR
Auburn Hills	1406	3.0%	35%	2%	B/A/MR
	1408	4.6%	27%	3%	A/B/MR
	All tracts	5.8%	24%	4%	B/A/MR
Oakland County	All tracts	5.5%	20%	2%	B/MR/A
Michigan	All tracts	10.5%	20%	3%	B/MR/A

Source: 2000 U.S. Census

\*A=Asian or Pacific Islander; B= Black or African American; MR=Multiple Race.



Source: U.S. Census

Figure 4-2  
Census Tracts along I-75

The proposed project will benefit minority and low-income populations as well as other populations who live near or travel I-75 each day. The benefits include improved access on and off the freeway system, and implementation of an HOV lane, which will encourage enhanced transit services and ridesharing. Both of these services improve mobility for those who do not have access to car. All those who live near I-75 will benefit from noise abatement (Section 4.8.5), reduced congestion and its associated air quality.

A public involvement program was established to solicit input from potentially affected property owners, including minority and low-income populations, as well as other interested parties. Over 7,000 postcard notifications were mailed approximately ten days in advance of each meeting. The meetings, which included five I-75 Council meetings and three rounds of public meetings held prior to the public hearing (Section 6.2), were held at various times and locations within the project corridor. During these meetings, the public had an opportunity to view and comment on the various alternatives, regarding their development.

The proposed project will not cause disproportionately high and adverse impacts to minority populations and low-income populations located in and near the project area at this time. Impacts such as relocations, increase in noise levels and construction impacts will affect all populations who live near or travel I-75 each day. As previously mentioned, MDOT will mitigate for these impacts. However, a continuing effort will be made to identify any additional impacts that may have a disproportionately high and adverse affect on minority and low-income populations during subsequent phases of this project. If any new impacts are identified, every effort will be made to actively involve these populations in the project development process, and to avoid or mitigate these impacts.

## **4.4 Economic Impacts and Tax Base Loss**

### **4.4.1 Economic Background**

Economic activity in the project area is generated by a variety of market sectors including retail trade, services, education, and public administration. The I-75 corridor throughout Oakland County has been subject to rapid development. This trend is expected to continue, but at a reduced pace in the south part of the corridor.

During the 1990s, Oakland County employment grew about 50 percent faster than the nation as a whole, while per capita income grew 34 percent faster. Private sector job growth was 33 percent, creating an average of 21,900 new jobs annually. Oakland County is the number one job-producing county in Michigan, responsible for 25 percent of all new Michigan jobs in the last decade. Oakland County is also Michigan's leading center for international commercial activity. In a strong rebound from the recession of the early 1990s, Oakland gained 30,400 jobs in 1994 and continued to add between 10,000 and 26,000 jobs for several years thereafter. This trend is due to growth in both manufacturing (33%) and non-manufacturing (also 33%) jobs over the ten-year period. From 1992 to 2000, the number of businesses rose about 30 percent to 42,000 with the total annual payroll increasing by 90 percent to \$31.9 billion.

During the 1990s, employment shifted from trade industries to services, such as health, technology, and finance. Manufacturing has maintained its share of employment, which is unusual among Michigan's local economies and a departure from Oakland's trend in the 1980s. In fact, manufacturing employment declined in the nation as a whole during this period.

Oakland's March 2003 unemployment rate of 5.1 percent was lower than Michigan's 6.8 percent and the nation's 6.2 percent. Oakland County's per capita income is the highest in the state. This wealth manifests itself in the housing market. Housing demand has caused the sales volume of new construction and existing homes to increase by 17 percent between 1997 and 2000. And, the average price of single-family homes increased by 28 percent from \$160,000 to \$204,000.

Census data for 2000 (Table 4-7) show more commuters now travel from Wayne County to Oakland County to work (124,137) than the reverse (106,405). And overall, 115,000 more workers commute into Oakland County than the reverse.

**Table 4-7  
Commuting to and from Oakland County**

COUNTY OF RESIDENCE	COUNTY OF WORK	WORKERS	PERCENT
Oakland	Oakland	429,030	71.5%
Oakland	Wayne	106,405	17.7%
Oakland	Macomb	41,935	7.0%
Oakland	Washtenaw	6,723	1.1%
Oakland	Genesee	6,307	1.1%
Oakland	All Other Counties	9,783	1.6%
Total Workers Living in Oakland County		600,183	100.0%
Oakland	Oakland	429,030	60.0%
Wayne	Oakland	124,137	17.4%
Macomb	Oakland	94,376	13.2%
Genesee	Oakland	20,061	2.8%
Livingston	Oakland	17,064	2.4%
All Other Counties	Oakland	30,808	4.3%
Total Workers in Oakland County		715,476	100.0%

Source: US Census

Predictions are for continued population/employment and traffic growth. But, adding capacity to I-75 is a response to the growth that has already occurred and anticipates the growth predicted by the local political jurisdictions in the corridor.

The tax base in the corridor has increased steadily. In all cases, but one, the State Equalized Value in jurisdictions has risen considerably faster than the Consumer Price Index (Table 4-8). This is true for inner suburbs and outer suburbs, but the outer suburbs have experienced greater rates of growth in SEV, as they had a lower base to begin with. Interestingly, Pontiac in the 1990s kept pace with the outer suburbs.

**Table 4-8**  
**Change in State Equalized Value**  
(millions of 2002 dollars adjusted from base year with Consumer Price Index)

TAX DISTRICT	1970	1980	1990	2000	SEV % CHANGE		
	SEV	SEV	SEV	SEV	70>80	80>90	90>00
Hazel Park	17	56	115	272	331%	206%	236%
Ferndale	29	82	194	537	281%	238%	277%
Royal Oak	73	279	770	1961	382%	276%	255%
Madison Heights	38	158	507	1077	421%	321%	212%
Troy	67	534	2098	4931	798%	393%	235%
Bloomfield Township	140	394	1307	3057	281%	332%	234%
Auburn Hills (Pontiac Twp.)	20	54	264	1677	265%	492%	635%
Subtotal	383	1556	5256	13512	406%	338%	257%
Southfield	126	547	1556	3263	436%	285%	210%
Bloomfield Hills	11	71	307	760	648%	431%	247%
Pontiac	113	294	431	1141	261%	147%	265%
Rochester Hills (Avon Twp.)	55	236	1111	2804	429%	471%	252%
Subtotal	304	1148	3404	7967	377%	297%	234%
Orion Township	28	93	324	1394	331%	348%	430%
Independence Township	27	102	352	1210	379%	347%	344%
Springfield Township	8	39	125	477	466%	320%	383%
Holly Township	11	30	76	247	282%	250%	325%
Groveland Township	5	23	60	201	460%	258%	335%
Subtotal	79	287	937	3529	363%	326%	377%
Oakland County	1042	5530	18439	49549	531%	333%	269%
Consumer Price Index	39.5	85.3	128.6	169.8	216%	151%	132%

Source: Oakland County Tax Equalization Office

Data from the Oakland County Equalization Division show interesting recent trends. Percent increases in taxable property value (State Equalized Value change from 2001 to 2002) for communities adjacent to the project are:

- Auburn Hills - 10.79 percent;
- Bloomfield Township - 4.77 percent;
- Ferndale - 12.19 percent;
- Hazel Park - 14.16 percent;
- Madison Heights - 3.53 percent;
- Pontiac - 3.68 percent;
- Royal Oak - 6.69 percent; and,
- Troy - 3.90 percent.

These compare favorably to changes further north in the more rapidly developing areas.

- Brandon Township - 4.01 percent;
- Groveland Township - 8.35 percent;
- Highland Township - 8.92 percent;
- Holly Township - 6.52 percent;
- Independence Township - 6.98 percent;
- Springfield Township - 8.51 percent;
- Waterford Township - 7.37 percent; and,
- County Average - 6.77 percent.

#### 4.4.2 Tax Base Loss

The right-of-way cost estimate indicates that property acquisition will result in short-term reductions in real property tax revenues for several communities as shown in Table 4-9. These numbers are small in consideration of recent percentage increases in SEV in these communities (Table 4-8). The effect will be greatest (in terms of percentage) on Hazel Park, which would realize a likely tax loss of over \$60,000 or 0.02% of its base. Any loss is important to these communities, but the increase in SEV over the coming years will outweigh potential losses.

**Table 4-9  
Tax Base Loss (2004 dollars)**

Taxing Entity	ROW Cost <sup>a</sup>	Value <sup>b</sup>	Tax Loss <sup>c</sup>	% of Total Taxes <sup>d</sup>
Hazel Park	\$ 2,126,950	\$ 1,063,475	\$ 62,900	0.0231%
Royal Oak	\$ 2,060	\$ 1,030	\$ 50	0.0000%
Madison Heights	\$ 5,057,300	\$ 2,528,650	\$ 107,990	0.0100%
Troy	\$ 360,500	\$ 180,250	\$ 8,510	0.0002%
Total	\$ 7,546,810	\$ 3,773,405	\$ 179,446	NA

Source: Tax Equalization Offices

<sup>a</sup> Fair market value of the land and structures required for right-of-way.

<sup>b</sup> This is 50% of the estimated "fair market value."

<sup>c</sup> Value times tax rate, then rounded.

<sup>d</sup> Tax loss divided by total State Equivalent Value for the community.

#### 4.5 Land Use and Planning Consistency

Land use along I-75 in the project length, is predominately: small lot single-family residential in the south (Hazel Park, Ferndale, Royal Oak, and south Madison Heights), with commercial development where arterial streets intersect; commercial and some light industrial in Madison Heights from 12 Mile Road north; office and commercial with apartment and condominium development in mid-Troy; a mix of single- and multi-family in north Troy; and, single-family in Bloomfield Township and Auburn Hills (Figure 4-3).

Planning documents for each of the communities contiguous to the project were reviewed for references to I-75. They indicate:

- **Auburn Hills** -- *Master Plan* adopted on November 7, 2002. No mention of I-75.
- **Ferndale** -- *Master Plan* adopted in June of 1998. No mention of I-75.
- **Hazel Park** -- *Master Plan* adopted on March 21, 2000. I-75 mentioned in relation to access to the Hazel Park racetrack, and as a major north/south thoroughfare in relation to collector streets. Noise – “The primary noise pollutant in Hazel Park is I-75 which traverses the City from its southern boundary at 8 Mile Road east of John R. Road to the north boundary at Ten Mile Road west of John R. Road. The areas where noise could be a problem are the residential neighborhood along the I-75 corridor, particularly, in the northwest area of Hazel Park where I-75 interchanges with I-696. Noise abatement is provided by the series of walls erected along I-75 and I-696”. The downtown Hazel Park area (9 Mile Road and John R. Road) needs “...redevelopment of the service drive and a



new bridge across I-75.” Improved pedestrian access across the I-75 overpass (9 Mile Road) is needed.

- **Madison Heights** -- *Master Plan* adopted on October 16, 1990. “The development of the I-75 corridor (north of Square Lake Road) will provide opportunities for employment for Madison Heights residents as well as the potential for business exchange between existing industrial and office uses in Madison Heights and businesses in the Oakland Technology Park. The I-75 road improvements have also provided for improved travel time to the north.” And, “According to the planning methodology for multi-lane highways in the Highway Capacity Manual, by the Transportation Research Board, I-75 should have eight-lanes divided in order to properly support 105,000 vehicles per day, not the six-lanes divided currently in place.”
- **Royal Oak** -- *Master Plan* adopted in August of 1999. No mention of I-75.
- **Troy** -- *Future Land Use Plan* adopted on January 8, 2002. No mention of I-75.
- **Bloomfield Township** -- *Master Plan* adopted in 1991. No mention of I-75.

It is noted that, consistent with Hazel Park planning, noted above, the new highway bridges planned with the Preferred Alternative at 9 Mile Road and John R. Road will have sidewalks and improve pedestrian access.

The Preferred Alternative will reduce travel times during congested periods. Land use change may occur in response to travel time changes. Land use will change in accordance with land use decisions made in each community, as planning and zoning is a local function. SEMCOG has noted a number of influences regionally on land use change (see Section 1.3.3).

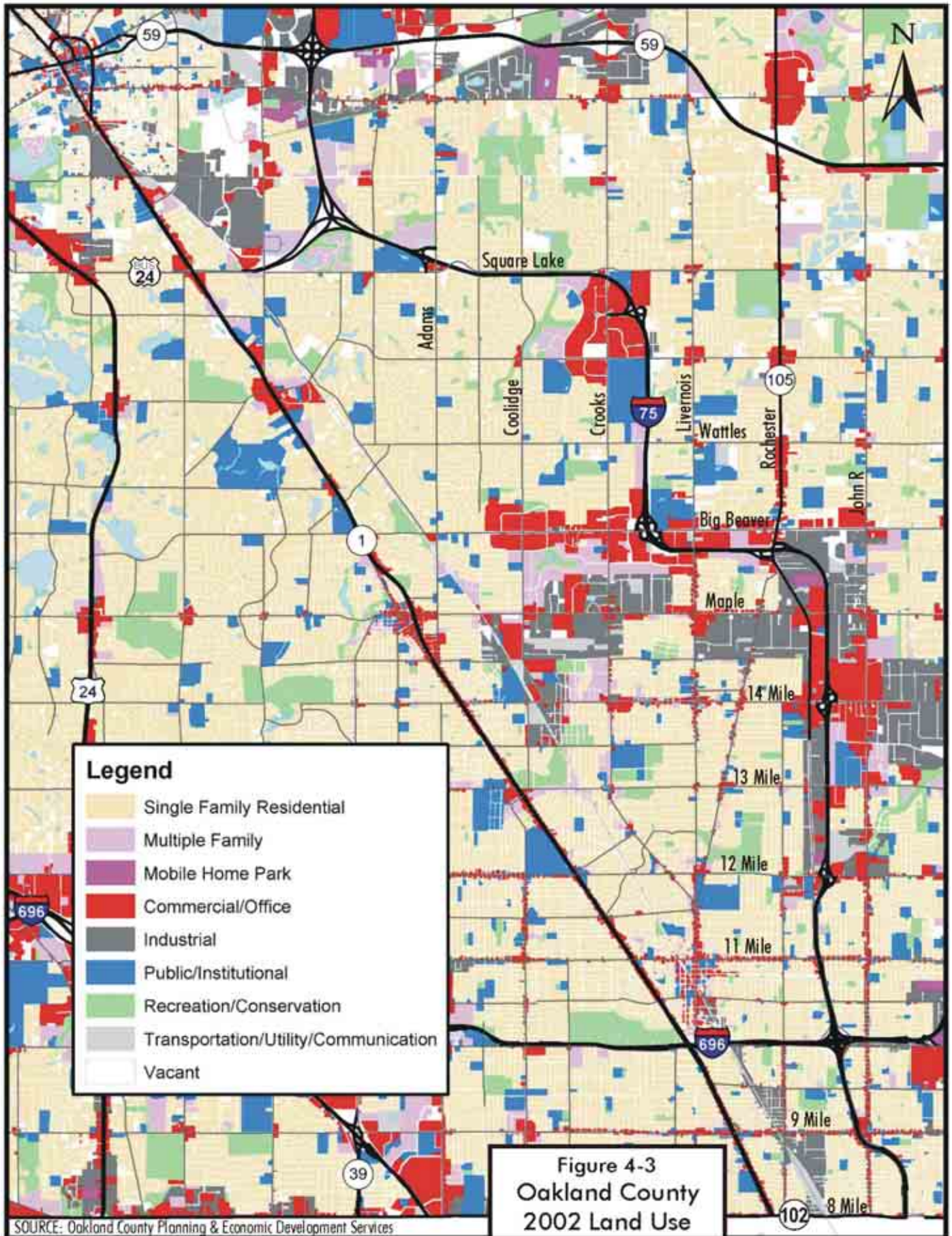
The Preferred Alternative is consistent with local and regional transportation and land use planning, including Oakland County’s *Composite Master Plan Map* and SEMCOG’s *Regional Transportation Plan*.

#### **4.6 Farmland/Michigan Act 451, Part 361 Lands/Forest Land**

There is no agricultural or forestry zoning or land use in any of the jurisdictions adjacent to the Preferred Alternative. No Part 361 (The Farmland and Open Space Preservation Act) of Michigan Public Act 451, parcels are adjacent to I-75 in the project area.<sup>63</sup> No additional review under the Federal Farmland Protection Policy Act is required. Therefore, an A.D. 1006 form was not prepared for coordination with the USDA/NRCS. In a letter dated September 18, 2002 the Michigan Department of Agriculture notes that “. . . since the widening of I-75 is to be accomplished largely within the existing right-of-way in a highly developed traffic corridor, little or no adverse impacts to agriculture are anticipated” (Appendix C, Section 4). Likewise, in its review of the DEIS the Michigan Department of Agriculture (see letter dated January 20, 2004, in Section 6.4 Letter 5) notes “no major impacts to agriculture”. Its principle concern is impacts to established county and intercounty drains. These concerns are addressed in Section 4.10.

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<sup>63</sup> Based on a search of the Act 451, Part 361 database for Oakland County.



**Legend**

- Single Family Residential
- Multiple Family
- Mobile Home Park
- Commercial/Office
- Industrial
- Public/Institutional
- Recreation/Conservation
- Transportation/Utility/Communication
- Vacant

Figure 4-3  
Oakland County  
2002 Land Use

SOURCE: Oakland County Planning & Economic Development Services

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In its review of the DEIS (see letter dated December 31, 2003, in Section 6.4, Letter 1), the United States Department of Agriculture, National Resources Conservation Service agrees that, “. . . it is anticipated that there will be no negative effects on prime and unique farmland since the proposed project alternatives will be completed on soil areas that have already been converted to urban uses.”

## 4.7 Air Quality Analysis

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for the following pollutants that are considered to be harmful to public health and the environment: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter, and sulfur dioxide (SO<sub>2</sub>). The NAAQS, which include primary or health-related standards and secondary or welfare-related standards, define the maximum permissible concentrations of these pollutants (Table 4-10). For this project pollutants of principal concern are ozone and carbon monoxide.

**Table 4-10  
National Ambient Air Quality Standards**

<b>Pollutants</b>	<b>Average Time</b>	<b>Primary Standard <sup>a</sup></b>	<b>Secondary Standard <sup>b</sup></b>
Carbon Monoxide	1-hr	35 ppm (40mg/m <sup>3</sup> )	No Secondary Standard
	8-hr	9 ppm (10mg/m <sup>3</sup> )	No Secondary Standard
Lead	Quarterly	1.5 µg/m <sup>3</sup>	Same as Primary
Nitrogen Dioxide	Annual	0.053 ppm (100µg /m <sup>3</sup> )	Same as Primary
Ozone	1-hr	0.12 ppm (235µg/m <sup>3</sup> )	Same as Primary
	8-hr	0.08 ppm (157µg/m <sup>3</sup> )	Same as Primary
Respirable Particulate Matter (10 microns or less) (PM <sub>10</sub> )	24-hr	150 µg/m <sup>3</sup>	Same as Primary
	Annual	50 µg/m <sup>3</sup>	Same as Primary
Respirable Particulate Matter (2.5 microns or less) (PM <sub>2.5</sub> )	24-hr	65 µg/m <sup>3</sup>	Same as Primary
	Annual	15 µg/m <sup>3</sup>	Same as Primary
Sulfur Dioxide	3-hr	–	0.5 ppm (1300µg/m <sup>3</sup> )
	24-hr	0.14 ppm (365µg/ m <sup>3</sup> )	–
	Annual	0.03 ppm (235µg/ m <sup>3</sup> )	–

Source: Code of Federal Regulations, Title 40, Part 50.

<sup>a</sup> Primary NAAQS: the levels of air quality that the EPA judges necessary, with an adequate margin of safety, to protect the public health.

<sup>b</sup> Secondary NAAQS: the levels of air quality that the EPA judges necessary to protect the public welfare from any known or anticipated adverse effects.

#### 4.7.1 Air Quality Conformity

The Clean Air Act requires Michigan (and all other states) to have a *State Implementation Plan* (SIP) to demonstrate how it will attain and/or maintain the NAAQS. SEMCOG, collaborates with the Air Quality Division of the Michigan Department of Environmental Quality (DEQ) on the work needed to prepare and/or update a SIP. SEMCOG is responsible for reviewing mobile source (vehicular) emissions in Southeast Michigan when projects are proposed for inclusion in their long-range transportation plan. SEMCOG's *2030 Regional Transportation Plan* (RTP) has successfully undergone a quantitative analysis, demonstrating that emissions levels associated with implementing the planned projects are below designated emissions level limits (budgets) set forth in the SIP. The Preferred Alternative is included on the 2030 Plan, and so has successfully undergone air quality conformity review.

Air quality conformity analyses for mobile sources required in Southeast Michigan currently involve two major pollutants: carbon monoxide (CO) and ozone (and its precursors volatile organic compounds and nitrogen oxides). A new standard will require such analysis for PM<sub>2.5</sub> by April 2006. This attainment status of the region is as follows:

**Carbon monoxide** - In 1999, Wayne, Oakland, and Macomb counties were redesignated from nonattainment to maintenance for CO. Similar to ozone, a positive conformity determination for CO requires that emissions in any future year remain at or below the approved mobile source emissions budget of 3,843 tons/day. On January 28, 2005, (effective March 28, 2005) EPA approved a revised CO budget of 1946 tons /day.

**One-hour ozone** - In 1995, the seven-county SEMCOG region was redesignated from nonattainment to maintenance for the one-hour ozone standard. At that time, a maintenance plan was developed establishing emissions budgets for the two precursors of ozone: volatile organic compounds (VOCs) and nitrogen oxides (NOx). In order for a conformity determination to be made with regard to the one-hour ozone standard, VOCs emissions cannot exceed the mobile source emissions budgets of 218 tons/day for years 2004-2014, and 173 tons/day for years 2015 and beyond. For NOx, emissions cannot exceed the budget of 413 tons/day in any analysis year. The 8-hour standard (see below) now supplants the 1-hour standard, but until an 8-hour emissions budget is established, conformity will be the same as for 1-hour.

**Eight-hour ozone** - On April 15, 2004, the EPA officially designated the seven-county SEMCOG region, plus Lenawee County, a moderate nonattainment area for the 8-hour ozone standard. In September 2004, EPA approved reclassification from moderate to marginal ozone nonattainment. A SIP, which must be approved by 2007, is currently being developed to address this issue. As noted, for the time being, the test of 8-hour conformity remains the same as that used to demonstrate conformity for one hour.

**PM<sub>10</sub>** - As mobile sources in Southeast Michigan currently meets the NAAQS for this pollutant, a regional transportation conformity analysis is not required.

**PM<sub>2.5</sub>** - EPA designated seven counties in Southeast Michigan as nonattainment for this new standard December 15, 2004. Conformity determinations for PM<sub>2.5</sub> will be required by April 5, 2006.

#### 4.7.2 Analysis Needs

Based on the above discussion, and in accordance with MDOT, FHWA, SEMCOG, and EPA procedures, the air quality impact analysis for this project consisted of:

1. A regional (macroscale) conformity analysis performed on the Preferred Alternative by SEMCOG. The conformity analysis for ozone was on a seven-county basis. The conformity analysis for CO was on a three-county basis.
2. The microscale analysis of CO concentrations summarized below.<sup>64</sup>

#### 4.7.3 Analysis Results

The conformity analyses have been successfully completed by SEMCOG. The proposed I-75 project conforms to the Clean Air Act, as it is part of the conforming, cost-feasible, *2030 Regional Transportation Plan*. Note also that when there is a substantial period of time between a project's FEIS and its implementation, it must be "reevaluated". During the course of the reevaluation process, the conformity procedures for PM<sub>2.5</sub> will go into effect. Conformity testing for PM<sub>2.5</sub> will be performed at that time.

#### Carbon Monoxide Analysis

For CO, the criterion for adverse impact is an exceedance of the NAAQS at a sensitive receptor modeled for the year of opening (2015) and design year (2025). The assumptions with respect to ambient (background) levels of CO were 4.5 parts per million (ppm) and 3.0 ppm, for one hour and eight hours, respectively. These values were obtained from the nearest CO monitoring station at Oak Park. Emission factors (in grams per mile) used in the analysis were drawn from MOBILE6.2, a computer program developed by EPA to generate emission factors for regulated pollutants for various vehicle types over a range of speeds.

The difference between the GP and HOV alternatives on CO concentrations was negligible. A computer program, CAL3QHC, was used to estimate CO concentrations at over fifty sensitive receptors at eleven locations along the corridor using emission factors from MOBILE6.2. Sensitive receptors are outside locations where persons would normally be present for some time. Receptors were identified along I-75 and its service drives and at intersections near residential areas.

The worst-case one-hour CO concentration in 2015 was found to be near Gardenia Avenue (Table 4-11). The predicted concentration was 9.2 parts per million (ppm), well below the NAAQS of 35 ppm. Converting this to an eight-hour value using a persistency factor of 0.67 results in an eight-hour forecast of 6.1 compared to the standard of 9 ppm. Worst-case one- and eight-hour concentrations in 2025 are estimated to be 9.3 and 6.2 ppm, respectively, also well below standards.

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<sup>64</sup> *Air Quality Technical Report* The Corradino Group, October 2003.



**Table 4-11  
CO Concentrations**

Modeling Site	Location	Receptor	Existing (2003)		Build (2015)		No Build (2015)		Build (2025)		No Build (2025)	
			1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr
1	South of 9 Mile Rd at Highland Ave	1	10.5	7.0	8.1	5.4	7.8	5.2	8.1	5.4	7.6	5.1
		2	8.7	5.8	7.2	4.8	7.0	4.7	7.2	4.8	6.9	4.6
2	South of 1-75/696 Interchange at Mapledale Ave	1	9.4	6.3	7.6	5.1	7.3	4.9	7.6	5.1	7.2	4.8
		2	9.9	6.6	7.9	5.3	7.5	5.0	7.9	5.3	7.4	4.9
		3	8.6	5.7	7.1	4.7	6.9	4.6	7.1	4.7	6.8	4.5
		4	8.2	5.5	6.7	4.5	6.6	4.4	6.7	4.5	6.4	4.3
3	I-75 at W Gardenia Ave	1	11.5	7.7	8.9	5.9	8.6	5.7	8.8	5.9	8.3	5.5
		2	10.0	6.7	7.9	5.3	7.7	5.1	8.0	5.3	7.6	5.1
		3	11.0	7.4	8.4	5.6	8.2	5.5	8.3	5.5	7.9	5.3
		4	11.6	7.8	9.2	6.1	8.5	5.7	9.3	6.2	8.4	5.6
4	North of 12 Mile Interchange at off-ramp	1	7.6	5.1	6.7	4.5	6.3	4.2	6.6	4.4	6.3	4.2
		2	9.4	6.3	7.9	5.3	7.5	5.0	8.1	5.4	7.4	4.9
		3	8.9	5.9	7.6	5.1	7.0	4.7	7.6	5.1	6.9	4.6
5	South of 14 Mile Rd at Whitcomb Ave	1	8.6	5.7	7.3	4.9	7.0	4.7	7.4	4.9	6.8	4.5
		2	8.7	5.8	7.5	5.0	7.0	4.7	7.6	5.1	6.8	4.5
6	North of Maple Rd at Larchwood Ave	1	8.5	5.7	7.2	4.8	6.9	4.6	7.3	4.9	6.8	4.5
		2	8.3	5.5	7.2	4.8	6.9	4.6	7.3	4.9	6.8	4.5
7	I-75/Rochester Rd Interchange	1	8.3	5.5	6.3	4.2	6.6	4.4	6.7	4.5	6.5	4.3
		2	11.4	7.6	8.1	5.4	8.4	5.6	8.9	5.9	8.3	5.5
		3	8.6	5.7	6.5	4.3	6.7	4.5	7.2	4.8	6.7	4.5
8	South of Wattles Rd at Old Creek Rd	1	9.2	6.1	7.8	5.2	7.4	4.9	8.0	5.3	7.5	5.0
		2	8.1	5.4	7.0	4.7	6.7	4.5	7.1	4.7	6.7	4.5
		3	6.4	4.3	5.9	3.9	5.7	3.8	5.9	3.9	5.7	3.8
9	South of Coolidge Hwy at Fleetwood	1	10.0	6.7	8.2	5.5	7.7	5.1	8.4	5.6	7.7	5.1
		2	8.6	5.7	7.3	4.9	6.9	4.6	7.4	4.9	6.9	4.6
10	I-75/Adams Rd Interchange	1	5.7	3.8	5.2	3.5	5.3	3.5	5.3	3.5	5.2	3.5
		2	6.6	4.4	5.9	3.9	5.9	3.9	6.0	4.0	5.8	3.9
11	North of Squirrel Rd at Brenthaven	1	7.8	5.2	6.7	4.5	6.6	4.4	6.8	4.5	6.7	4.5
		2	7.8	5.2	6.7	4.5	6.7	4.5	6.9	4.6	6.9	4.6

Source: The Corradino Group of Michigan, Inc.

Notes: A Persistence Factor of 0.67 was used to estimate 8-hour concentrations. The 1-hr background concentration (4.5 ppm) is the 1-hr, 2nd highest value recorded at the Oak Park Station (26-125-0001) in 2001. The 8-hr background concentration (3.0 ppm) is the 8-hr, 2nd highest value recorded at the Oak Park Station (26-125-0001) in 2001.

#### 4.7.4 Air Toxics and Particulates

Air toxics and PM<sub>2.5</sub> are of growing concern. Both are acknowledged to pose health risks. Air toxics include a variety of organic (carbon-based) compounds, metals, and other materials that have a negative effect on health and/or human welfare. They are emitted by vehicles, particularly diesel trucks. Data from the 1996 National Toxics Inventory indicate that mobile sources (cars, trucks, and other “non-point” sources) account for approximately 50 percent of air toxics emissions (EPA, 2000).



PM<sub>2.5</sub> represents the smallest of particles. Once inhaled, they can penetrate deep into the lungs. Standards have been set for PM<sub>2.5</sub> and increasingly stringent standards are being applied to diesel engines.

On May 10, 2004 EPA announced it is extending stringent standards to non-road diesel engines (engines in construction and other heavy-duty equipment) as well as on-road engines (regular cars, buses and trucks). By 2007, 90 percent of the sulfur in diesel fuel for on-road vehicles is to be eliminated. Cleaner fuel for non-road vehicles follows by about three years. (Sulfur fouls pollution control equipment.) Together with tougher engine standards, these measures will substantially reduce diesel emissions and PM<sub>2.5</sub>. The largest effects will be on NO<sub>x</sub> and particulates. EPA estimates that affected non-road diesel engines currently account for about 60 percent of total diesel PM emissions and about 30 percent of total NO<sub>x</sub> emissions from mobile sources nationwide. The new non-road diesel emission standards will reduce emissions by more than 90 percent.

MOBILE6.2 was approved by EPA on May 19, 2004. It allows calculation of air toxic and particulate emission factors. There are neither NAAQS standards for air toxics nor requirements to perform conformity or hotspot analysis for air toxics. SEMCOG has noted their belief that the MOBILE6.2 toxics calculator is an approved method (see letter dated February 23, 2004, in Section 6.4, Letter 13). There is a “PM Calculator”<sup>65</sup> that is available for use to help states develop PM<sub>10</sub> and PM<sub>2.5</sub> emission inventories for point sources, but this would not be applicable to toxics from mobile sources.

Though no national standards have been set for air toxics by EPA, data are being collected and measures are underway to reduce them. EPA has issued a suite of motor vehicle and fuels regulations, including tailpipe emission standards for cars, SUVs, mini-vans, pickup trucks and heavy trucks and buses; standards for cleaner-burning gasoline; a national low-emission vehicle program; and, standards for low-sulfur gasoline and diesel fuel. By the year 2020, these requirements are expected to reduce emissions of a number of air toxics (benzene, formaldehyde, acetaldehyde and 1,3-butadiene) from highway motor vehicles by about 75 percent and diesel particulate matter by over 90 percent from 1990 levels (EPA, 2000).

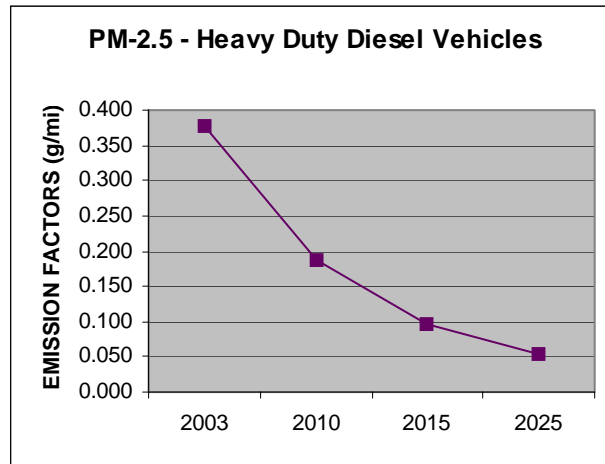
In response to the DEIS, MDEQ “supports a quantitative assessment of emissions and impact, with risk characterization, for select air toxics (formaldehyde, benzene, 1,3-butadiene, acetaldehyde and acrolein) . . . The toxicity of these substances has been demonstrated, and should not be ignored.” MDOT agrees that the toxicity has been demonstrated. It does not agree that there are scientifically-based means of measuring exposure or risk. There are a number of uncertainties related to air toxics and PM<sub>2.5</sub>. While there are health effects, they are difficult to quantify, and relationships between various pollutants are poorly understood. Data are being collected and computer models are currently being developed and tested to estimate concentrations of these pollutants, but to date there are limitations from a scientific basis. Some pollutants are reactive, others are not. Reactivity affects the way pollutants disperse. Background levels are difficult to determine and pollutant data collected thus far appear to contain anomalies. For these reasons quantitative analysis is not yet reliable.

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<sup>65</sup> *PM Calculator User's Manual*, E.H. Pechan & Associates, Inc. for US EPA, September 2003.

MOBILE6.2 is a computer program developed by EPA to generate emission factors for regulated pollutants for various vehicle types over a range of speeds. It contains information related to anticipated PM<sub>2.5</sub> trends. For example, the model will provide the grams per mile of PM<sub>2.5</sub> emissions from a heavy-duty diesel truck operating at various speeds. By comparing the emission factors over time, it is clear that PM<sub>2.5</sub> emissions are expected to continue to decrease (Figure 4-4), just as they have in the past as new pollutant controls have been implemented.

**Figure 4-4**  
**Emission Factor Trends – PM<sub>2.5</sub>**



Source: EPA's MOBILE6.2 model

In summary, air pollutants have been trending downward and are expected to continue to do so. The project would not result in any violations of current air quality standards as presently being applied. This project is expected to have a positive impact on air quality by reducing congestion. Stop-and-go traffic is evident along I-75 on a daily basis. Without the Preferred Alternative, the frequency and duration of these occurrences will increase. Air pollution emissions increase substantially when vehicles are idling and/or changing speeds. The proposed lane addition will smooth traffic flow and allow a greater opportunity to bypass incidents that cause traffic delay. The result will be reduced tailpipe emissions.

## 4.8 Noise Analysis

This section summarizes existing and future noise conditions and where noise walls have been identified for consideration. It summarizes the results of a *Noise Study Report*.<sup>66</sup>

The noise unit used herein is the decibel (dB). The sound spectrum is expressed for human hearing in terms of an A weighting, so the unit is called dBA. A 10-dBA increase is a ten-fold increase in sound energy, but is perceived as a doubling of loudness. A 3-dBA increase is a two-fold increase in sound energy and is generally the smallest change in noise perceptible to most people outside of a laboratory setting.

### 4.8.1 Background and Guiding Criteria

To double the energy of sound and get a perceptible increase in noise, there must be twice as much traffic, or the distance between a sound source and receiver must be halved. Neither will be the case with the proposed widening of I-75. Rather, traffic has already grown over the years to the point that noise guidelines are exceeded in some places. As a result, when a new project is proposed along I-75, noise mitigation must be considered.

FHWA has promulgated noise abatement criteria, which have been incorporated into MDOT's Noise Policy (Table 4-12). For the exterior of residences, churches, hospitals, parks, and libraries, FHWA has established a noise guideline of 67 decibels (dBA), measured as an

<sup>66</sup> *Noise Study Report*, The Corradino Group, December 2004.

“average” of sound over a one-hour period (referred to as  $L_{eq1h}$ ).<sup>67</sup> This level is not to be “approached or exceeded.” Should the guideline at these sensitive receptors be approached or exceeded, noise abatement measures must be considered. “Approach” is defined in Michigan as a 1-dBA reduction from the maximum of 67 dBA. So, the effective criterion for consideration of mitigation is 66 dBA during the loudest hour of the day. Mitigation must also be considered if a project results in a substantial increase (10 dBA or more) in noise levels. Normally, mitigation is not considered in commercial areas.

**Table 4-12**  
**FHWA Noise Abatement Criteria**  
**(Hourly A-Weighted Sound Level-decibels [dBA])**

Activity Category	Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance, serve an important need, and where the preservation of those qualities is essential, if the area is to continue to service its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A and B above.
D	--	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

Source: State Transportation Commission Policy 10136 – Noise Abatement, Appendix A

Land uses fronting onto I-75 include low- and high-density residential areas, one school, and several churches. The 66-dBA criterion applies to all these areas. Noise modeling shows that many homes are exposed to noise levels exceeding abatement criteria today. Generally, these same areas will continue to exceed criteria with or without the project. But, where a new lane is built, noise will increase as a function of the increased traffic capacity (4 lanes instead of 3 lanes in each direction). Based on the mathematics of noise energy, if all other conditions are equal, the noise level increase associated with adding a lane in each direction would be only 1.2 dBA. This increase is imperceptible, but it adds to levels already above applicable criteria. So, mitigation must be considered. Noise level changes are, of course, also a function of the geometry of each site. When the road is reconstructed, this geometry changes. Noise modeling considers all these factors.

#### 4.8.2 Existing Noise Conditions

Many of the receptors along I-75 today experience noise levels above 66 dBA. Noise measurements were made at 26 locations along the corridor following standard procedures with calibrated equipment.<sup>68</sup> Three five-minute measurements were averaged to obtain the existing noise levels. Measurements ranged from near 60 to over 80 dBA, with about half the

<sup>67</sup> Title 23, Code of Federal Regulations (CFR), Part 772, revised April 1998.

<sup>68</sup> Measurements were made in conformance with *Measurement of Highway Noise*, U.S. Department of Transportation, May 1996, and MDOT practice. A Quest Technologies Q-400 Type 2 dosimeter was used for measurements. It was calibrated before measurements.

measurements over 70 dBA (compared to the criterion of 66 dBA). In the southern, depressed section, measurement locations generally represented the building line, as homes are very close to road right-of-way. Further north, where there is active residential yard space, measurements and modeling focused on a point 25 feet from the backs of homes towards the freeway (or in other appropriate areas, depending on lot orientations, single versus multiple-family use, and other special considerations).

#### 4.8.3 Future Noise Conditions

The Transportation Noise Model (TNM2.1), available through FHWA, was used to predict noise levels based on: roadway geometry, the location of sensitive receptors, and traffic information such as speed and the mix of vehicles.<sup>69</sup> For analysis purposes, the corridor was divided into segments that have consistent roadway geometry and traffic. Model runs were made for existing, no-build, and build conditions. Model runs of existing conditions were compared to actual field measurements to ensure the accuracy of the work. These efforts allowed a determination of the number of dwelling units that would be covered by the 66-dBA criterion under 2025 build and no build conditions (Table 4-13).

**Table 4-13**  
**Existing and Future Noise Levels**  
**(Leq(h) Noise Levels in dBA)**

Segment	Modeled Receptors	# Dwelling Units Represented <sup>a</sup>	Modeled Noise Level			Dwelling Units over 66 dBA	
			Existing (2003)	No Build (2025)	Build (2025)	No Build (2025)	Build (2025)
8 Mile to Meyer Road	66	66	54-74	54-74	54-74	29	32
Meyer Road to 9 Mile	27	27	58-71	59-71	59-71	9	9
9 Mile to Woodward Heights	36	36	44-66	44-66	46-67	3	4
Woodward Heights to I-696	21	21	54-72	55-72	55-72	8	8
I-696 to Gardenia Ave.	44	44	NA <sup>b</sup>	NA <sup>b</sup>	47-71	NA <sup>b</sup>	8
Gardenia to north of 12 Mile	41	58	46-74	46-75	47-75	25	25
North of 12 Mile to 14 Mile	34	144	39-73	39-74	39-74	76	76
14 Mile to Rochester	16	28	60-74	60-74	60-74	17	17
Rochester to Livernois	57	198	62-74	62-74	62-75	153	153
Livernois to Wattles	43	105	45-77	45-77	46-79	45	61
Wattles to Coolidge	63	90	51-74	52-75	54-76	66	70
Coolidge to Square Lake	55	55	44-73	45-73	47-75	5	9
Total						436	472

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup> In some cases a modeled receptor represents multiple dwelling units. The church and school are represented as dwelling units for the purposes of this table.

<sup>b</sup> NA – a noise wall is already present at this location.

The analysis found that 430 dwelling units, one school, and five churches would be exposed to noise levels exceeding the 66 dBA criterion under future no build conditions compared to 466 dwelling units, one school, and five churches with the Preferred Alternative. Future traffic would

<sup>69</sup> *Noise Study Report*, The Corradino Group, December 2004.

be closer to residences with the wider roadway in the depressed section of I-75, but with the new lane constructed into the embankment, it will tend to be shielded from sensitive receptors. In the northern, at-grade and elevated sections, the lane will be added in the median, so the center-of-road noise will actually move slightly away from receptors. And, the proposed concrete median safety barrier would provide some limited benefit.

#### **4.8.4 Noise Mitigation Considerations**

The test of whether noise mitigation should be pursued rests on whether such mitigation is “feasible” and “reasonable.” The “feasible” test relates to whether mitigation is physically or institutionally possible and can achieve the desired reduction in noise levels of at least five decibels. Feasible solutions can generally be achieved, but not always. For example, with noise walls, there are engineering limitations on height, especially on bridges. In other cases, there may be a noise source that cannot be controlled with a noise wall. Also, noise wall construction must adhere to safety design criteria, especially stopping sight distance, i.e., walls must be clear of intersections and be positioned in ramp merge areas so that motorists have a clear field of view.

The “reasonable” test addresses whether noise mitigation is cost-effective. This involves examination of how many sensitive receptors can benefit per dollar invested. The current inflation-adjusted value per benefiting dwelling unit is \$34,772 (2004 dollars). This applies to those units that would experience at least a 5-decibel reduction in the loudest hour. The current costs to construct a noise wall are \$23.77 per square foot, plus \$219.60 per linear foot for wall foundation, drainage, and other considerations.

Noise mitigation falls into two general categories. “Type I” projects involve new roadway construction of a type that increases roadway capacity, i.e., in other words, projects that could serve greater traffic volumes and hence generate more traffic noise. These are eligible for federal funding through FHWA as a normal part of project construction. “Type II” projects may be described as retrofits, independent noise mitigation not related to any roadway capacity increase.

With the Preferred Alternative, noise mitigation will be included as a normal part of the I-75 project’s federal funding (subject to local review and approval of property owners). With the No Build Alternative any mitigation would be considered Type II. While MDOT does undertake Type II projects, funding is limited:<sup>70</sup>

”MDOT will construct Type II sound walls only in years when MDOT’s Road and Bridge Program, excluding maintenance, exceeds \$1.0 billion, adjusted to the Consumer Price Index (CPI) using 2002 as the base year. MDOT will not spend more than one half of one percent of the budget on sound walls. MDOT will give priority to those communities where the freeway was constructed through an existing neighborhood and where 80 percent or more of the existing residential units were there prior to the construction of the freeway. Communities must make application to MDOT and provide a local match of 10 percent of the cost of the sound wall.”

It is evident from this policy that, under no-build conditions, only the southern section of the corridor would be eligible for walls. Communities to the north allowed residential development to occur in areas too close to the freeway, after the freeway was built in the 1960s.

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<sup>70</sup> *Noise Abatement*, Michigan State Transportation Commission Policy 10136, July 31, 2003.

A number of potential mitigation measures may be considered to reduce noise levels. These include lowering the roadway profile, restricting or prohibiting truck traffic, reducing traffic speeds, insulating public use or nonprofit institutional structures, and constructing noise berms or barriers. Some lowering of the roadway will occur in the depressed section of I-75 to gain more clearance under bridges. But, connections to the numerous ramps and the grades and tapers associated with these ramps limit the ability to lower the freeway. For these reasons, lowering the roadway profile is not considered feasible or reasonable. Restricting or prohibiting truck traffic is not feasible because I-75 is an interstate highway. It is specifically designed to accommodate commercial traffic. Similarly, lowering the speed limits for noise reduction is counter to the purpose of moving people and goods in an efficient manner over the state highway system. MDOT is committed to maintaining speed limits that allow safe and efficient travel, which means maintaining a 55 mph minimum speed limit, and increasing it, where possible, up to the state limit of 70 mph.

Noise barriers can consist of earthen berms or walls, or combinations of the two. Berms are cost-effective and can substantially reduce noise levels. However, they take up a lot of space. In the I-75 corridor such space is limited due to needs for drainage and the proposed lane addition. Construction of berms would require property acquisition, meaning additional relocations and wetland impacts, and local tax base loss. So, berms were not considered reasonable. This leaves noise walls as the preferred mitigation. Under special circumstances insulating public use or nonprofit institutional structures will be considered.

#### **4.8.5 Noise Barrier Analysis**

Noise mitigation was examined for all residential areas along the corridor, where traffic-generated noise was expected to be 66 dBA or greater, except where development densities are very low. In the depressed section of I-75 south of 12 Mile Road, noise walls were modeled for placement between the mainline lanes and the service drives, or between ramps and service drives. In this position, they are effective in breaking the line-of-sight between homes and mainline I-75 traffic. Where ramps are present, mainline and ramp walls were overlapped in the modeling to prevent gaps. The walls in this analysis were positioned with sight distance and clear-view angle distances taken into account in ramp areas and at intersections. So, walls must end some distance away from intersections. Often commercial uses are at these intersections. So, ending walls in these areas generally does not limit the protection afforded to residential locations.

Noise walls could be positioned between the service drive and adjacent homes. However, as the service drives are local streets (not MDOT-maintained roads), any positioning of such walls would require an agreement with the local government. Sections 9 and 10 of the noise abatement policy under “Type I Projects Procedures and Rules” state:

- “9. MDOT will maintain the structural integrity of the noise abatement structure and will be responsible for the aesthetic condition of the structure on the freeway side only. The exception being that when the structure is on the residential side of a service road, MDOT will maintain the structural integrity for five years, but will not be responsible for either side of [a] structure’s aesthetic condition, including the surrounding grounds.
10. Local authorities must agree, through agreements, resolutions, or ordinances, to provide:
  - A share of the state and local funding based on population (per State of Michigan Act 51).



- Aesthetic maintenance on the residential side of the structure, or on both sides when the structure is on the residential side of a service road.
- Structural maintenance after five years when the structure is on the residential side of a service road.

Explanation of bullets two and three: These statements have been included because there is no right of way access to these walls for maintenance purposes.

Failure to meet all of the above requirements will make the noise abatement project unreasonable.”

Because service drives provide direct access to homes, and/or connect to the many cross streets on which these homes front, positioning walls between the service drives and homes would cut access to the homes or streets. Usually, closing connecting streets is not practical. Typically, cul-de-sacs must be provided for emergency vehicle turnarounds. These cul-de-sacs require right-of-way, which often means taking residential property, including homes. For this reason walls have not been positioned outside the service drives in the southern-most part of the corridor. Nevertheless, this option does remain, if the local community is willing to take over ownership.

In sections of the corridor where I-75 is not in a depressed section, i.e., from 12 Mile Road to the north, walls would be positioned behind guards rails where possible, and at the right-of-way edge otherwise. When a road is at-grade or elevated, noise walls are usually most effective at the roadway edge, rather than the right-of-way edge. It is noted that safety, maintenance, and drainage issues encountered during roadway design could change the assumptions used in the analysis of noise for this EIS.

Barriers that were found reasonable and feasible are listed in bold in Table 4-14 and are shown on Figure 4-5. Two walls would protect churches. (For purposes of analysis, these institutions are counted as the equivalent of 10 dwelling units in the cost formula, if there is also a benefiting residential receptor.) Existing noise wall sections in the northeast quadrant of the I-696 interchange will be removed by the proposed ramp braiding. New walls would replace the walls removed for the ramp braiding in this section.

It is noted that where noise walls are not found to be reasonable, i.e., where the cost exceeds \$34,772 per benefiting dwelling unit, the local community can participate in funding to bring the cost down to the \$34,772 level. Therefore, other walls could become reasonable, if a local community decided to participate in funding.

The noise analysis examined 12 segments. The TNM2.1 model was run for the first 11. No runs were needed for Segment 12, as residential development is very sparse in that segment. Segments are defined below.

- |  |  |
|--|--|
| • Segment 1 - 8-Mile Rd. to Meyers Ave.    | • Segment 8 - 14 Mile to Rochester Road        |
| • Segment 2 - Meyers Ave. to 9 Mile Road   | • Segment 9 - Rochester Road to Livernois      |
| • Segment 3 - 9 Mile to Woodward Heights   | • Segment 10 - Livernois Road to Wattles       |
| • Segment 4 - Woodward Heights to I-696    | • Segment 11 - Wattles to Coolidge             |
| • Segment 5 - I-696 to Gardenia Avenue     | • Segment 12 - Coolidge to North Project Limit |
| • Segment 6 - Gardenia to north of 12 Mile |  |
| • Segment 7 - North of 12 Mile to 14 Mile  |  |

**Table 4-14**  
**Noise Barrier Analysis**  
(See Figures 4-5a to 4-5e)

	Location/Designation	Length (Feet)	Average Height	Cost	Benefiting Receivers	Cost per Ben. Rec.
<b>Feasible and Reasonable Walls</b>	Seg. 1 - 8 Mile to Meyers Avenue <b>Wall 0 – NB 1</b>	2,117	10.5	\$994,630	31	\$32,085
	<b>Wall 1 - SB 1</b>	1,002	7.5	\$397,831	12	\$33,153
	Seg. 2 - Meyers Avenue to 9 Mile Road <b>Wall 17 - NB Church - Church 10 dwellings<sup>a</sup></b>	403	10	\$184,074	11	\$16,734
	<b>Wall 2 - NB 1</b>	644	10.0	\$294,440	10	\$29,444
	Seg. 3 - 9 Mile to Woodward Heights Blvd. <b>Wall 3 - SB 1</b>	594	8.0	\$243,598	8	\$30,450
	Seg. 4 - Woodward Heights Blvd. To I-696 <b>Wall 4 - NB - Church counts as 10 dwellings<sup>a</sup></b>	669	10.0	\$306,052	12	\$25,504
	Seg. 5 - I-696 to Gardenia Avenue <b>Wall 6 - Replacement Wall @ Braids</b>	3,700	12.0	\$1,869,000	NA <sup>b</sup>	NA <sup>b</sup>
	Seg. 6 - Gardenia to North of 12 Mile Road <b>Wall 7 - SB1</b>	598	13.0	\$316,898	14	\$22,636
	Seg. 7 - North of 12 Mile Rd to 14 Mile Road <b>Wall 8 - NB 1</b>	658	12.0	\$332,325	12	\$27,694
	<b>Wall 9 - NB 2</b>	3,310	12.7	\$1,723,718	92	\$18,736
	Seg 8 - 14 Mile Road to Rochester Road <b>Wall 10 - SB 1</b>	1,223	10.0	\$559,432	17	\$32,908
	Seg. 9 - Rochester Road to Livernois Road <b>Wall 11 - NB1</b>	695	10.9	\$332,568	10	\$33,257
	<b>Wall 12 - NB2</b>	1,143	11.9	\$575,489	17	\$33,852
	<b>Wall 13 - SB1</b>	646	10.0	\$295,208	24	\$12,300
	<b>Wall 14 - SB2</b>	2,381	13.1	\$1,263,340	83	\$15,221
	Seg. 10 - Livernois Road to Wattles Road <b>Wall 15 - SB 1</b>	2,749	13.5	\$1,486,948	56	\$26,553
	Seg. 11 - Wattles Road to Coolidge Highway <b>Wall 16 - SB1 &amp; SB2</b>	2,078	12.5	\$1,072,462	35	\$30,642
	<b>Wall 18 - SB3</b>	472	12.0	\$238,524	22	\$10,842
<b>Totals</b>	<b>25,738</b>		<b>\$12,548,132</b>	<b>454</b>	<b>\$27,639</b>	
<b>Walls Not Feasible or Reasonable</b>	Seg. 1 - 8 Mile to Meyers Avenue SB 2	1,880	11.5	\$927,153	5	\$185,431
	Seg. 2 - Meyers Avenue to 9 Mile Road NB 2	600	8.8	\$257,861	4	\$64,465
	SB 1	1,323	7	\$510,202	9	\$56,689
	Seg. 3 - 9 Mile to Woodward Heights Blvd. NB 1	1,333	12.7	\$693,555	15	\$46,237
	Seg. 4 - Woodward Heights Blvd. To I-696 SB 1	465	16	\$278,969	0	-
	SB 2 -School does not count as 10 dwellings <sup>c</sup>	656	10.0	\$300,119	1	\$300,120
	Seg. 6 - Gardenia to North of 12 Mile Road NB 1	447	14.6	\$253,656	6	\$42,276
	SB2	676	10	\$308,921	0	-
	Seg. 11 - Wattles Road to Coolidge Highway NB	1,596	10	\$729,658	7	\$104,237
	Square Lake Noise Wall Project <sup>d</sup>					

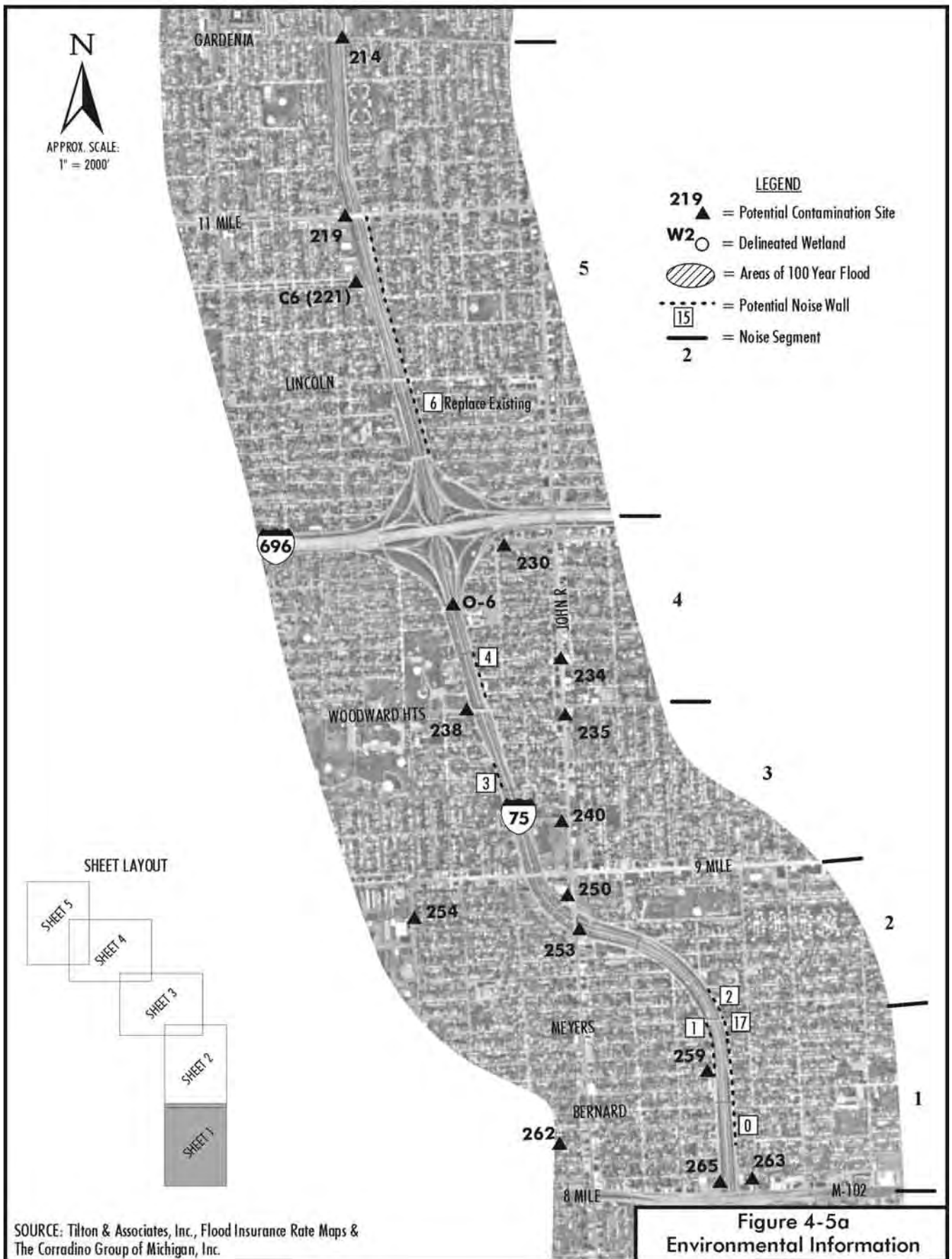
Source: The Corradino Group of Michigan, Inc.

<sup>a</sup> These walls are considered reasonable because schools and churches are counted as 10 dwelling units, “when they are within or adjacent to residential dwelling unit boundaries” (State Transportation Commission Policy 10136, Noise Abatement).

<sup>b</sup> North of I-696 on the east side the planned ramp braiding will remove and replace existing walls.

<sup>c</sup> This wall was considered reasonable in the DEIS, but further review found that there no adjacent benefiting residences to support counting the school as 10 dwelling units. Counting the church as only one receptor makes the wall not reasonable.

<sup>d</sup> Noise walls were completed in 2003 in the Square Lake Road area as a separate project. See Figure 4-5e.



SOURCE: Tilton & Associates, Inc., Flood Insurance Rate Maps & The Corradino Group of Michigan, Inc.

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SOURCE: Tilton & Associates, Inc.,  
 Flood Insurance Rate Maps &  
 The Corradino Group of Michigan, Inc.

Figure 4-5b  
 Environmental Information

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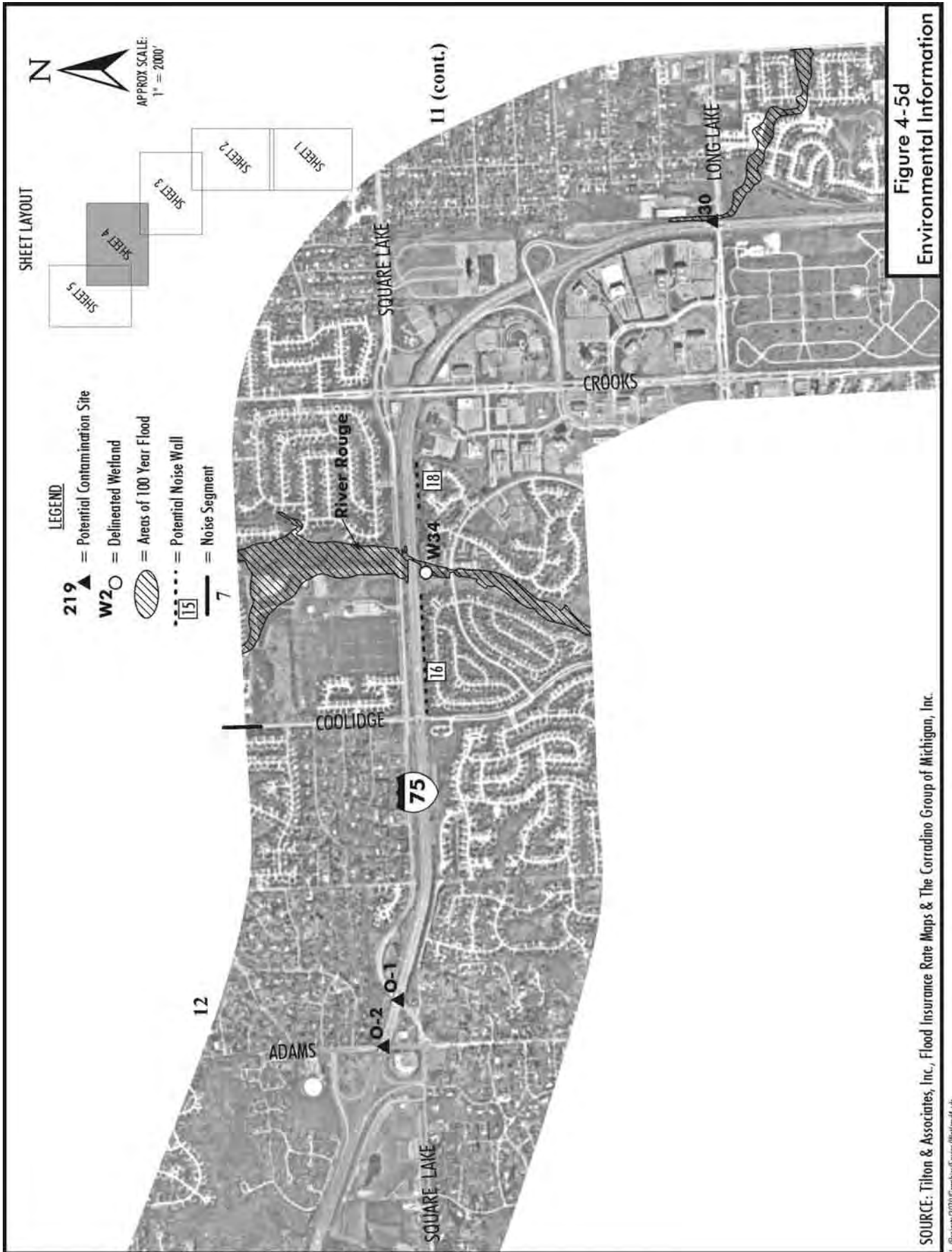
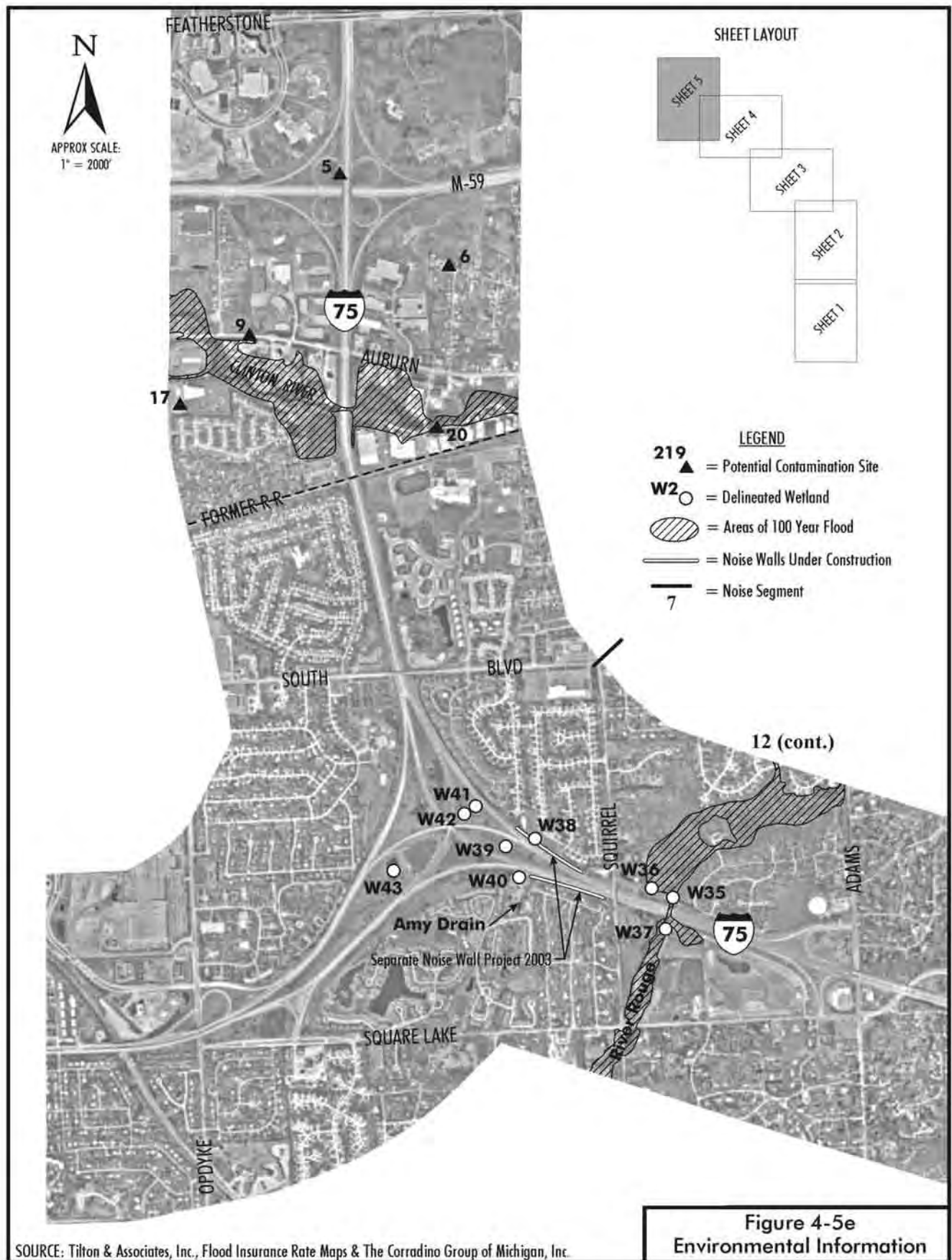


Figure 4-5d  
Environmental Information

SOURCE: Tilton & Associates, Inc., Flood Insurance Rate Maps & The Corradino Group of Michigan, Inc.

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SOURCE: Tilton & Associates, Inc., Flood Insurance Rate Maps & The Corradino Group of Michigan, Inc.

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**Figure 4-5e**  
**Environmental Information**

## **Segment 1 – 8 Mile Road to Meyers Avenue**

Three noise walls were considered in this segment. Northbound, a wall was modeled between the lanes of I-75 and its service drive beginning at Hayes Avenue and extending north beyond Madge Avenue (this wall is called NB 1, Wall 0). The safety setback requirements were observed in setting the endpoints of the walls in the vicinity of the on-ramp near Hayes Avenue and Meyers Avenue.

Walls were modeled on the southbound (west) side of I-75 to protect residences on that side of the road from I-75 noise (SB 1 and SB 2). Two of the three walls modeled, NB 1 and SB 1, were considered to be reasonable, meaning the cost per benefiting receiver was less than \$34,722 (see Wall 0 and Wall 1 in Figure 4-5a).

The first wall found to be feasible and reasonable in this segment extends from north of the on-ramp from 8 Mile Road to north of Madge Avenue. The proposed design calls for shifting the on-ramp to northbound I-75 to the south from its present position. This shift has the effect of reducing the length of the service drive that carries the heavy traffic volumes from 8 Mile Road to I-75. That means a wall between I-75 and the service drive is not rendered ineffectual by the service drive volumes. The dwellings along the service drive are uniformly dense. So, 31 receivers would benefit from a five-decibel reduction in noise if a wall about 2,100 feet long and 10.5 feet high were built. The cost per benefiting receiver would be \$32,100.

The second reasonable and feasible wall in this section, SB 1, is on the west side of I-75 between Meyers Avenue and the southbound off-ramp to the service drive three blocks to the south. Here, all lots adjacent to the service drive are occupied by single-family dwelling units, the density on successive lots away from the service drive is high, and the service drive volume is relatively low. There are an estimated 12 benefiting receivers, at a cost per benefiting receiver of \$33,200. The proposed wall is approximately 1,000 feet long and is found reasonable at a height of 8 feet.

## **Segment 2 – Meyers Avenue to 9 Mile Road**

The next segment considered was Meyers Avenue to 9 Mile Road. Three walls were tested in the northbound direction and one wall in the southbound direction. This section of I-75 curves to the west against the grain of the background grid street system. As a consequence, the residences along this section have a staggered position with respect to the travel lanes of I-75 and its parallel service drives. Commercial uses are also interspersed with the residential uses, principally at the north and south ends of the segment. There is a northbound off-ramp and southbound on-ramp in the vicinity of Highland Avenue. These ramps serve traffic destined to John R. and 9 Mile Roads or coming from those roads to I-75 south. The Free Will Baptist Church is on the northbound service drive two blocks north of Meyers Avenue, and the Tabernacle Baptist Church is on the southbound service drive.

The location called NB Church (see Wall 17 on Figure 4-5a) was found to be feasible and reasonable, if the church is considered as 10 dwelling units. The noise wall would stretch only from north of Meyers Avenue, at the point at which sight distance allows, to Harry Avenue, a distance of 400 feet. This wall was added after the DEIS.

The location called NB 1 was found to be feasible and reasonable, benefiting 10 dwelling units at a cost per unit of about \$29,400. It would be approximately 640 feet in length and 10 feet in height, and stretch from East Pearl Avenue north one block to East Roberts Avenue, ending where the off-ramp from I-75 northbound meets the service drive (see Wall 2 on Figure 4-5a).

I-75 through this section is closer to being at-grade than at points to the north and south where it passes under cross roads. Therefore, a wall provides better protection from this nearly at-grade portion of I-75.

The location called NB 2, extending from the exit ramp north to John R. Road, would be short and would be truncated by the U-turn channel bridge southeast of John R. Road. Traffic volumes on the service drive at this point were in the neighborhood of 500 per hour, which makes protection of the homes in this section difficult. Several of the fronting parcels are triangular and vacant in this section. Therefore, the density simply does not support a noise wall.

The only wall modeled southbound (SB1) was from the point past the southbound on-ramp south to East Meyers Avenue. North of this point is the Tabernacle Baptist Church. The service drive volumes are too high to provide a feasible wall to mitigate noise at this church. Further south, a wall positioned between the service drive and mainline I-75 lanes would not protect a sufficient density of residences to be reasonable. As was the case in the northbound direction, there are several triangular lots that are vacant that have frontage to the service drive and I-75.

### **Segment 3 – 9 Mile Road to Woodward Heights Boulevard**

Two noise walls were modeled in this segment, one on each side of I-75. On the east side (northbound) there is housing from Orchard Avenue north to Woodward Heights Boulevard. As is true further south in the corridor, the crossroads to the service drive are at a perpendicular and spaced such that only two dwellings occupy the end of each block. A wall (NB 1) was tested between the mainline lanes of I-75 and the service drive at the top of the slope. The low density resulted in a per-unit cost too high for the wall to be considered reasonable.

On the west side of I-75 (southbound) are two apartment houses and the First Baptist Church. No wall is feasible at the First Baptist Church because there is a southbound off-ramp right in front of the church. Sight distance requirements prevent a wall in this location. But, the apartments provide a sufficient density of housing for a wall (SB 1) to be reasonable. Feasibility is aided in this segment by a service drive volume under 400 per hour. The proposed wall would be approximately 600 feet long and 8 feet high (see Wall 3 in Figure 4-5a). The cost per benefiting receptor for eight units would be \$30,450.

### **Segment 4 – Woodward Heights Boulevard to I-696**

On the east side of I-75, north of Woodward Heights Boulevard, residential density is relatively sparse. St. Margaret's Episcopal Church and Calvary Baptist Church are located here.

Counting St. Margaret's Episcopal Church as a special case in the reasonability formula (10 dwelling units), a wall in front of the church can be justified, even though there are few homes to support the justification of this wall. This wall would be 670 feet long and 10 feet high (see Wall 4 in Figure 4-5a).

Providing a wall for the Calvary Baptist Church is not feasible. The Shelvin Avenue crossover bridge serving the I-696 interchange is in front of this church. The bridge and service drive generate noise. Meanwhile the presence of the bridge would prevent noise wall construction along a substantial portion of the church's frontage because of required sight distances on either side.

Southbound, there is no benefiting residential receptor adjacent to Roosevelt School to count the school as 10 residences. A pedestrian bridge crossover occupies several lots on both sides of I-75, decreasing residential density. Without counting the school as 10 residences, a wall 660 feet long and 10 feet high would not be reasonable. The DEIS considered it reasonable because the need for a benefiting residential receiver was not included in the analysis.

### **Segment 5 – I-696 to Gardenia Avenue**

This segment through Madison Heights on the east and Royal Oak on the west has noise walls today. These noise walls would remain, but some would be relocated. Relocation could occur if the lane addition into the embankment through this depressed section is in jeopardy of undermining the wall. Further, with the proposed ramp braiding in the northeast quadrant of the I-696 interchange, the new northbound ramps from I-696 would be placed on the residential side of the existing noise wall. A new wall could be positioned along the reconstructed ramp edge replacing the existing wall. The replacement walls would be approximately 3,700 feet long and average 12 feet in height (see Wall 6 in Figure 4-5a).

### **Segment 6 – Gardenia Avenue to North of 12 Mile Road**

A wall was modeled along the outside edge of the northbound exit ramp from I-75 to 12-Mile Road (NB 1). In this quadrant of the interchange there is very low-density residential development. This is especially evident in the area adjacent to I-75. The density increases as the distance away from I-75 increases. As a result of the low density, a noise wall is not considered reasonable in this area.

A wall was modeled on the west (southbound) side of I-75 from Gardenia Avenue for several hundred feet to Stephenson Highway (SB 2). There is a long two-story apartment house in this section. The wall, which was modeled at the top of the bank between the service drive and I-75, could require a break, if the storm sewer pump station located here were to remain. But, it was modeled with the assumption that the wall would be continuous. In spite of this, several factors prevent the reasonableness of a noise wall at this location: the southbound volumes from Stephenson Highway are relatively high; I-75 is in the deepest part of its cut section; and, the northbound service drive crossing I-75 at this point acts as a barrier for noise from the section of I-75 immediately to the north.

A wall was tested on the west side of I-75 just north of the 12 Mile interchange (SB 1), at the Red Run Mobile Home Park. Housing there is dense enough to support a reasonable wall about 600 feet long and an average of 13 feet in height. There would be approximately 16 benefiting units at a cost of \$22,600 per unit (see Wall 7 in Figure 4-5b).

### **Segment 7 – North of 12 Mile Road to 14 Mile Road**

The west side of this segment is all commercial. On the east side of I-75, two walls were tested along the extensive apartment complex development (Lexington Village Apartments) north of 13-Mile Road (NB 1 and NB 2) (see Wall 8/9 in Figure 4-5b). The first of these walls was placed in the simulation at the outside shoulder edge as I-75 crosses over 13-Mile Road. The noise wall would begin at the north end of this bridge and extend along the shoulder edge to the point that the guardrail ends. At this point, a second wall would overlap the first, placed at the right-of-way line and extending north along the entire frontage of the apartment units. It would end near the 14 Mile Road interchange, where the off-ramp diverges from the main lanes of I-75. Placing a wall along the edge of this shoulder is an effective way to intercept noise from the freeway. This

can only be done in a situation where there is a guardrail section so that the wall is protected from impact. The wall overlap would be sufficient to protect the apartment complex from noise escaping between the two walls and would allow for proper maintenance. The first wall segment would be approximately 660 feet long and 12 feet high. The second wall at the right-of-way line would be approximately 3,300 feet long and average about 13 feet in height. Combined, these walls would provide benefits to over 100 receptors at a cost of under \$20,000 per benefiting receiver.

### **Segment 8 – 14 Mile Road to Rochester Road**

A wall was tested on the west side of I-75 at Troy Mobile Home Villa located off Stephenson Highway. This wall would extend for approximately 1,200 feet at a height of 10 feet (see Wall 10 in Figure 4-5c). The wall would benefit some 17 homes at approximately \$32,900 per home.

### **Segment 9 – Rochester Road to Livernois Road**

Both sides of I-75 hold concentrations of apartment units in this segment. Two walls were modeled to protect the Charter Square Apartment complex on the north side of I-75 (northbound direction) (see Wall 11/12 in Figure 4-5c). The first (NB 1) would extend along the shoulder behind the guardrail from the west end of the bridge over Rochester Road, west approximately 700 feet with an average height of 11 feet. A second wall (NB 2) would continue along the right-of-way edge (with an overlap) for another 1,100 feet with an average height of 12 feet. In this apartment complex, the units on the first floor were found to be benefiting receivers where they have frontal exposure to the freeway. Second-story units were counted where the walls extend high enough to protect such units (as where the wall is built on the shoulder edge in elevated section). The first wall northbound would benefit 10 dwelling units at an average cost of approximately \$33,300 per unit. The second wall would benefit at least 17 units at an average cost of approximately \$33,900 per unit.

Two walls were similarly modeled southbound and found reasonable and feasible (see Wall 13/14 in Figure 4-5c). The northernmost of these two (SB 1) would be at the shoulder protected by a guardrail and would extend for approximately 650 feet at a height of 10 feet. The second wall further south (SB 2) would extend another 2,400 feet at the right-of-way edge, with an average height of 13 feet. The first wall would afford protection to approximately 24 dwelling units at a cost of \$12,300 per unit. The second wall would benefit about 83 receivers at a cost of approximately \$15,200 per unit.

### **Segment 10 – Livernois Road to Wattles Road**

On the east side of I-75 between Big Beaver and Wattles Road, the Lane Drain occupies an extra-wide right-of-way contiguous with I-75, so 300 feet separates the centerline of I-75 from the east right-of-way line. The Lane Drain occupies this area. City of Troy parkland is on the east side in this section, including their Family Aquatic Center. A berm approximately 20 to 25 feet high separates the roadway from the park area. This, in addition to the extra-wide right-of-way occupied by the Lane Drain results in no noise impacts to the park area. Further north, the same situation is true for the Meadowbrook Subdivision.

On the west side of I-75 in this segment, there is an extensive patio home/condominium development. There is an existing low berm that affords the development some noise protection. Analysis finds that a wall 2700 feet long would afford protection in this segment to about 50 units at a cost of \$26,600 per unit (see Wall 15 in Figure 4-5c).

## **Segment 11 – Wattles Road to Coolidge Highway**

The midsection of this segment falls within the separate Crooks/Long Lake interchange project. The southern section, which falls in the I-75 project, consists on the east side of very dispersed single-family residences that do not have sufficient density to make a noise wall in this area reasonable. On the west side of I-75 north of Wattles Road is the Three Oaks Apartment complex. The intervening distance between the apartments and I-75 would require a very long wall to provide adequate protection. The length of such a wall would make the cost prohibitive and not considered reasonable based on the number of units that could be protected.

West of Crooks Road, Square Lake Road parallels the north side of I-75. Single-family dwelling units face away from Square Lake to an internal subdivision road. Square Lake Road generates too much noise to allow a noise wall between I-75 and Square Lake Road to be feasible. This condition is also affected by the distance between I-75 and the dwelling units.

The south side of I-75 between Coolidge Highway and Crooks Road includes a subdivision street (Fleetwood Drive) that is part of Northfield Hills to the west and condominium/patio home development to the east. Each can be afforded reasonable and feasible walls. SB 1 & 2 (combined) would protect homes on Fleetwood Drive (see Wall 16 in Figure 4-5d). It would be 2,100 feet long and average 12 feet high, and would be located along the shoulder of I-75. The cost per benefiting unit would be \$30,600. Overall, the condominium patio home area to the east did not have sufficient density to support a wall. However, a short wall protecting the closest condominium patio homes (SB 3, see Wall 18 in Figure 4-5d) was reasonable. The length would be 472 feet, with an average height of 12 feet and a cost per benefiting unit of \$10,800. A low berm is present in this area.

## **Segment 12 Coolidge Highway to North Project Limit**

West and north of Coolidge Highway there is residential development, but it is of low density and/or set back farther from I-75 than homes further south. One subdivision to the south of I-75 has a substantial berm on private property (Beach Forest). Further west, near the I-75 crossing of Square Lake Road, the area to the south is elevated well above I-75 and noise measurements did not approach or exceed noise abatement criteria. West of Adams Road and north of I-75 is a patio home development (Adams Woods) with its own noise wall. This wall is effective enough that a new full height MDOT wall outside this private wall would not be feasible or reasonable, when considering the minimal additional noise mitigation the MDOT wall would provide.

At the Square Lake Road interchange, the existing noise wall was lengthened and a new wall constructed in the fall of 2003. The location of these walls is shown on Figure 4-5e.

## **Conclusion**

Based on the noise analysis, MDOT intends to implement the mitigation measures that are feasible and reasonable. Eighteen barriers meet the criteria. Plus, noise walls in the northeast quadrant of the I-696 interchange would be replaced. Because the analysis of the noise impacts and mitigation measures are based on preliminary design (planning), the mitigation measures will be reviewed as a part of final design. Consistent with normal MDOT procedures, a final decision on noise barrier installation will be made upon completion of the next phase (design) and the public involvement process that accompanies noise wall implementation.



Madison Heights states that the EIS needs to clarify the design, materials, costs, maintenance and jurisdiction of the sound walls and does not support transferring responsibility for maintenance and reconstruction to the City. Design and materials are determined in the design phase of a project, in consultation with adjacent property owners. The final costs of the walls will be determined at that point as well. With respect to responsibility for maintenance and reconstruction, the Transportation Commission's Noise Policy states that if the local jurisdiction does not agree to the terms of maintenance, the walls are not considered reasonable and will not be built.

## **4.9 Threatened and Endangered Species**

Threatened and endangered species are officially protected in Michigan by both federal and state Endangered Species Acts: Public Law 93-205 and Part 365 of PA 451, the Michigan Natural Resources and Environmental Protection Act of 1994, respectively. An endangered species (E) under the acts is defined as in danger of extinction throughout all or a significant portion of its range. A threatened species (T) under the acts is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Special concern species (SC) are not afforded legal protection under the acts. They are species with declining or relict populations in Michigan or are species for which more information is needed.

Although the corridor is a largely developed urban corridor, a biological field review was conducted in conjunction with the wetland analysis along I-75 (spring and early summer of 2003) to ensure there would be no effect on federal threatened or endangered species or state-listed species.<sup>71</sup> None were found (see results of field work in Section 4.10.1 under discussion of River Rouge).

In a letter dated September 16, 2002, the Michigan Department of Natural Resources (MDNR), Wildlife Division that keeps the Michigan Natural Features Inventory (MNFI - the most complete database available for all of Michigan's T/E/SC species), notes "the project should have no impact on rare or unique natural features" (Appendix C, Section 4). In a letter dated March 21, 2003, the U.S. Fish and Wildlife Service indicated it had not found any federally-listed species as endangered or threatened, or species proposed for listing in the I-75 corridor (Appendix C, Section 4). In a letter dated March 10, 2004, the U.S. Department of the Interior recommends that if the project initiation extends beyond six months of its letter, an updated list of endangered or threatened species be requested from the U.S. Fish and Wildlife Service (Section 6.4, Letter 3) in the I-75 corridor. MDOT keeps up-to-date on endangered species listings and will have updated lists to refer to when the project commences.

## **4.10 Surface Water Features/Water Quality/Floodplains**

A comprehensive drainage study was performed. Results of that study enhanced the information in this section.<sup>72</sup> Surface water features are shown in Figures 4-5a to 4-5e.

### **4.10.1 Waterways and Drains**

The information below is drawn from analysis performed for the wetland analysis, from a drainage study performed in 2000<sup>73</sup>, and from the drainage study associated with this EIS.

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<sup>71</sup> *Wetland Report*, Tilton and Associates, Inc. October 2003.

<sup>72</sup> *Drainage Study - M-102 to M-59*, Orchard Hiltz & McCliment and Rowe, Inc., October 2003.

The study area contains or crosses surface water features including Red Run Drain, Thurby Drain, Lawson Drain (former, now abandoned and sealed), 13 Mile Drain, 14 Mile Drain, Warner Drain, McDonald Drain, Barnard (Spencer) Drain, Roth Drain, Hawthorne Drain (former, now abandoned and sealed), Swan Drain, Livernois Avenue Drain, Mastin Drain, Huber Drain, Lane Drain, Wattles Road Drain, Long Lake Road Drain, Sturgis Drain, Sprague Drain, Amy Drain, Levinson Drain, and the River Rouge (two crossings), along with a number of unnamed drains. The drains generally carry storm water from northwest to southeast and carry water from small areas.

The Clinton River is within the limits of the separate I-75/M-59 project. Two small ponds and several storm water detention basins also occur in or adjacent to the road right-of-way. Roadside drainage ditches border I-75 north of 12 Mile Road. Emergent, scrub-shrub, forested, and open-water wetlands are associated with some ditches (see Section 4.11).

For the most part, waterways, drains, and ditches will not be affected by construction associated with the build alternatives because construction of the additional lane will be in the median and most of the culverts extend uninterrupted, underneath the roadbed, with no break at the median. Much of the alignment will include a new storm sewer in the median area, so that breaks would occur at a number of crossings to link this center median storm sewer to crossing drains. At this time no extension of any pipe or culvert is expected to exceed 24 feet total on each side. This will be confirmed in final design. Proposed changes focus on adding wide-bottomed ditches designed to detain storm water and detention ponds to be constructed within interchanges. Managing the storm water within the right-of-way in pipes is an option, however, this option is more costly and use of ditches is preferred from a water quality standpoint, as pollutants are filtered by the vegetation therein.

The existing condition of each crossing is shown in Table 4-15, together with anticipated changes. These are described in the paragraphs that follow. The only crossings that serve a drainage area greater than 2 square miles are Spencer Drain, south of Maple Road and the River Rouge at its crossing east of Coolidge Road.<sup>74</sup> No changes are anticipated at these two locations. The helical elliptical metal pipe serving the River Rouge crossing east of Squirrel Road will likely be replaced. Other such pipes at Lane Drain and an unnamed drain north of Wattles Road would also likely be replaced.

The following paragraphs describe the watercourses associated with this project. If aquatic habitat is present, it is also described.

### **Red Run Creek/Drain**

Red Run Creek is now enclosed underground as part of a Combined Sewer Overflow (CSO) tunnel system upgrade, including the Twelve Town Retention Treatment Facility. I-75 passes over Red Run with a bridge structure just north of 12 Mile Road. As drainage is now underground at this location, the need for a bridge at this location will be evaluated. Madison Heights has requested that any action taken not preclude the potential for a future nonmotorized connection under I-75. As noted earlier, MDOT will address this request after a county-wide non-motorized plan has been adopted.

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<sup>73</sup> *I-75 from 12 Mile Road to Adams Road Drainage Study*, CH2M Hill, May 2000.

<sup>74</sup> *Drainage Study - M-102 to M-59*, Orchard Hiltz & McCliment and Rowe, Inc., October 2003.

**Table 4-15**  
**Waterway Crossing Characteristics (Refer to Exhibit 4-5)**  
**(Likely Replacements [in bold Italics] and Drainage Areas Greater Than 2 Square Miles [in Bold])**

Water Crossing Name	Setting	Existing Structure Type	Proposed Work <sup>a</sup>	Drainage Area	
				Acres	Sq. Mile
Red Run Creek – N of 12 Mile Road	Commercial	Bridge	Bridge removal <sup>b</sup>	NA	NA
Thurby Drain – between 12 and 13 Mile Roads	Commercial	24" Culvert, 18" outlet	None at this time <sup>c</sup>	13	0.02
13 Mile Drain – south of 13 Mile Road	Commercial	24" Concrete w/end sections	None at this time <sup>c</sup>	7	0.01
Unnamed Drain – midway between 13 and 14 Mile Roads	Commercial	36" Concrete w/end sections	None at this time <sup>c</sup>	12	0.02
Warner Drain – N of 14 Mile Road	Commercial	36" Concrete w/end sections	None at this time <sup>c</sup>	19	0.03
McDonald Drain – midway between 14 Mile Road and Maple Road	Commercial	78" Concrete pipe (enclosed) <sup>c</sup>	None at this time <sup>c</sup>	NA	NA
<b>Barnard (Spencer) Drain – S of Maple Road</b>	<b>Commercial</b>	<b>14' x 6' Box culvert, 15' Tunnel</b>	<b>None at this time<sup>c</sup></b>	<b>2200</b>	<b>3.44</b>
Roth Drain – N of Maple Road	Commercial	90" Concrete tunnel <sup>c</sup>	None at this time <sup>c</sup>	NA	NA
Roth Drain – W of Rochester Road	Commercial	48" Tunnel <sup>c</sup>	None at this time <sup>c</sup>	51	0.08
Swan Drain – between Livernois and Rochester Roads	Apartments	36" Concrete w/end sections	None at this time <sup>c</sup>	45	0.07
Spencer Drain – W of Swan Drain	Apartments	42" Concrete	None at this time <sup>c</sup>	70	0.11
Mastin Drain – W of Livernois	Commercial	72" Tunnel <sup>d</sup>	None at this time <sup>c</sup>	22	0.03
Mastin Drain Tributary – W of Mastin Drain	Commercial	42" Concrete w/headwalls	None at this time <sup>c</sup>	61	0.10
Lane Extension (Huber) Drain - in Big Beaver interchange, N side	Commercial	60" Culvert	None at this time <sup>c</sup>	457	0.71
<i>Lane Drain – S of Wattles Road</i>	<i>Apt./Single-family</i>	<i>58" x 91" Helical elliptical</i>	<i>Replace<sup>e</sup></i>	<i>790</i>	<i>1.23</i>
Wattles Road – at Wattles Road	Residential	24" Concrete w/headwalls	None at this time <sup>c</sup>	5	0.01
<i>Unnamed Drain – N of Wattles Road</i>	<i>Residential</i>	<i>43" x 68" Helical elliptical</i>	<i>Replace<sup>e</sup></i>	<i>181</i>	<i>0.28</i>
<b>River Rouge (Sprague Drain) – midway between Coolidge and Crooks Roads</b>	<b>Apt./Single-family</b>	<b>Twin 9' x 8.5' Box culverts w/headwalls</b>	<b>None at this time<sup>c</sup></b>	<b>5100</b>	<b>7.97</b>
<i>River Rouge – E of Squirrel Road</i>	<i>Apt./Single-family</i>	<i>72" x 113" Helical elliptical w/headwalls</i>	<i>Replace<sup>e</sup></i>	<i>373</i>	<i>0.58</i>
Amy Drain – in Square Lake interchange, southbound I-75 lanes	Apt./Single-family	5' x 10' Box culvert w/headwalls	None at this time <sup>c</sup>	209	0.33
Amy Drain – in Square Lake interchange, northbound I-75 lanes	Apt./Single-family	5' x 10' Box culvert w/headwalls	None at this time <sup>c</sup>	156	0.24
Levison Drain	Single family	108" Tunnel <sup>d</sup>	None at this time <sup>c</sup>	NA	NA

Source: Rowe Inc., The Corradino Group of Michigan, Inc., Tilton and Associates, and CH2M Hill  
 NA means Not Applicable.

<sup>a</sup> Except for reworking of the pipe ends, headwalls, and similar minor changes.

<sup>b</sup> The need for the bridge is reduced with the construction of a Combined Sewer Overflow (CSO) tunnel system upgrade, including the Twelve Town Retention Treatment Facility. The Red Run Drain is now underground, rather than on the surface.

<sup>c</sup> The drainage system appears to be adequate. Replacement in kind may be necessary due to condition only.

<sup>d</sup> Enclosed and "tunnel" mean the drain passes under the right-of-way without surfacing, and would not be affected by the project.

<sup>e</sup> Helical elliptical is a metal pipe that due to material type would likely be replaced at some future time, as needed.

Storm water from the below-grade section of I-75, between 8 Mile and 12 Mile roads, now flows to a combined sewer system, i.e. the system carries both storm water and sanitary sewage. The proposed lane addition will increase the area of impervious surface in this depressed highway section, increasing the amount of storm water runoff. Such an increase in runoff would increase the frequency and amount of combined sewer overflows. Two options for addressing the increased flow were considered; both call for separating the I-75 storm water from the existing combined sewer system, and both would add oil/water separators to the system.

One option was to direct some of the storm water to the storm water system serving I-696. Insufficient data were available to determine whether the I-696 system has excess capacity for additional flow from I-75. As a result, a second option is recommended. The existing connections to the combined sewer system would be closed and a new sewer would be built along the east side of I-75 under the service drive. The sewer would flow from south to north, then outflow to a pipe following the alignment of the Red Run Drain east to Dequindre Road, which is the Oakland/Macomb county line. (Surface detention may also be constructed at the 12 Mile Road interchange.) At Dequindre Road the pipe outfall would flow into Red Run Creek, just as the outflow from the Twelve Town Retention Treatment Facility does. (Details of the effects on that facility will be determined during the design phase.) During low-flow conditions, this new system would redirect water to its historic course to the Clinton River and thence to Lake St. Clair. Currently, the combined sewage is flowing south to the Detroit Wastewater Treatment Plant. During storm events the pipe to that plant cannot accommodate the flow and the combined storm and sanitary water flow directly to Red Run Drain. The Twelve Town Treatment Facility is designed to provide primary treatment of this water before it flows to Red Run Drain, outfalling at Dequindre Road.

The proposed new storm sewer would cause I-75 storm water to bypass the Twelve Town Retention Treatment Facility, as it would be storm water only, with no sanitary component. The outfall would be at Dequindre Road. Thus, during storm events, the water would flow to the same location, Red Run Drain at Dequindre Road, but through independent piping. And, it would reduce demand on the Twelve Towns Treatment Facility. Detention will be built into each of the pump stations that will be part of the I-75 separated storm water system and possibly at the 12 Mile Road interchange. This will allow settling of debris and sediment and metering of flow.

### **Thurby Drain – Station 930**

This 24-inch reinforced concrete culvert is midway between 12 Mile Road and 13 Mile Road. It is surrounded by vegetation and was 50 percent full of water at the time of a previous investigation (April 2000).<sup>75</sup> The proposed improvement is to remove and replace an end section and add a section of 8' wide detention ditch. Additional detention is required at this location. This could occur through pipe storage or retention in the 12 Mile Road interchange.

### **Lawson Drain – Station 974**

This drain is now sealed and abandoned. No work will occur here. This drain formerly flowed under I-75 in a 24-inch reinforced concrete culvert from west to east just south of 13 Mile Road. There is no break in the culvert from ditch to ditch. Standing water is present in the culvert under I-75. Nearby, the channel flows to the north along the east side of I-75, just inside the ROW. The channel is a well-vegetated swale that may have pockets of standing water during the growing season. However, flow is only present during precipitation runoff. This area does not

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<sup>75</sup> *I-75 from 12 Mile Road to Adams Road Drainage Study*, CH2M Hill, May 2000.

likely contain lotic (moving water) habitat that could be impacted from I-75 expansion. Although the vegetation communities associated with the drain along I-75 are of low quality, the present habitat does have some wildlife value. Wildlife that may be associated with this habitat includes frogs, songbirds, rabbits, raccoons, squirrels, voles, mice, and birds-of-prey. Small mammal (mostly rabbit) tracks were observed in the snow on February 26, 2003.

### **13 Mile Drain – Station 980**

This 60-inch drain flows east to west along 13 Mile Road and receives flow from I-75. Ditches in the area will be re-established.

### **Unnamed Drain – Station 1004 and 1012**

Between 13 Mile Road and 14 Mile Road are 24-inch and 36-inch unnamed drains that cross I-75 in concrete pipes. The end sections of these pipes will be replaced. I-75 ditches in this area will be reconstructed to detain storm water.

### **14 Mile Road Drain – Station 1031**

The 24-inch concrete pipe along the north side of 14 Mile Road will be replaced within the interchange. Wet detention ponds are proposed for the southwest and northeast quadrants of this interchange, which will be modified by the project.

### **Warner Drain – Station 1051**

Warner Drain passes west to east under I-75 just north of 14 Mile Road in a 36-inch reinforced concrete culvert. The upstream end of the culvert is damaged and will be repaired. Detention ditches will be constructed in the area.

### **McDonald Drain – Station 1051**

This 78-inch drain is totally enclosed and would not be affected by the project. Highway drainage is conveyed to it through a 36" diameter stubout.

### **Barnard Drain (Spencer Drain) –Station 1073**

Spencer Drain is a 14-foot wide by 6-foot high reinforced concrete box culvert crossed by I-75 just south of Maple Road. It flows from west to east after exiting a storm water retention basin on private property on the west side of I-75. There is an adjacent 15-inch diameter pipe. The *Drainage study* calls for additional analysis at this location, but for the time being does not call for any construction. There is no break in the culvert from ditch to ditch. Three blunt-nose minnows and one crayfish were observed on an ice shelf in spring 2003 just downstream of a retention basin. Likely these were washed from the retention basin during recent high flows from snowmelt runoff. No aquatic insects in the open channel downstream (east) of the highway were observed. The channel bed was silted and algal<sup>76</sup> growth on the substrates was heavy. Dissolved oxygen concentrations may be low during periods of high temperatures and low flow. This situation alone would limit the survival of fish and all but the most tolerant aquatic invertebrates. The reach immediately downstream of the highway contained some pool-riffle diversity formed

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<sup>76</sup> Algae are any of various chiefly aquatic, eukaryotic, photosynthetic organisms.

from concrete rubble. The highway culvert creates poor lotic habitat, and probably prevents fish passage; the water depth is too shallow at low flows and velocities are too high at higher flows.

#### **Roth Drain – Station 1102**

The 90-inch Roth Drain is in tunnel under I-75 and is connected to the surface only by storm water inlets, which will be repaired. Drainage ditch retention will be added in this area. A wet detention pond is also recommended on the outside of the I-75 curve at this point, adjacent to the Sturgis Drain. The detention area would not connect to Sturgis Drain, but would outflow through pipe to the Roth Drain, maintaining the existing outflow pattern.

#### **Hawthorne Drain – Station 1103 and 1157**

The two crossings of this former drain have been sealed and abandoned.

#### **Sturgis Drain**

The Sturgis Drain parallels the north side of the curve of I-75, east of the Rochester Road interchange. It is not crossed by I-75.

#### **Roth Drain – Station 1157**

The 48-inch Roth Drain is in tunnel under I-75 and is connected to the surface only by storm water inlets, which will be repaired. Drainage ditch retention will be added in this area. Wet detention is recommended on the south side of I-75 and west of Rochester Road. This detention will have to avoid the wetland within the loop of the southwest quadrant.

#### **Swan Drain – Station 1168**

This drain carries water from north to south under I-75 just east of midway between Livernois Road and Rochester Road. The 36-inch reinforced concrete culvert was partially submerged at the time of investigation (April 2000). On the north side is a detention pond associated with an apartment complex. A pipe end must be replaced and detention ditch will be constructed in the area. Regrading of the ditch is also required. A wetland there will be avoided in constructing this detention.

#### **Spencer Drain – Station 1185**

This is a 42-inch concrete pipe midway between Rochester Road and Livernois Road. The ditches in the area must be regraded. Detention ditches will be constructed in the area. Wetlands there must be avoided in constructing this detention.

#### **Livernois Avenue Ditch – Station 1197**

This 24-inch drain under Livernois will have improved pipe end sections and detention ditches will be added in the area.



### **Mastin Drain and Mastin Drain Tributary – Station 1209 and 1211**

The 72-inch Mastin Drain itself is in tunnel and would be unaffected by the project. Its tributary is in a 42-inch concrete pipe. Damaged ends of the tributary pipe will be fixed. These drains are adjacent to one another west of Livernois Road.

### **Big Beaver Interchange Area – Station 1230**

Four wet detention areas are proposed within the Big Beaver interchange, all on the east side of I-75.

### **Lane Extension (Huber Drain) – Station 1240**

The Lane Extension is a 60-inch reinforced concrete culvert crossing under I-75 on the north side of the Big Beaver interchange. It flows from west to east. There was standing water at the time of inspection (April 2000). The proposal is to construct a second 60" culvert parallel to the existing culvert.

### **Lane Drain – Station 1269**

Lane Drain is a branch of the Sturgis Drain. It flows from west to east in an enclosed 91 x 58 inch elliptical culvert from ditch to ditch south of Wattles Road and parallels the right-of-way of I-75 for some distance to the south. There are no plans for changes at this time, but helical elliptical pipes are no longer in use, so it may be replaced at a future date. There is evidence of accelerated water velocities downstream of I-75, leading to channel instability. Bed incision and bank erosion are evident. The channel bed consists of highly erodible coarse sands and fine gravels. Even under moderate flow, this material is easily transported, resulting in poor habitat quality. Site conditions suggest that the water flow rate is highly variable. In February 2003, base flow was minimal, yet flow debris was observed in vegetation approximately 2 to 3 feet above that base flow. Although the channel has some structural and flow diversity, the overall habitat for stream organisms is poor.

### **Wattles Road Drain – Station 1284**

This is a 24-inch reinforced concrete culvert flowing west to east, south of Wattles Road. Detention ditch construction is planned north of Wattles Road.

### **Unnamed Drain – Station 1297**

This is a 43 x 68 inch helical elliptical metal pipe flowing from west to east, north of Wattles Road. It would likely be replaced at a future date, to update the pipe material.

### **Long Lake Drain – Station 529<sup>77</sup>**

Detention ditch construction is planned for the area south of Long Lake Road.

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<sup>77</sup> The project stationing breaks in this area.

## **Sturgis Drain – Station 532**

Planning is incomplete in this area until design for the new Crooks Road / Long Lake Road interchange is completed. It is anticipated that the design for that interchange will identify retention areas within the new interchange.

## **River Rouge Main Branch Between Coolidge Highway and Crooks Road (Sprague Drain) – Station 616**

I-75 crosses the River Rouge twice. The more easterly crossing is of the Main Branch and is between Coolidge Highway and Crooks Road. The second is further west near Squirrel Road.

The first crossing is over the Main Branch, where the channel width is approximately 12 feet and average depth is approximately 0.5 feet. The flow is from north to south. It is contained in twin 9 x 8.5-foot box culverts that stretch from ditch to ditch. Base flow was good at this site when observed in February 2003. The Main Branch is channelized upstream (north) of I-75 and the habitat quality is poor. Downstream of I-75, the Main Branch contains some meanders and more structural diversity. Lotic habitat is fair to good. In 1986 and 1995, MDNR, Fisheries Division conducted rapid bioassessments at Beach Road, approximately 1.5 river miles downstream of I-75.<sup>78</sup> Using an Index of Biological Integrity (IBI), the MDNR rated the fish community at this location of the Rouge River as “Fair” to “Good” in 1986 and as “Fair” in 1995. MDNR also used Great Lakes Environmental Assessment Standard Procedure 51 (P51) in 1995 to assess habitat quality and rate the fish community. Using P51, MDNR rated the habitat at this site as “Poor,” and rated the fish community as “Good – Slightly Impaired.” An independent P51 rapid assessment performed for this EIS (April 2003)<sup>79</sup> found the biological integrity of the fish and macroinvertebrate community to be “acceptable” and “acceptable, tending toward poor,” respectively.

Although habitat is “good, tending toward marginal,” the riparian corridor is affected by housing developments, where woody vegetation is absent and turf grass is maintained to the top of bank. Pool and riffle habitat is present, but limited during low summer flows. Excess nutrient loading may also cause dissolved oxygen sags and high water temperatures during low flow. A species listing found during field investigations is attached to the *Wetlands Report* as an appendix.

In summary, the reach of the Rouge River Main Branch downstream of I-75 has fair to good habitat and biological integrity. Sediment loading during construction and increased storm water volume after construction could impact the biological communities. Sections 5.3 and 5.4 outline mitigation to be used at this location.

The drainage study called for: 1) removal of obstructing debris from right-of-way line to right-of-way line; 2) removal of sediment within the culvert; 3) reshaping the channel to culvert transition between the culvert faces and right-of-way lines; 4) repairing structure cracks; 5) placing heavy riprap on upstream and downstream embankments; and, 6) placing heavy riprap in the downstream channel bottom.

The United States Department of the Interior, Office of the Secretary has indicated (see letter dated March 10, 2004, in Section 6.4, Letter 3) that work in the channel of the River Rouge “be

<sup>78</sup> *An Assessment of the Rouge River Fish Community*, Michigan Department of Natural Resources, Fisheries Division, June 14, 1996.

<sup>79</sup> *Wetlands Report*, Tilton and Associates, Inc., October 2003.

avoided at all times, regardless of flow level, except as necessary to prevent erosion.” The work proposed is necessary to maintain flow. Riprap will be added to prevent further erosion.

### **River Rouge at Squirrel Road (Sprague Branch) – Station 726**

The second crossing of the River Rouge is east of Squirrel Road. It is contained in a 72 x 113 inch helical elliptical metal pipe from ditch to ditch with a south to north flow.

This is in the headwaters of Sprague Branch. Surface flow is minimal and poorly defined. There is a wetland system with diffused, low gradient surface flow. While the lotic habitat at this crossing is limited, the floristic and wildlife habitat quality are high. Further, this headwater area is important to the overall function and biological productivity of the Main Branch Rouge River. Based on topology and geology, this corridor could be a source for groundwater recharge for the River Rouge headwaters. Wildlife that may be associated with this habitat includes turtles, frogs, songbirds, rabbits, raccoons, squirrels, weasels, mink, fox, coyote, mice, and birds-of-prey. No frogs, toads, snakes, turtles, or terrestrial or flying invertebrates were observed during a site visit by a qualified biologist in May 2003. (Roadway noise made it very difficult to hear bird or frog calls). North of I-75, 36 plant species were identified and six birds. White tail deer tracks were observed. South of I-75, 17 plant species were observed. No species were observed which are state or federally-listed as threatened or endangered.

It is likely that this metal pipe will be replaced, as this kind of pipe is no longer used. The United States Department of the Interior, Office of the Secretary has indicated (see letter dated March 10, 2004, in Section 6.4, Letter 3) that work in the channel of the River Rouge “be avoided at all times, regardless of flow level, except as necessary to prevent erosion.” If it becomes necessary to replace the existing pipe, such work will be required. Sections 5.3 and 5.4 outline mitigation.

### **Amy Drain – Station 750**

I-75 crosses Amy Drain west of Squirrel Road. Amy Drain flows northeast to southwest. Amy Drain is enclosed in a 5 x 10 foot box culvert that passes beneath the northbound lanes of I-75. It then opens into an in-line storm water detention basin. It then passes through another 5 x 10 foot box culvert under the southbound lanes of I-75 and connects to the ditch along the southern roadway edge. There is no lotic habitat associated with Amy Drain. The median area is mowed. Lentic (still water) habitat associated with storm water infrastructure is of poor quality. The drainage study calls for an expansion of the retention area, and that it be wet. The design will have to accommodate delineated wetlands within this interchange area and the HOV lane, which will bisect the area. Dry detention is also called for at the north end of the interchange near South Boulevard. It too must be created in a way that does not conflict with the HOV lane, which merges back into northbound I-75 at this point.

### **Levison Drain – Station 792**

This 108-inch drain flows under I-75 with no connection to the surface. I-75 runoff flows into the Levison Drain via a 24-inch stubout from that drain.

### **Summary of Impacts**

The lane addition to I-75 would cross two watersheds of greater than two square miles – Barnard (Spencer) Drain and the main channel of the River Rouge (Sprague Drain) between Crooks and Coolidge roads (Table 4-15). The drainage study calls for further analysis of the Barnard Drain

during the design phase, but no action is proposed at this time. At the River Rouge some structural repairs are needed, sediment and debris must be cleared, and riprap put in place to prevent erosion.

Replacement of three drains is possible over the long term, as necessary, where helical/elliptical structures are present: Lane Drain south of Wattles Road, an unnamed drain north of Wattles Road, and the River Rouge east of Squirrel Road.

The proposed lane addition would add approximately 20 percent to the amount of impervious surface of I-75. This increase is minor compared to the adjacent watersheds. Detention would be provided to offset the increased impervious surface. Detention is recommended in a number of locations, both in wide-bottomed ditches and in detention ponds. Most of the latter fall within interchange right-of-way. The exception is one planned wet detention area on the outside of the curve of I-75 east of Rochester Road.

There will be no loss of stream bank habitat or changes to the bed of the River Rouge, so there will be no long-term effect on macroinvertebrates, including snails, clams, or insects.

The potential for impact to this wildlife, including direct loss of habitat and indirect effects of increased volumes of salts and other constituents that may be carried in the runoff from road surfaces will be minimized through mitigation efforts. Absorbent drainage features such as grassed swales, where feasible, would minimize the inputs of water-borne contaminants that would otherwise flow directly to the River Rouge and drains.

The Oakland County Drain Commissioner reviewed the DEIS and commented (see letter dated January 30, 2004, in Section 6.4, Letter 11), “. . . detailed plans for all drain involvements need to be submitted to this office prior to the start of any construction affecting a County Drain . . . with calculations and drainage break-up sheets. Any proposed watercourse isolations . . . need to be submitted prior to construction. A permit for the work will be required.”

#### **4.10.2 Water Quality and Groundwater**

Through early coordination, MDEQ has indicated that discharge from storm water sewers into open water is discouraged. MDOT and MDEQ agree that filtration through vegetation, rather than the use of detention basins, is preferred. However, due to capacity limitations of drains in the region, detention will be necessary to prevent an increase in the flow rate of storm water from I-75. When detention is needed, a “two-cell” pond approach is recommended. This allows settlement of debris and sediment. The drainage study shows preliminary locations of proposed detention, much of it in widened roadside ditches. This fulfills the desire to release storm water through vegetated areas.

Planning is also occurring in conjunction with this EIS to separate the storm water now flowing from the depressed section of I-75 between 8 and 12 Mile Roads into a combined sewer system. The Preferred Alternative will separate such flow, reducing the need to bypass the sewage treatment plant during storms. The result will be substantially improved water quality during storms.

MDEQ is working with communities in the state to establish wellhead protection plans to protect drinking water drawn from groundwater. Many plans are being developed, but none are close to I-75 and none will be affected by the project. The nearest of such plans in Oakland County are all

quite a distance from the project, in the townships of Lyon, Independence, Highland, and the communities of Oxford, Milford, South Lyon and Holly.

Groundwater flow will not be substantially affected by the project. There will be no disturbance of bedrock. I-75 is in a cut section between M-102 (8 Mile Road) and Gardenia. The deepest proposed cut will match the existing road profile and the cuts will be into earthen embankments. Otherwise, the roadbed is built up relative to the surrounding ground. Thus, the effects on groundwater flow will be insignificant.

#### **4.10.3 Floodways and Floodplains**

The *Drainage Study* performed for this project finds there will be no encroachment on any regulatory floodway (the main channel that carries water). Floodplain (the area into which water extends during periods of flooding) will likewise not be affected (Figure 4-5). The analysis performed was consistent with 23 CFR 650 and Executive Order 11998. Floodplain analysis must examine whether a project creates or increases a hazard to people and/or property, and whether there is an impact on natural and beneficial floodplain values. These values include: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

The *Drainage Study* makes recommendations for structures. These were designed to prevent the base floodplain elevation from causing a harmful interference at any natural crossing. All structures will pass the 100-year storm flow. Thus, no significant hazard to people or property will result from the project.

Wetlands associated with the floodways and floodplains have been identified (see next section). The analysis finds that the project will not result in a substantial loss in natural and beneficial floodplain values as measures to minimize the project's impact on wetlands and to restore their flood control values are incorporated into the project's design.

### **4.11 Wetlands**

#### **4.11.1 Methodology**

The project traverses two regional landscape ecosystem types: the Maumee Lake Plain and the Ann Arbor Moraines. The former consists of flat, clay lake plains dissected by broad sandy glacial drainage ways. Lacustrine (lake) deposits range from five to 100 feet thick over bedrock. Glacial landforms include clay lake plains intermingled with broad channels of lacustrine sand. Other landforms include end moraines in the northern part of the region. Beach ridges and sand dunes also occur. Ann Arbor Moraines are fine and medium-textured ground and end moraines, consisting of glacial drift 100 to 250 feet thick. Ground moraines of less than 6 percent slope form broad plains, whereas end moraine ridges have slopes up to 15 percent. These landforms often include wetlands.

As a result of the presence of historic wetlands and engineered drainage ditches, MDOT in conjunction with MDEQ delineated wetlands within the MDOT right-of-way, but not where the "wetland" area was originally engineered as a ditch for purposes of drainage. Also excluded are the slopes leading from the roadway down to the ditch or wetland.

The wetland delineation began with a review of available plan sheets dating from the early 1980s. In summary, areas mapped as wetland in the highway right-of-way met one or more of the following conditions:

- Wetlands contiguous to a lake, stream, pond, or drain. Open water areas found between the ordinary high water marks of streams and drains were excluded from wetland impact area calculations.
- Wetlands found in depressions that were significantly wider than the typical ditch profile.
- Wetlands found that were part of a larger wetland adjacent to the right-of-way.
- Wetlands shown in the National Wetland Inventory (1982) and presumed to pre-date the construction of I-75.

The methodology used to identify wetlands was consistent with that used by MDEQ and the U.S. Army Corps of Engineers (Environmental Laboratory 1987, MDEQ 2001). Wetlands were delineated using a combination of USGS topographic maps (1:24,000), National Wetland Inventory (NWI) maps (1:24,000), Q3-level digital flood insurance rate maps (digital Q3 FIRMs, scale variable), the Soil Survey Oakland County, Michigan (Feenstra 1982), inspection of aerial photographs, and on-site field investigations. Three parameters considered in delineating wetlands are vegetation, soils, and hydrology.

Dominant vegetation was identified to the species level. The percentage of cover within the wetland community and wetland indicator status of each was then determined. The wetland indicators are from the U. S. Fish & Wildlife Service's *National List of Plant Species that Occur in Wetlands* (Reed 1988), or, for species not classified in Reed (1988), Appendix C (Michigan Plants Database – 1996) of the *Floristic Quality Assessment with Wetland Categories and Computer Application Programs for the State of Michigan* (Herman *et al.* 1996). *The National List* (and Herman *et al.* 1996) identifies plant species known to occur in wetlands and assigns each a wetland indicator (probability of occurring in wetlands) based on that species' affinity for wetland habitat.

Soil sampling and hydric soil evaluation was based on information in the *Soil Survey of Oakland County, Michigan* (Feenstra 1982) and on-site examination of soils, in accordance with the methodologies outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and in the *Field Indicators of Hydric Soils in the United States, Version 4.0* (USDA-NRCS 1998).

#### **4.11.2 Wetland Functions and Priorities**

Wetlands were rated according to their functional values, ecological complexity, and biological integrity. The highest scoring (Priority 1) wetlands are generally forested, and/or part of a large wetland complex, and/or provide significant wildlife habitat, greater than average plant biodiversity, or unusual potential for water quality enhancement. Priority 3 wetlands score lowest and are associated with roadside depressions dominated by cattails (*Typha* spp.), reed canary grass (*Phalaris arundinacea*), or reed grass (*Phragmites australis*). They have low-biodiversity and non-native species, and are generally easier to replicate through compensatory mitigation. Intermediate-scoring (Priority 2) wetlands have functional values between those of Priority 1 and 3 wetlands.



#### 4.11.3 Delineation Summary

Forty-one wetlands were identified and flagged within the proposed highway right-of-way.<sup>80</sup> Six were forested (PFO) wetlands, 13 were emergent (PEM) wetlands, and five were scrub-shrub (PSS) wetlands. In addition, there were 12 stands of mixed emergent and scrub-shrub (PEM/PSS) wetlands, one stand of mixed emergent and forested (PEM/PFO) wetlands, two stands of mixed scrub-shrub and forested (PSS/PFO) wetlands, one stand of mixed emergent, scrub-shrub, and forested (PEM/PSS/PFO) wetlands, and one stand of mixed emergent, forested, and open water (PEM/PSS/POW) wetlands. Three wetlands were considered Priority 1, 16 were considered Priority 2, and 22 were considered Priority 3.

#### 4.11.4 Impacts

Wetlands are limited to the area north of 12 Mile Road. The proposed lane addition would occur in the median, and wetlands are primarily located in ditch areas. The project includes major reconstruction of the interstate (complete pavement replacement). Ordinarily disturbance limits of construction equipment are broad in such circumstances. Due to the presence of wetlands along I-75, construction contracts will specify that there be no disturbance in wetland areas.

Impacts to wetlands would occur with the HOV Alternative, which is the Preferred Alternative only. The GP Alternative would not affect any wetlands. Impacts to wetlands under the HOV Alternative would occur at two wetlands, W39 and W41 in the Square Lake interchange. The characteristics of these wetlands are shown in Table 4-16.

**Table 4-16  
Summary of Wetland Characteristics – Impacted Wetlands**

Wetland ID	Priority Class	Wetland Community Classification	Wetland Area (acres)	POW PSS PEM	Lake Fringe or PFO	Description
W39	2	PSS/PEM	0.89	0.89	0.00	<b>Vegetation:</b> Willows ( <i>Salix</i> spp.), glossy buckthorn ( <i>Rhamnus frangula</i> ), narrow-leaf cattail ( <i>Typha angustifolia</i> ), tussock sedge ( <i>Carex stricta</i> ). <b>Soils:</b> Loam soils with low-chroma matrix and redox concentrations. HS indicator: F3. <b>Hydrology:</b> partial saturation within 12 inches of the ground surface, drainage pattern, partial inundation.
W41	3	PEM/PSS	0.16	0.16	0.00	<b>Vegetation:</b> Narrow-leaf cattail ( <i>Typha angustifolia</i> ), hard-stem bulrush ( <i>Scirpus acutus</i> ), sedges ( <i>Carex</i> spp.), glossy buckthorn ( <i>Rhamnus frangula</i> ). <b>Soils:</b> Loamy fine sand with low-chroma matrix and redox concentrations. HS indicator S5. <b>Hydrology:</b> Drainage pattern.
Total			<b>1.05</b>	<b>1.05</b>	<b>0.00</b>	

Source: Tilton and Associates, Inc.

Note: All wetland impacts will be mitigated because of the use of federal funds (E.O. 11990).

<sup>a</sup>Priority classes applied to this project were: 1, highest quality; 2, medium quality; and 3, lowest quality.

<sup>b</sup>PEM – Palustrine emergent; PFO – Palustrine forested; PSS – Palustrine shrub-scrub; Palustrine Open Water - POW.

<sup>c</sup>“Drainage pattern” means there is a visible drainage pattern showing a flow of water.

<sup>80</sup> *Wetlands Report*, Tilton and Associates, Inc. October 2003.

A preliminary determination has been made with respect to mitigation, based on the criteria outlined in Part 303, Wetland Protection, of the Natural Resources and Environmental Protection Act 451 of 1994, as amended. Any dredging, filling, or construction in regulated wetlands requires an MDEQ permit before beginning the construction activity. A permit applicant must demonstrate that the activity is dependent on being located in the wetland, and/or no feasible or prudent alternative exists that would avoid or minimize the impact. Design standards guide how the HOV lane will traverse the Square Lake Road interchange, and its alignment cannot avoid the wetlands.

The MDEQ considers the magnitude and justification of the impact in granting a permit. The permit is expected to require compensatory mitigation, which is the creation of wetland to replace the affected acreage. The Palustrine Emergent (PEM) and Palustrine Shrub/Scrub (PSS) wetlands affected by this project are usually mitigated at a 1.5 to 1 ratio. The tentative conclusion is that approximately 0.41 acres of wetland are subject to mitigation, with a likely mitigation need of 0.6 acres (Table 4-17). Mitigation is discussed further in Section 5.15.

**Table 4-17  
Estimated Wetland Impacts and Potential Compensatory Mitigation**

Wetland Type	Wetland	Estimated Impact (acres)	Probable Mitigation Ratio	Estimated Compensatory Mitigation (acres)
PEM/PSS	W39	0.25	1.5 to 1	0.37
PEM/PSS	W41	0.16	1.5 to 1	0.24
Total		0.41		0.61

Source: Tilton and Associates, Inc.

#### 4.11.5 Wetland Finding

The Preferred Alternative is in compliance with Executive Order 11990, “Protection of Wetlands.” It has been determined that there is no practical alternative to the proposed action, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

### 4.12 Historic and Archaeological Resources – Section 106

There are established criteria for determining historic significance and eligibility for the *National Register of Historic Places*. A property must have integrity of location, design, setting, materials, workmanship, feeling, and association. Additionally, the property must typically be fifty years old or older, and at least meet one of the following criteria: a) be associated with events of local, state, and/or national significance; b) be associated with the lives of significant persons; c) embody the distinctive characteristics of a type, period or method of construction, or represent the work of a master; or, d) have yielded or may be likely to yield information important in history or prehistory (usually archaeological sites).

For Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act, MDOT contacted the Michigan State Historic Preservation Office (SHPO) for help in identifying project area historic and archaeological sites. Cultural resource surveys

began by delineating an Area of Potential Effect (APE) for the project. The APE represents the maximum area potentially affected, both directly and indirectly, by the project and was approved by the State Historic Preservation Office (SHPO) in a letter dated October 1, 2003 (Appendix C, Section 4).

Surveys of historic and archaeological resources took place within the APE in 2002 and 2003. The survey results and project impacts are described in the *Phase I Cultural Resources Survey of the Proposed I-75 Improvement Between M-102 and M-59 Oakland County, Michigan*.<sup>81</sup> As there are no properties on or eligible for listing on the *National Register* within the approved Area of Potential Effect, there are no effects on any such properties, and no further analysis is necessary. The SHPO concurred in a letter dated May 14, 2003 (Appendix C, Section 4). In a letter dated February 20, 2004, the SHPO further states that it has reviewed and accepted the DEIS (Section 6.4, Letter 7).

### **4.13 Parkland – Section 4(f) and Section 6(f) Resources**

No Section 4(f) or Section 6(f) parkland is affected by the Preferred Alternative. Section 4(f) of the Department of Transportation Act of 1966 protects parklands (and *National Register* eligible historic sites) from transportation uses. Section 6(f) lands are those developed or purchased with federal Land and Water Conservation Funds. Maddock Park and the Troy Family Aquatic Center are contiguous to the project. A third park, Firefighters Park, is near I-75, but is separated from I-75 by Square Lake Road, west of Crooks Road. None will be affected by the project.

Maddock Park is in Royal Oak on the west side of the southbound service drive between Lincoln Avenue and Kalama Avenue (south of 11 Mile Road, Figure 4-1a). There is a noise wall between the southbound service drive and this depressed section of I-75. It shields the park from I-75 noise. A grading permit may be necessary to reconstruct a short section of the service drive near the park, but no permit is needed for the park. The noise wall will remain with the project. Therefore, there is no affect on this park.

The Troy Family Aquatic Center is north of Big Beaver Road on the east of I-75 (Figure 4-1c). It is separated from I-75 by an earth berm approximately 25 feet high. I-75 is not visible from the park, and the park is not visible from I-75. There would be no change in noise and there would be no effect on this park.

As Firefighters Park is separated from I-75 by Square Lake Road and there are no noise effects, there would be no effect on this park.

### **4.14 Visual Conditions**

Visual effects relate to the view of the road and from the road for each of I-75's two distinct sections. The depressed section, between M-102 and 12 Mile Road, is flanked by grassy banks and occasional ornamental trees (Figure 1-1). Drivers see only the road, bridges over I-75, embankments on either side, or adjacent buildings. With the project some remnants of grassy banks may remain in wider areas of the depressed section, but overall there will be a more monolithic concrete visual environment, including a concrete median safety barrier. Portions of the depressed section between I-696 and Gardenia are bordered by brick noise walls at the top of

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<sup>81</sup> *Phase I Cultural Resources Survey of the Proposed I-75 Improvement Between M-102 and M-59 Oakland County, Michigan*, Commonwealth Cultural Resources Group, December 2002.

the grassy banks. The noise walls will remain (though some may be relocated). Additional noise walls will be built, subject to final analysis and community acceptance. The view of the road in the depressed section is limited, as the road is below grade level. This will change where noise walls are added. The walls will be evident from the surrounding area with the project.

In its comment letter on the DEIS, the city of Madison Heights asked if there will be a visual effect from the construction of the ramp braiding north of I-696. There will not. Neither ramp will be above existing grade level.

The northern at-grade/elevated section has a grassy median. Construction of either build alternative will remove this vegetation. North of 12 Mile Road, I-75 is generally above the surrounding landscape at cross roads, so the adjacent land uses are visible. These views will not change as a result of the project. Since construction during the 1960s, vegetation has grown up along the fence lines. The mature vegetation along fence lines should not be disturbed with the project except in areas where noise walls are built. The view from the road would change only in these areas where noise walls are built. Likewise the view of the road will not change as the widening is within the median. Some clearance of vegetation is recommended for safety purposes (sight distance) within interchanges at Big Beaver Road and Rochester Road.

Design elements of the Preferred Alternative would be refined in conjunction with the Crooks/Long Lake I-75 Interchange Project and the I-75/M-59 Interchange Project.

#### **4.15 Contaminated Sites**

A *Project Area Contamination Survey* (PACS) was conducted.<sup>82</sup> The survey included a reconnaissance of the project corridor and review of federal and state environmental records.

The Preferred Alternative will require approximately 7 acres of new right-of-way from a mix of residential and commercial lots, plus 7 acres could be acquired for storm water detention.

The review of federal and state environmental records identified 47 listed sites within the project corridor (Table 4-18 and Figure 4-5). None would be subject to total acquisition. Most of these were underground storage tank (UST) sites and/or permitted small- quantity hazardous waste generators. These sites were rated for their contamination potential based on their proximity to I-75 and their current environmental condition. A partial acquisition from one of the 47 sites would likely be required (depending on final design). It was rated medium/high for contamination potential and additional investigation of this site (Phase II) is recommended. It involves USTs. The other sites were rated low for contamination potential.

The primary concern to the project from nearby sites is the possibility that contamination from leaking USTs or other sources at nearby properties has migrated onto or beneath the I-75 right-of-way. The Project Area Contamination Survey recommended that provisions be made to address contaminated soil and groundwater if encountered during construction.

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<sup>82</sup> *Project Area Contamination Survey*, The Corradino Group, October 2003.

**Table 4-18  
Contamination Summary**

SID No.	Site Name	Address or Location	City	Federal Records Databases				State Records Databases				Build Alternative		
				NPL	CERCLIS	RCRIS	ERNS	State Haz. Waste	State Landfill	LUST	UST	Inactive Solid Waste Facilities	ROW <sup>1</sup> (W/A/N)	Contamination Potential Rating
5	MDOT Bridge I-75 over M-59	NB and SB	Auburn Hills			X						W	L	
6	Northeast LF & Sand Co	2715 Churchill N of Auburn	Pontiac								X	N	L	
9	Goddard Coatings Co*	2280 Auburn Rd	Auburn Hills					X		X	X	N	L	
17	Saltarelli Landfill	SE Corner Auburn/Opdyke Rd	Pontiac								X	N	L	
20	Auburn Court Associates*	2740 Auburn Ct	Auburn Hills			X	X	X		X	X	N	L	
30	Kamax-G B Dupont LP*	500 W Long Lake Rd	Troy			X				X-c	X	A	L	
53	Sunoco Service Station	911 W Big Beaver-Suite 411	Troy			X						A	L	
76	Humboldt Investment Co*	1864-80 Austin Road	Troy			X				X	X	N	L	
96	Knight Construction Co*	1931 Austin Dr	Troy			X				X	X	N	L	
108	Sunoco #0001-4738	1490 E Maple Rd	Troy							X	X	N	L	
139	DDR Station*	510 W 14 Mile	Troy			X				X		N	L	
141	JC Penney	700 W 14 Mile Rd	Troy							X-c	X	A	L	
142	Baby World N Teens	512 W 14 Mile	Troy								X	A	L	
152	Gould Inc Industrial Battery Div*	32305 Mally Rd	Madison Hts			X						A	L	
155	Maschmeyer Concrete Co	32400 Mally Dr	Madison Hts							X-c	X	A	L	
158	Henkel Surface Technologies	32100 Stephenson Hwy	Madison Hts			X					X	N	L	
175	Valenite Div*	1100 W 13 Mile Rd	Madison Hts							X	X	A	L	
176	Fuel Zone Inc	31015 Stephenson Hwy	Madison Hts							X	X	N	L	
179	Biomagenic Resonance Inc*	30781 Stephenson Hwy	Madison Hts			X				X	X	N	L	
181	Borden Dairy & Services*	30550 Stephenson Hwy	Detroit			X				X	X	N	L	
188	Madison Hts Dept/Public Service	801 Ajax Dr	Madison Hts							X	X	N	L	
193	S.E. Oakland Co RR Authority*	29470 John R Rd	Madison Hts			X			X			N	L	
196	D-M-E Co*	29215 Stephenson Hwy	Madison Hts			X				X	X	N	L	
201	Saturn Corp*	434 W 12 Mile Rd	Madison Hts			X				X	X	N	L	
C14 (202)	Home Depot*	650 W 12 Mile Rd	Madison Hts			X						W	L	
214	MDOT Bridge I-75 Under Gardenia	I-75 under Gardenia	Royal Oak			X						W	L	
219	11 Mile & 75 Food Mart	2419 E 11 Mile Rd	Royal Oak							X-c	X	A	L	
<b>C6 (221)</b>	<b>Marathon Unit #1711 (Service Drive Auto)</b>	<b>402 S Stephenson Hwy</b>	<b>Royal Oak</b>								<b>X</b>	<b>W</b>	<b>M/H</b>	
230	KC Jones Plating Co	321 W 10 Mile Rd	Hazel Park			X	X					N	L	
234	G and W Gas	24309 John R Rd	Hazel Park			X				X	X	N	L	
235	United Unit #6199*	23990 John R Rd	Hazel Park			X				X	X	N	L	
238	X Cel Industries*	505 W 9 Mile Rd	Hazel Park			X						A	L	
240	Former John R Road Station 23201	23201 John R Rd	Hazel Park							X		N	L	
250	City of Hazel Park	22600 N Chrysler Drive	Hazel Park			X					X	A	L	
253	MDOT Bridge I-75 Under John R/Shell Service Station	I-75 under John R/22411 S Chry	Hazel Park			X				X-c	X	A	L	
254	Advanced Friction Materials Co Plt I	1435 Wanda	Ferndale			X		X				N	L	
259	Color Coat Plating Co	21325 S Chrysler Dr	Hazel Park			X						A	L	
262	Mr Jones Backyard	118 West George	Hazel Park			X						N	L	
263	Jefferson Screw Products	1201 E 8 Mile Rd	Hazel Park							X		N	L	
265	MDOT Bridge I-75 Under M-102 EBD Svc Rd	I-75 under M-102	Detroit			X						W	L	

\* - Indicates multiple site names and records are listed for this site.

<sup>1</sup> Proximity to Right-of-Way, W - Within ROW; A - Adjacent to ROW; N - Near ROW.

<sup>2</sup> Contamination Potential Rating, L - Low; M - Medium; H - high.

NPL - National Priority List (Superfund)

CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System; NFRAP-No further remedial action planned.

RCRIS - Resource Conservation and Recovery Information System; SQG-Small Quantity Generator; LQG-Large Quantity Generator; Corraacts-Corrective Action Reports.

ERNS - Emergency Response Notification System

UST - Underground storage tank

LUST - Leaking underground storage tank; X-c - Closed case; X- Open case.

**Table 4-18  
Contamination Summary  
(continued)**

SID No.*	Site Name	Address or Location	City	Federal Records Databases				State Records Databases					Build Alternative		
				NPL	CERCLIS	RCRIS	ERNS	State Haz. Waste	State Landfill	LUST	UST	Inactive Solid Waste Facilities	ROW <sup>1</sup> (W/A/N)	Contamination Potential Rating	
Unmapped Sites															
O-1	MDOT Bridge I-75 over Square Lake Rd	I-75 over Square Lake Rd	Troy			X								W	L
O-2	MDOT Bridge I-75 over Adams Rd	I-75 over Adams Rd	Troy			X								W	L
O-3	MDOT Bridge I-75 under 14 Mile Rd	I-75 under 14 Mile Rd	Troy			X								W	L
O-4	MDOT Bridge I-75 over Red Run Drain	I-75 over Red Run Drain	Madison Hts			X								W	L
O-5	MDOT Bridge I-75 under 12 Mile Ped Walk	I-75 under 12 Mile Ped Walk	Madison Hts			X								W	L
O-6	MDOT Bridge I-75 under Shelvin U Turn	I-75 under Shelvin U Turn	Hazel Park			X								W	L
O-7	MDOT Bridge I-75 under Winchester	I-75 under Winchester	Detroit			X								W	L

\* - These sites were not given a unique SID No. in the Environmental Atlas; The designations were assigned for identification purposes in this report.

<sup>1</sup> Proximity to Right-of-Way, W - Within ROW; A - Adjacent to ROW; N - Near ROW.

<sup>2</sup> Contamination Potential Rating, L - Low; M - Medium; H - high.

NPL - National Priority List (Superfund)

CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System; NFRAP-No further remedial action planned.

RCRIS - Resource Conservation and Recovery Information System; SQG-Small Quantity Generator; LQG-Large Quantity Generator; Corraacts-Corrective Action Reports.

ERNS - Emergency Response Notification System

UST - Underground storage tank

LUST - Leaking underground storage tank; X-c - Closed case; X- Open case.

Source: The Corradino Group of Michigan, Inc.



## 4.16 Soils and Utilities

Mucky and peat soils are present in some locations in the north portion of the corridor. This could affect the cost of noise wall construction, but is not expected to affect roadway construction. Geotechnical studies have been performed to support project cost estimates.

A 120 kV electrical transmission line in the north section of the 12 Mile Road interchange would not be affected as the towers are clear of disturbance areas. Similarly, a cell tower at Square Lake Road and Adams road is close to I-75, but would not be affected. Other cell towers are unaffected. There will be some effect on MDOT traffic monitoring equipment, some of which is located in the median. Effects on utilities will be consistent with normal utility relocation for roadway projects. Particularly, in the depressed section of the corridor utilities are carried across I-75 on the crossroad bridges.

## 4.17 Construction Permits

Permits will be required from the Road Commission for Oakland County to reconstruct bridges over or modify county roads. There will be permits necessary from the Oakland County Drain Office for each of the county drains that are crossed.

Michigan Department of Environmental Quality permits will be required during the construction phase for use of wetlands, stream crossings, and storm water discharges (Section 5.5).

## 4.18 Indirect and Cumulative Effects

The indirect (secondary) and cumulative effects analysis begins with assembling a sound database, including the following:<sup>83</sup>

- From SEMCOG:
  - ✓ “Detroit Wetlands and 300 years of Metropolitan Growth”
  - ✓ Future land use maps
  - ✓ “Land Use Change in Southeast Michigan, Causes and Consequences,” March 2003
  - ✓ Sewer service areas
  - ✓ “Quality of Life Survey,” 2002/2003
  - ✓ “Historical Population and Employment by Minor Civil Division,” June 2002
  - ✓ “2030 Regional Development Forecast for Southeast Michigan”
- From U.S. Census
  - ✓ Population
  - ✓ Agriculture
- MIRIS (Michigan Resource Inventory System) mapping
- Michigan Natural Features Inventory, maintained by MDNR
- “I-75 Corridor Study in Oakland County” by the Michigan Department of Transportation, 2002
- County plat maps
- Aerial photography provided by the Oakland County Department of Planning
- Detroit Area Study 2001, University of Michigan

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<sup>83</sup> See also, *Indirect and Cumulative Impact Analysis Technical Report*, January 2005.

It is recognized at the outset that this database is limited. Nevertheless, federal guidance is helpful in this situation, i.e., "... the continuing challenge of cumulative effects analysis is the focus on important cumulative issues, recognizing that a better decision, rather than a perfect cumulative effect analysis, is the goal of NEPA" (National Environmental Policy Act).

Experience indicates that a sound basis upon which to establish the geographic scope for indirect and cumulative assessment of impacts is an area of traffic influence. Access is both a facilitator and a consequence of land use change. Because of the extensive networks of roads in Southeast Michigan, residents and businesses have large areas to choose from in deciding where to locate. But, the spread-out pattern/low density of housing makes providing transit service difficult in many suburban communities and outlying areas of the region, leaving highway travel to predominate. So, highway travel assignments are used to define the area of traffic influence.

In defining this area, aerial photography since 1971 was examined. The aerial mapping allows an assessment of the extent to which roadway improvements, as well as land developments, have occurred over the last 30+ years. Based on the analysis of this mapping, a series of issues can be focused upon by which indirect (secondary)/cumulative effects can be measured. These include:

- Mobility
  - ✓ Safety
  - ✓ Effects on non-motorized public
- Community issues
  - ✓ Community cohesion
  - ✓ Residential displacements
  - ✓ Aesthetics
  - ✓ Environmental justice
  - ✓ Effects on emergency services
- Environment
  - ✓ Noise
  - ✓ Air quality
  - ✓ Parks
  - ✓ Cultural resources/historic properties
  - ✓ Wetlands
  - ✓ Water quality
  - ✓ Sensitive plant/animal habitat
- Economics
  - ✓ Business displacements
  - ✓ Effects on economic vitality
- Cost
  - ✓ Construction
  - ✓ Right-of-way

To support this analysis, SEMCOG's transportation modeling platform was used. But, because SEMCOG's new model-building efforts to analyze transit were not complete at the time this work was undertaken, a model was developed, tested and applied to allow assessment of the use of transit and high-occupancy vehicle lanes.

#### 4.18.1 Rapid Transit and HOV Testing

##### Rapid Transit

A primary purpose of the modeling effort was to assess whether either rapid transit in the Woodward Avenue corridor, or high-occupancy vehicle lanes (one in each direction) added to I-75 would make unnecessary the need by 2025 to widen I-75 for a "general purpose" lane. The analysis, at the same time, was to indicate whether rapid transit in the Woodward Avenue corridor holds promise as part of an overall regional transportation strategy, regardless of whether it would provide significant traffic relief to I-75. The travel-forecasting model was applied to answer these questions.

The transit concept evaluated is a high performance system running on Woodward Avenue from Pontiac in Oakland County to Jefferson Avenue in Downtown Detroit (Figure 4-6). It would include 28 stations and be characterized by:

- High speed (60 mph where distances and conditions permit);
- High quality vehicles with a quiet, smooth ride;
- Separation from other traffic to avoid congestion;
- Short headways (time between arriving vehicles), 3 minutes;
- Short dwell times (time spent at a station), 15 seconds or less;
- Timed transfers with intersecting routes to avoid missed transfers;
- Communication between buses to also avoid missed transfers;
- Park-and-ride lots at stops north of, and including, the Michigan State Fairgrounds;
- Fare integration with intersecting transit service to permit a single fare for all segments of a trip; and,
- Pre-paid fares at platforms to reduce boarding times.

This concept was tested to assess whether it would relieve congestion along I-75 in the 2025 target year. Table 4-19 summarizes the results of this analysis.

**Table 4-19**  
**Rapid Transit and HOV Concepts**  
**I-75 PM Peak Hour Characteristics (2025)**

Measure	Alternatives	
	No Build	Rapid Transit
Regional Daily Transit Trips (Linked) <sup>a</sup>	117,682	164,945
Regional Transit Boardings (Unlinked) <sup>b</sup>	177,285	272,020
Woodward Rapid Transit Boardings	NA	49,782
Detroit People Mover (DPM) Boardings	10,967	9,608

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup>Origin to destination.

<sup>b</sup>Stop to stop.

**Figure 4-6  
Proposed High Quality Transit Alternative Attractions & Transit  
Connections/Stations**



The addition of the Woodward Corridor rapid transit line would increase daily linked transit trips (origin to destination) from 117,682 in the no-build condition to 164,945; daily transit boardings (stop-to-stop) from 177,285 to 272,020; and, would provide rapid transit service to almost 50,000 daily transit riders. This ridership level is comparable to that forecast (50,000 daily boardings in 2020) in the most recent study of rapid transit in the Woodward Corridor by IBI Group.<sup>84</sup>

While this analysis indicates ridership is high enough to conclude that rapid transit in the Woodward Corridor merits further study, it does not offer relief of travel on I-75 regardless, because:

- Congestion levels on I-75 are so high that travelers in the corridor who would choose to use the new rapid transit system are quickly replaced by other auto travelers who might have previously chosen surface routes because of I-75 congestion.
- While the rapid transit system and I-75 are in the same general travel corridor, they are still more than two miles apart in most locations. Moreover, "indirect" travel would be required to get to a rapid transit station compared to driving on I-75.
- Most users of I-75 in Oakland County are not within walking distance of the rapid transit system and the DDOT and SMART bus lines that feed the rapid transit system. This is largely because of the dispersed residential development in Oakland County, and the fact that the majority of travelers on I-75 in Oakland County begins and ends its trips in Oakland County. Most Oakland County travelers with a Detroit destination would be presented with the choice of driving to an rapid transit station and transferring, or driving the entire trip. Most travelers choose to drive the entire trip.

### **High-Occupancy Vehicle Lane**

The effectiveness of a high-occupancy vehicle (HOV) lane alternative was assessed by examining the PM peak hour throughput. One test assesses whether the HOV lane would carry more persons than the adjacent general purpose lane. Modeling shows this occurs along every part of the HOV facility (Table 4-20) in the northbound (i.e., peak) direction in the PM peak hour. This indicates that the HOV lanes would be effective.

Other tests also demonstrate the viability of HOV on I-75 plus its potential to operate successfully in both the northbound and southbound directions in both the AM and PM peak periods.

Based on the travel analysis, it was concluded that the "2-plus" HOV lane is a viable alternate when widening I-75 by one lane. And, while rapid transit in the Woodward Corridor is considered viable, and MDOT supports it, continuing analysis of this concept is left to the advancement of SEMCOG's Speed Link concept, as it does not alleviate the need to widen I-75.

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<sup>84</sup>Woodward Corridor Transit Alternatives Study Final Report, Detroit Transportation Corporation; by IBI Group, May 2000.

**Table 4-20**  
**2025 PM Peak Hour Throughput (Vehicles and Persons)**  
**HOV Lane (2-plus) vs. General Purpose Lane at Key Segments of I-75**

Location	Total HOV Vehicles per Hour		Person Throughput per Lane				Passes Test in PM Peak Direction (NB)
			HOV		Adjacent General Purpose		
	NB	SB	NB	SB	NB	SB	
8 Mile to I-696	1,471	1,279	3,687	3,189	1,952	1,954	Yes
I-696 to 12 Mile	1,889	1,913	4,737	4,782	1,982	1,943	Yes
12 Mile to 14 Mile	1,870	1,713	4,684	4,277	2,058	1,934	Yes
Square Lake Road to M-59	1,586	1,072	3,949	2,684	2,512	2,233	Yes
Sashabaw to M-15	892	294	2,170	725	1,604	1,096	Yes
M-15 to U.S. 24	422	245	995	598	1,516	912	No
U.S. 24 to Genesee Co. Line	422	0	995	0	1,247	1,179	No

Source: The Corradino Group of Michigan, Inc.  
Note: NB is the PM Peak Direction.

#### 4.18.2 Results

Based upon the information discussed earlier, and the proposed plan to widen I-75, the following information is presented about indirect and cumulative effects.

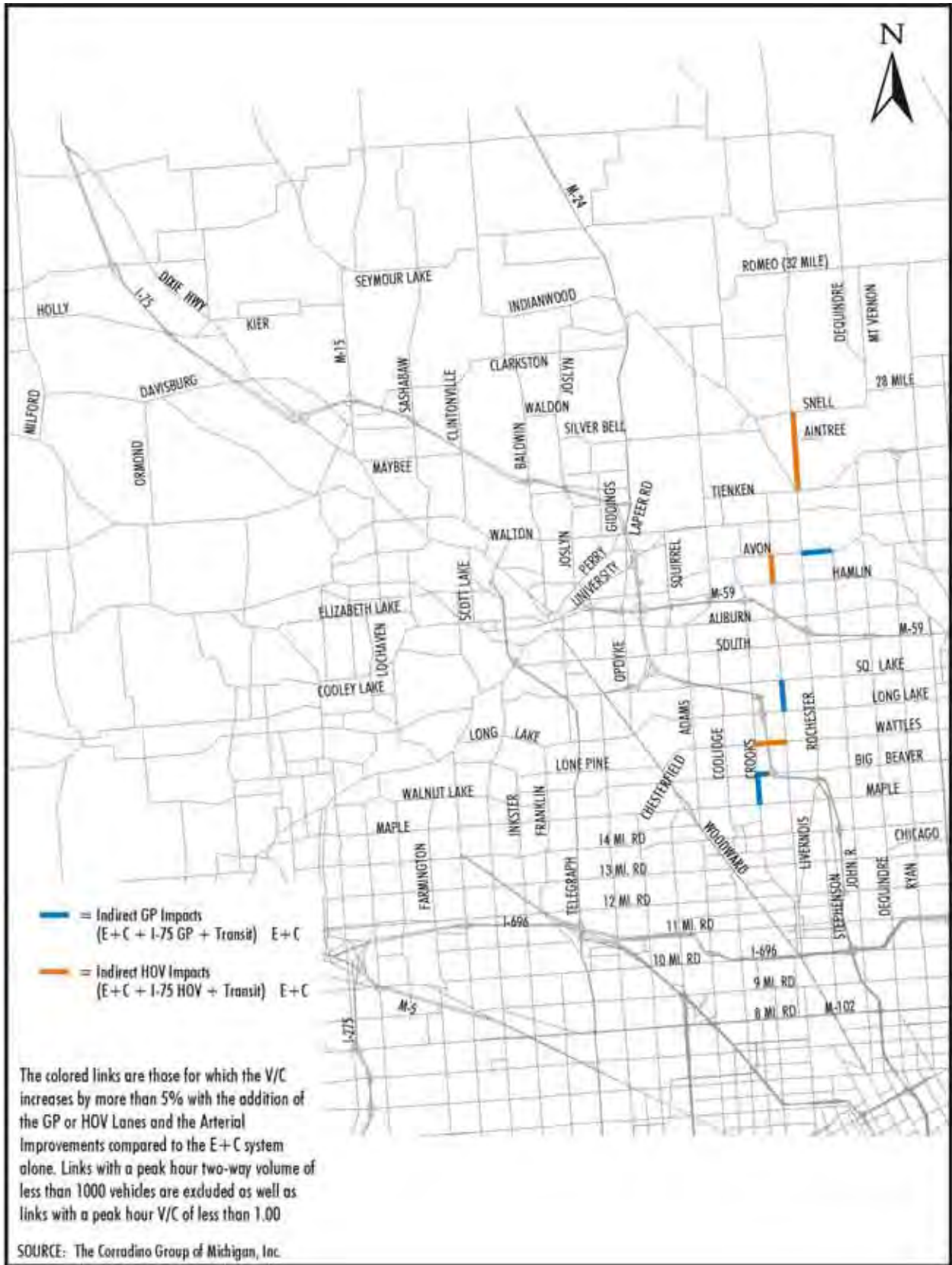
#### Indirect Impacts

To determine the indirect effects of widening I-75, the analysis involves defining how the change in congestion on the existing-plus-committed (E+C) network alone compares to conditions with: 1) E+C road improvements in place; 2) the proposed action, i.e., widening I-75; and, 3) the rapid transit and supporting bus system in the Woodward Avenue corridor (refer to Figure 4-6). This was done using the transportation modeling system discussed earlier. Two items are noteworthy in this regard: 1) the background system includes an improved transit component, consistent with discussions between MDOT and FHWA; and, 2) the existing-plus-committed network in Oakland County is defined for this analysis as only those highway projects included in the 2025 Regional Transportation Plan which will be implemented by 2005.

The results of the analysis of the HOV and general-purpose lane actions, are illustrated in Figure 4-7. These results indicate the links on which indirect effects would occur are:

1. Avon Road – Rochester Road to John R Road: from two (2) to five (5) lanes
2. Big Beaver – Crooks Road to I-75: from six (6) to seven (7) lanes
3. Crooks Road – Maple Road to Big Beaver Road: from five (5) to seven (7) lanes
4. Livernois Road – Long Lake Road to Square Lake Road: from two (2) to five (5) lanes
5. **Livernois Road – Hamlin Road to Avon Road: from two (2) to five (5) lanes**
6. **Rochester Road – Tienken Road to Snell Road: from two (2) to five (5) lanes**
7. **Wattles Road – Crooks Road to Livernois Road: from two (2) to five (5) lanes**

**Figure 4-7  
Indirect Impacts Congestion Comparison**



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The items in bold are associated with HOV development under the Preferred Alternative. It is noteworthy that the year 2000 I-75 Feasibility Study included the Livernois Road widening from Square Lake to Avon Roads, so these impacts have been anticipated (Table 4-21). It is also anticipated that all of these roadways, except Avon Road (between Rochester Road and John R) are expected to be carrying a volume of traffic no more than 15 percent above capacity. This degree of congestion will require closer examination over time to determine if these roadway segments truly need widening.

The results of the indirect impacts analysis are shown on Table 4-22 and summarized as follows. The effects noted are for the Preferred Alternative, which are represented by the last three columns in Table 4-22.

#### Mobility - Traffic and Safety and Non-motorized Travel

Conditions at seven high crash locations<sup>85</sup> will potentially be improved with upgraded design. New construction would bring improved or expanded sidewalks.

#### Community – Relocations, Environmental Justice, and Emergency Services

One residential, but no business or institutional relocations are expected. The indirect developments associated with widening I-75 must be consistent with local planning and zoning, and the transportation planning of the Road Commission for Oakland County, SEMCOG, and local jurisdictions. There would be no disproportionately high and/or adverse human health or environmental effects on minority or low-income populations. Emergency services would encounter less congestion.

#### Environmental – Noise, Air Quality, Parks, Cultural Resources/Historic Properties, Wetlands, Water Quality, Farmland, and Sensitive Habitats

Noise will likely increase slightly for some 130 residential properties along the local widened arterials indirectly related to the Preferred Alternative, if the widened arterial becomes closer to homes. No hospitals or schools are expected to experience increased noise, but three churches could for projects indirectly related to the Preferred Alternative.

Smoother traffic flow is expected to have a positive effect on air quality for those arterials to be widened as an indirect result of I-75 widening.

One park, at the southeast corner of Avon Road and Livernois Road could possibly be affected as an indirect consequence of widening I-75.

Two archaeological sites will need to be reviewed for impacts as arterial widenings indirectly associated with I-75 widening go forward.

A tenth of an acre of wetland near the Clinton River (Livernois Road) could require mitigation by the local road entity, plus another five-tenths along Rochester Road north of Tienken Road. Surface runoff would increase with any increase in roadway surface, but would be subject to county and state permitting.

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<sup>85</sup>Compiled by the Traffic Improvement Association of Oakland County.

**Table 4-21**  
**Arterial (Non I-75 Roadway) Improvements – 2025**  
**(Revised June 2000)**

	NORTH-SOUTH ROADS	LIMITS		TYPE OF IMPROVEMENT
		FROM	TO	
1	Dequindre	Long Lake	Auburn	Widen to 5 lanes
2	John R Road	Long Lake	South Boulevard	Widen to 5 lanes
3	Rochester Road	North of Big Beaver	Hamlin	Widen to 6 lane boulevard
4	Livernois Road <sup>a</sup>	I-75	Wattles Road	Widen
5	Livernois Road <sup>b</sup>	Long Lake	Square Lake	Widen to 5 lanes
6	Livernois Road <sup>b</sup>	Square Lake	Avon	Widen to 5 lanes
7	Crooks Road	Fourteen-Mile	Maple	Widen to 5 lanes
8	Crooks Road <sup>a</sup>	Square Lake	Auburn	Widen to 4 lane boulevard
9	Greenfield	Thirteen-Mile	14 Mile	Widen to 3 lanes
10	Adams	Big Beaver	Auburn	Widen to 5 lanes
11	Adams	Hamlin	Tienken	Widen to 5 lanes
12	Opdyke <sup>a</sup>	Square Lake	Walton	Widen to 6 lane boulevard
13	Joslyn	Brown	Silver Bell	Widen to 5 lanes
14	Baldwin	Morgan	Waldon	Widen to 5 lanes
15	Sashabaw	Dixie	Clarkston	Widen to 5 lanes
16	Scott Lake	Watkins Lake	U.S. 24/Dixie	Widen to 5 lanes
	<b>EAST-WEST ROADS</b>			
17	Taylor Road	Gidings Road	M-24	New Road – Extend
18	13 Mile	Greenfield	Southfield	Widen to 5 lanes
19	Big Beaver	Dequindre	Rochester	Widen to 6 lane boulevard
20	Quarton	Woodward	Adams	Widen to 5 lanes
21	Long Lake	Coolidge	Adams	Widen to 5 lanes
22	Square Lake	Telegraph	Franklin	Intersection Improvement
23	South Boulevard	Dequindre	I-75	Widen to 5 lanes
24	S. University Drive	Paddock	MLK	Widen to 5 lanes
25	Pontiac Lake Road	Scott Lake Road	County Center Drive	Widen to 5 lanes
26	Dixie (Oakland)	Telegraph	Woodward	Connector signage/signal timing
27	Walton Boulevard	Perry Street	Squirrel	Widen to 5 lanes
28	Williams Lake Road	Airport	Dixie	Widen to 5 lanes
29	County Center Drive	Pontiac Lake	Telegraph	Widen to 5 lanes
30	Holcomb Road/Bridge Lake Road	Davisburg Road	I-75	Pave 2-lane road
31	Dixie Highway (U.S. 24)	Davisburg Road	I-75	Widen to 5 lanes

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup>Project has been completed.

<sup>b</sup>Project included in indirect impacts discussion.

**Table 4-22  
Potential Indirect Effects of Widening I-75 -Additional Segments  
(Preferred Alternative in Bold)**

		Avon Road	Big Beaver	Crooks Road	Livernois		Rochester	Wattles Road
Evaluation Factors		Rochester Road to John R Road	Crooks Road to I-75	Maple Road to Big Beaver	Long Lake to Square Lake	<b>Hamlin to Avon</b>	<b>Tienken Road to Snell Road</b>	<b>Crooks Road to Livernois</b>
		1	2	3	4	5	6	7
Mobility	Safety - High Crash Locations Potentially Improved	0	0	4	2	<b>2</b>	<b>2</b>	<b>1</b>
	Effect on Non-motorized Travel	Low	Low	Low	Low	<b>Low</b>	<b>Low</b>	<b>Low</b>
Community	Residential Relocation Potential	0	0	0	0	<b>1</b>	<b>0</b>	<b>0</b>
	Business and Institutional Relocation Potential	0	0	0	0	<b>0</b>	<b>0</b>	<b>0</b>
	Environmental Justice	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	<b>No disproportionate effect</b>	<b>No disproportionate effect</b>	<b>No disproportionate effect</b>
	Effects on Emergency Services	Positive	Positive	Positive	Positive	<b>Positive</b>	<b>Positive</b>	<b>Positive</b>
Environmental	No. of Residential Units Potentially Exposed to Increased Noise Levels	47	0	10	52	<b>31</b>	<b>75</b>	<b>34</b>
	No. of Churches Exposed to Potentially Increased Noise Levels	1	0	2	0	<b>1</b>	<b>0</b>	<b>2</b>
	Air Quality	Positive	Positive	Positive	Positive	<b>Positive</b>	<b>Positive</b>	<b>Positive</b>
	Parks – Potential Acres Affected	0	0	0	0	<b>0.4</b>	<b>0</b>	<b>0</b>
	Cultural Resources/Historic Properties – Potential Number Affected	0	0	0	2	<b>1</b>	<b>0</b>	<b>0</b>
	Wetland – Potential Acres Affected	0	0	0	0	<b>0.1</b>	<b>0.5</b>	<b>0</b>
	Water Quality – Potential for Increased Runoff	Yes	Yes	Yes	Yes	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
	Sensitive Plant/Animal Habitats Impact	Minimal	Minimal	Minimal	Minimal	<b>Minimal</b>	<b>Moderate</b>	<b>Minimal</b>
Eco-nomic	Effect on Economic Vitality	Minimal	Positive	Positive	Positive	<b>Minimal</b>	<b>Moderate</b>	<b>Positive</b>

Source: The Corradino Group of Michigan

No impacts to prime or unique farmland are expected.

There would be no effect on any threatened or endangered species or any habitat supporting these.

#### Economy

Improving the five miles of arterial roads indirectly associated with the Preferred Alternative will have a minimal to positive effect on local economies. While property will be acquired for arterial construction, the improved access and safety will enhance the viability of the area, allowing the economy to continue to be sustained.

### **Cumulative Impacts**

To determine the scope of the cumulative effects of other actions “... past, present and (in the) reasonably foreseeable future ...”, the congestion analysis used in the “Indirect Impacts” analysis was repeated using the same two networks but adding a set of arterial improvements that the Road Commission for Oakland County committed to make as a result of the I-75 Feasibility Study (Table 4-21 and Figure 4-8). It is noteworthy that projects No. 4 (Livernois Road from I-75 to Wattles Rd.); No. 8 (Crooks Road between Square Lake Road and Auburn Road); and, No. 12 (Opdyke Road between Square Lake and Joslyn Roads) have been completed and are, therefore, removed from the analysis. Similarly, Livernois Road between Hamlin and Avon Roads is considered a project with an indirect impact and, therefore, its effects were covered in the previous section.

The results of the two congestion tests (Figure 4-9) lead to the following roadway links in addition to those listed above to be focused on for their cumulative effects:

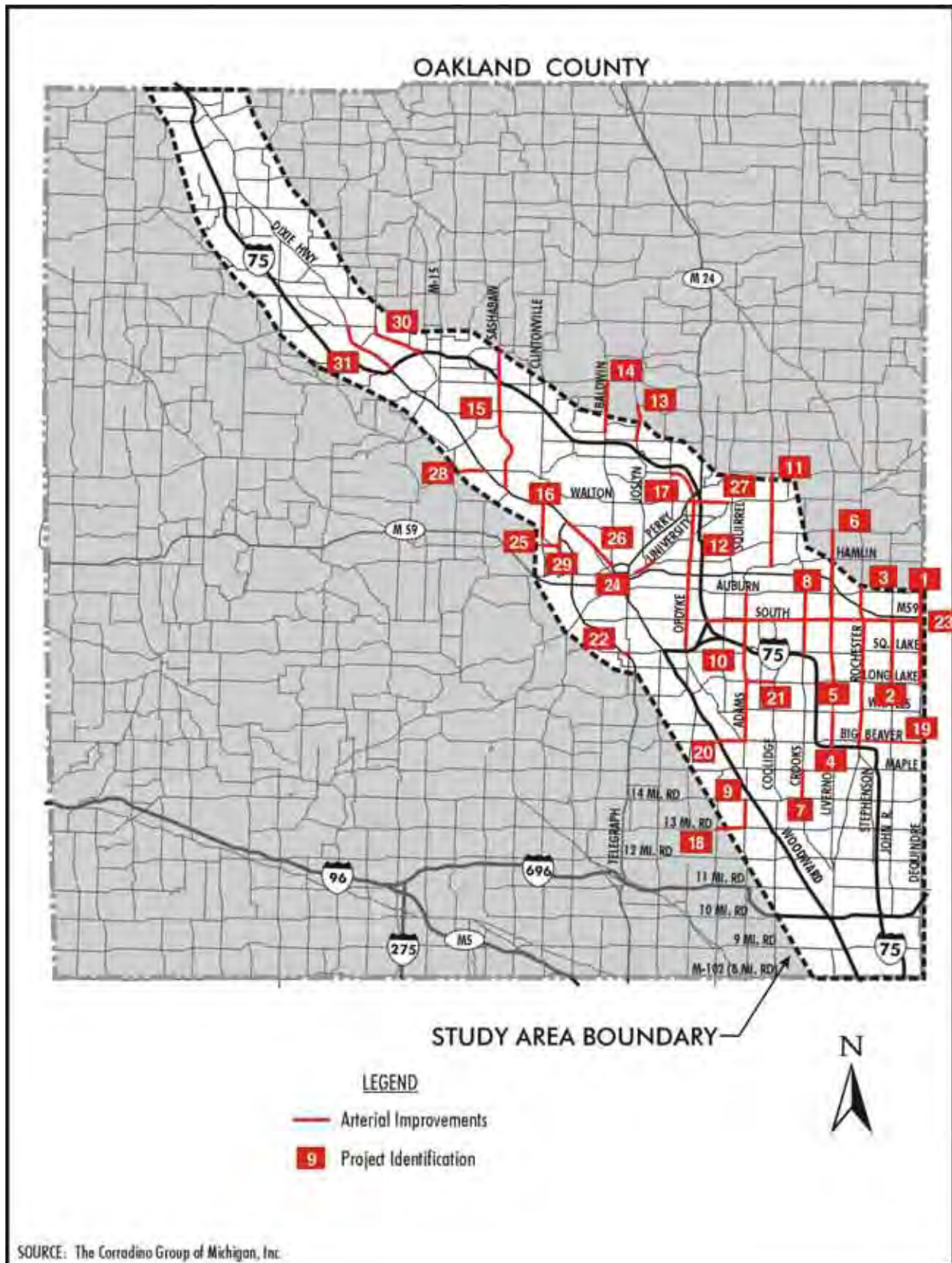
1. Adams Road – Maple Road to Big Beaver Road: from four (4) to eight (8) lanes
2. Wattles Road – Chesterfield Road to Adams Road: from two (2) to five (5) lanes

Note that these are associated with the HOV (Preferred) Alternative only.

The Road Commission for Oakland County and other political entities intend to improve a host of facilities as listed on Table 4-21 and Figure 4-8. It is noted that to represent these improvements fairly in terms of traffic and impact data, “widening” of an arterial is often indicated. But, further work, in cooperation with local governments will define precisely the improvements to be made that yield the most traffic capacity increase with the least negative impact.

The cumulative impacts on mobility, the community, the environment, economics, as well as the cost of these improvements to 56+ miles of arterial roads in Oakland County are shown on Table 2-23 and summarized below.

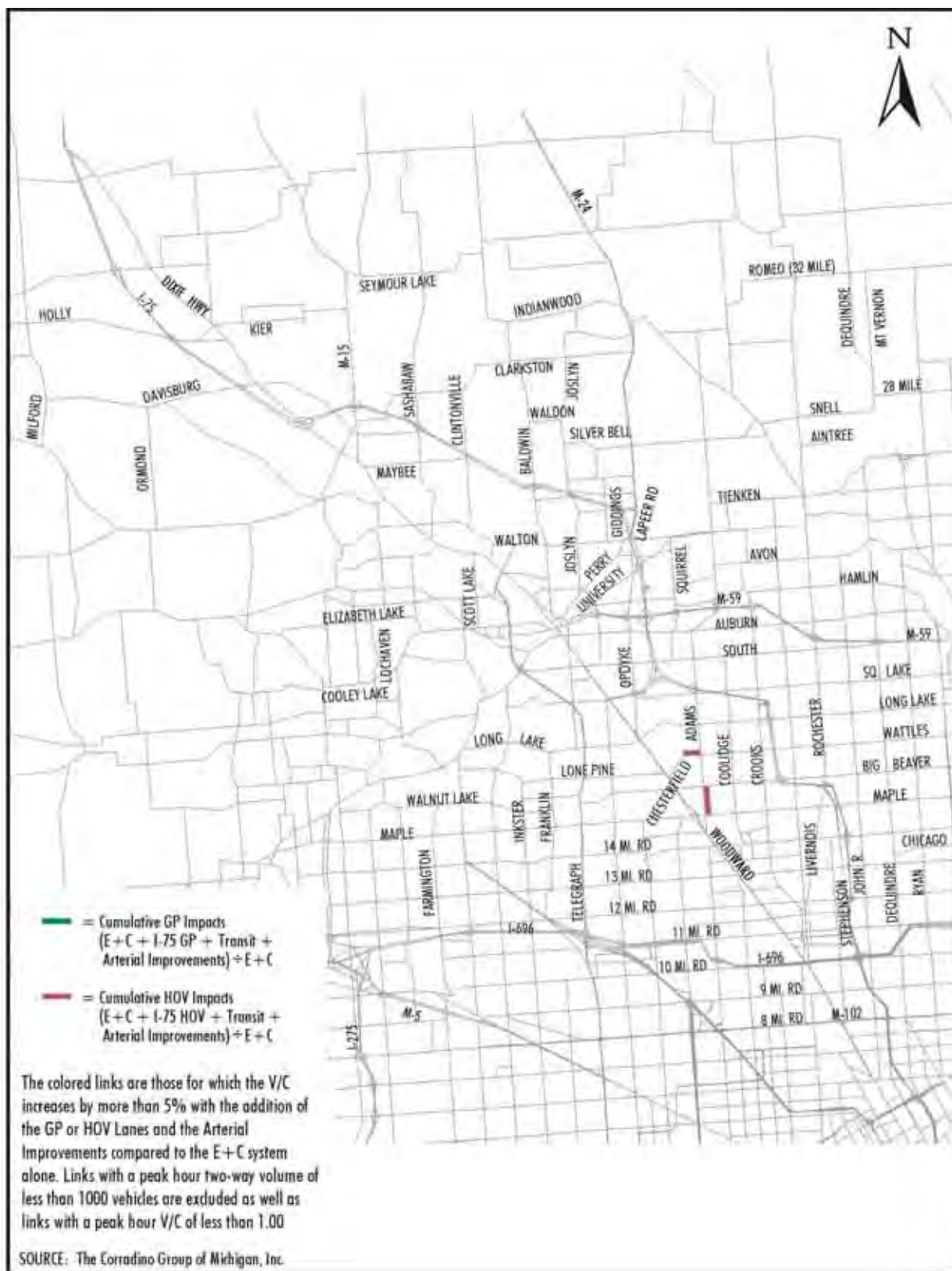
**Figure 4-8  
I-75 Feasibility Study Additional Arterial Projects**



SOURCE: The Corradino Group of Michigan, Inc.

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**Figure 4-9  
Cumulative Impacts Congestion Comparison**



### Mobility - Traffic and Safety and Non-motorized Travel

Conditions at 22 high crash locations<sup>86</sup> will potentially be improved with upgraded design. New construction would bring improved or expanded sidewalks.

### Community – Relocations, Environmental Justice, and Emergency Services

Forty residential properties could be subject to relocation, as well as twenty-four businesses, but no institutions. The indirect developments associated with widening I-75 must be consistent with local planning and zoning, and the transportation planning of the Road Commission for Oakland County, SEMCOG, and local jurisdictions.

There would be no disproportionately high and/or adverse human health or environmental effects on minority or low-income populations, except the potential widening of South University Road between Paddock and Martin Luther King Boulevard may involve an area with low-income and minority persons.

Emergency services would encounter less congestion.

### Environmental – Noise, Air Quality, Parks, Cultural Resources/Historic Properties, Wetlands, Water Quality, Farmland, and Threatened/Endangered Species and Sensitive Habitats

Widening 56+ miles of arterials could affect over 700 residential units, eight schools/hospitals, and 22 churches with increased noise, if the widened arterial becomes closer to homes. No hospitals or schools are expected to experience increased noise, but three churches could.

Smoother traffic flow is expected to have a positive effect on air quality for those arterials to be widened as an indirect result of I-75 widening.

The following parks would have to be reviewed for impacts as a result of the cumulative development associated with I-75's widening:

- Avon Nature Study Area
- Sullivan Park
- Amherst Park
- Waterford Oaks Park
- Troy Farm Park
- Donald J. Flynn Park
- Pinetrace Park

The following cultural resources may need to be reviewed for impacts:

- Five archaeological sites
- Historic Troy Corners
- Saterlee
- Samuel House
- Meadowbrook Farm

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<sup>86</sup>Compiled by the Traffic Improvement Association of Oakland County.





**Table 4-23  
Potential Cumulative Effects of Widening I-75 -North-South Roads**

Evaluation Factors	Dequindre	John R. Road	Rochester	Livernois		Crooks Road	Greenfield	Adams		Adams Road	Joslyn	Baldwin	Sashabaw	Scott Lake	
	Long Lake to Auburn	Long Lake to South Boulevard	Wattles to Hamlin	Long Lake to Square Lake	Square Lake to Avon	14 Mile to Maple	Thirteen Mile to Fourteen Mile	Big Beaver to Auburn	Hamlin to Tienken	Maple Road to Big Beaver Road	Silverbell to Brown	Maybee to Morgan	Clarkston to Dixie	Dixie to Pontiac Lake Rd	
	1	2	3	5	6	7	9	10	11	11A	13	14	15	16	
Mobility	Safety – High Crash Locations Addressed	0	0	7	0	0	2	0	0	1	2	0	0	2	0
	Effect on Non-motorized Travel	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Community	Residential Relocation Potential	0	2	4	0	1	0	0	2	0	1	8	0	14	0
	Business Relocation Potential	1	0	9	0	0	2	0	1	0	0	1	2	5	0
	Institutional Relocation Potential	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Environmental Justice	No disproportionate effect	No disproportionate Effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate Effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect
	Effects on Emergency Services	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Environmental	No. of Residential Units Potentially Exposed to Increased Noise Levels	87	96	72	52	120	20	43	185	129	71	6	38	165	32
	No. of Hospitals/Schools Potentially Exposed to Increased Noise Levels	0/0	0/1	0/0	0/1	0/3	0/0	0/0	0/3	0/0	0/0	0/0	0/1	0/1	0/1
	No. of Churches Potentially Exposed to Increased Noise Levels	1	1	1	1	3	0	0	5	0	1	0	1	2	1
	Air Quality	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
	Parks – Potential Acres Affected	0	0	0	0	1.6	0	2	1	0	0	0	0	4	1
	Cultural Resources/Historic Properties – Potential Number Affected	0	1	10	2	1	0	0	4	2	0	0	0	0	0
	Wetlands – Potential Acres Affected	0.3	2.4	0	0	0.4	0	0	1	6.3	0	0	0	1.5	0
	Water Quality Potential for Increased Runoff	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sensitive Plant/Animal Habitats Impact	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	
Economic	Effects on Economic Vitality	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Minimal	Positive	Positive	Positive	Positive

Source: The Corradino Group of Michigan, Inc.



**Table 4-23  
Potential Cumulative Effects of Widening I-75 - East-West Roads**

Evaluation Factors	Taylor Road	13-Mile	Big Beaver	Quarton	Long Lake Road	Square Lake	South Boulevard	South University Road	Pontiac Lake Road	Walton Boulevard	Williams Lake	County Center Drive	Dixie Highway	Wattles Road	
	Giddings to M-24	Greenfield to Southfield	Dequindre to Rochester	Woodward to Adams	Coolidge to Adams	Telegraph to Franklin	Dequindre to I-75	Paddock to MLK	Scott Lake to County Center Drive	Perry Street to Squirrel	Airport to Dixie	Pontiac Lake Telegraph	Davisburg I-75	Chesterfield Road to Adams Road	
	17	18	19	20	21	22	23	24	25	27	28	29	31	32	
Mobility	Safety – High Crash Locations Addressed	0	0	2	0	0	2	0	1	0	2	1	0	0	0
	Effect on Non-motorized Travel	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Community	Residential Relocation Potential	0	0	0	0	0	2	1	0	0	4	0	1	0	
	Business Relocation Potential	0	0	0	0	0	1	1	0	0	1	0	0	0	
	Institutional Relocation Potential	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Environmental Justice	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	26-50% poverty 50% + minority	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect	No disproportionate effect
	Effects on Emergency Services	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Environmental	No. of Residential Units Potentially Exposed to Increased Noise Levels	0	76	32	22	1	0	217	18	14	63	39	0	8	11
	No. of Hospitals/Schools Potentially Exposed to Increased Noise Levels	0/0	0/0	0/0	0/0	0/0	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	Number of Churches Potentially Exposed to Increased Noise Levels	0	0	1	0	0	0	0	3	1	0	0	0	0	0
	Air Quality	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
	Parks – Potential Acres Affected	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0
	Cultural Resources/Historic Properties – Potential Number Affected	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Wetlands – Potential Acres Impacted	0	0	0	0.6	0	0	1.4	0	0	0	0	0	0	0
	Water Quality Potential for Increased Runoff	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sensitive Plant/Animal Habitats Impact	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	
Economic	Effects on Economic Vitality	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Neutral

Source: The Corradino Group of Michigan, Inc.



The widening of 56+ miles of arterials as a cumulative effect of widening I-75 could impact about eight acres of wetlands at the following locations:

- Square Lake Road at John R Road
- Clinton River near Avon and Livernois Roads
- South Boulevard at Adams
- Avon Road at Adams Road
- Maybee Road at Sashabaw
- Rouge River on Quarton Road
- South Boulevard west of Crooks Road

No significant effect is expected on water quality. The increased runoff will be subject to state and county permitting.

No prime or unique farmland impacts are expected from the widening of 56+ miles of arterials.

No significant effect is expected on threatened or endangered species or their habitats.

#### Economy

Widening I-75 will have an effect on wealth distribution, but it is just one of many public policy decisions and market driven actions that are at work. Failure to widen I-75 is not a substitute for the need for fundamental changes, nor will it protect the wealth and quality of life of all commuters in Oakland County and Southeast Michigan. Such change is embodied in the recommendations Governor Granholm's Michigan Land Use Leadership Council.

### **4.19 Energy**

Energy will be used to construct the project. Fuel savings to motorists should be realized in the long term due to improved traffic flow. Stop and go traffic is very fuel inefficient. Increased capacity on I-75 will reduce congestion and the extent of stop and go traffic. Motorists will be able to maintain more constant traveling speeds on the freeway. The additional lane will allow greater ability to move around incidents. Travel on freeways is more fuel efficient than travel on arterial streets, which are controlled by traffic signals, causing all traffic to stop at some point.

### **4.20 Cost**

Total project costs include: design/construction management, right-of-way/relocation, and construction. Construction costs are based on average unit bid prices and estimated quantities from the engineering analysis, and include contingencies. Project design and construction management represent an add-on to the construction cost. The right-of-way/relocation cost is preliminary and is based on fair market value.

The base project cost is approximately \$572 million (2005 dollars), consisting of \$93 million for design and construction management, \$16 million for right-of-way and relocation, and \$463 for construction. The construction cost includes the HOV lane at about \$6 million - \$3.5 million for signing and striping and other road work, plus \$2.5 million for bridges and roadwork through the Square Lake interchange.

#### **4.21 The Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity**

Environmental impacts would result during the construction of the Preferred Alternative. Reconstruction of bridges and service drives would temporarily affect the mobility of local residents, access to businesses, and emergency services. The impacts would continue through the construction period, but local mobility and access would return and improve upon project completion.

This project is a result of local, regional, and statewide comprehensive and transportation planning. Present and future traffic needs were considered and are reflected in the Preferred Alternative. It is concluded that the local short-term impacts and use of resources by the proposed action, if it were approved, are consistent with the maintenance and enhancement of long-term productivity for both the local area and the State of Michigan.

#### **4.22 Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action**

Implementation of the proposed action involves the commitment of a range of natural, physical, human, and fiscal resources. Land used for reconstruction of I-75 is an irreversible commitment.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material will be expended for this project, if approved. Additionally, large amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. However, these materials are not in short supply, and their use will not have an adverse effect upon continued availability of these resources.

Construction of this project will require a substantial one-time expenditure of state, federal, and local funds that are not retrievable. The commitment of these resources will result in an improved transportation system, providing improved accessibility and safety, and savings in time and operational costs. These are anticipated to outweigh the commitment of these resources.



## SECTION 5

### MITIGATION OF IMPACTS

The goal of mitigation measures is to preserve, to the greatest extent possible, existing neighborhoods, land use, and natural resources, while improving transportation. Although some adverse impacts are unavoidable, the Michigan Department of Transportation (MDOT), through route location, design, environmental, and construction processes, takes precautions to protect as many social and environmental systems as possible. Construction activities that include the mitigation measures discussed below are those contained in the current MDOT “Standard Specifications for Construction.”

This section discusses the standard or general mitigation measures applicable to most MDOT projects of this type. Without the benefit of detailed design plans, tentative mitigation ideas are proposed as a means to avoid or reduce adverse impacts on identified resources. Further agency coordination will continue through the design stage. Design plans will be reviewed by many MDOT personnel prior to contract letting in order to incorporate any additional social, economic, or environmental protection items. Construction sites will be reviewed to ensure that the mitigation measures proposed are carried out, and to determine if additional protection is required. More mitigation measures may be developed if additional impacts are identified. Specific mitigation measures will be included in the design plans and permit applications. Project-specific mitigation measures are also summarized on the “Green Sheet” located at the end of this section. This summary lists the project-specific measures by category.

#### 5.1 Right-of-Way Acquisition and Relocation Impacts

A Conceptual Stage Relocation Plan has been prepared (Appendix B). The following standard procedures will be followed.

**Compliance with State and Federal Laws** – Acquisition and relocation assistance and advisory services will be provided by the Michigan Department of Transportation (MDOT) in accordance and compliance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended; and, Act 87, Michigan P.A. 1980, as amended. The MDOT will inform individuals, businesses, and non-profit organizations of the impact, if any, of the project on their property. Every effort will be made, through relocation assistance, to lessen the impact when it occurs.

**Residential** – The MDOT is required by statute to determine the availability of comparable, decent, safe and sanitary housing for eligible displaced individuals. The MDOT has specific programs to implement the statutory and constitutional requirements of property acquisition and relocation of eligible displacees. Appropriate measures will be taken to ensure that all eligible displaced individuals are advised of the rights, benefits, and courses of action open to them.

**Businesses or Non-profit Organizations** – The MDOT is required by statute to offer relocation to displaced businesses and non-profit organizations. The MDOT has specific programs that will implement the statutory and constitutional requirements of property acquisition and relocation of eligible displacees. Appropriate measures will be taken to ensure that all eligible displaced businesses or non-profit organizations are advised of the rights, benefits, and courses of action open to them. Displaced businesses and organizations will be encouraged to relocate within the same community.

**Purchasing Property** - The MDOT will pay just compensation for fee purchase or easement use of property required for transportation purposes. “Just compensation” as defined by the courts is the payment of “fair market value” for the property rights acquired, plus allowable damages to any remaining property. “Fair market value” is defined as the highest price estimated, in terms of money, the property would bring if offered for sale on the open market by a willing seller, with a reasonable time allowed to find a purchaser, buying with the knowledge of all the uses to which it is adapted, and for which it is capable of being used.

**Relocation Information** – A booklet entitled “Your Rights and Benefits” detailing the relocation assistance program can be obtained from the Michigan Department of Transportation, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

**Property Acquisition Information** - A booklet entitled “Public Roads & Private Property” detailing the purchase of private property can be obtained from the Michigan Department of Transportation, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

## 5.2 Noise Walls

This project proposed to construct noise walls at 18 locations. Noise mitigation is detailed in Table 4-14. When the project proceeds to design, provisions will be made for fire hydrant access through noise walls. Discussions with all adjacent municipalities will identify these locations and other locations where access through the wall may be necessary. Where there are extensive lengths of noise wall, locked panels are sometimes provided to allow emergency personnel access through the walls. Coordination with local municipalities regarding these issues and aesthetics will be conducted in the design phase of the project. Noise wall locations and design details will be reviewed during final design.

## 5.3 Soil Erosion and Sedimentation Control

Accelerated sedimentation caused by highway construction will be controlled before it enters a water body or leaves the highway right-of-way by the placement of temporary or permanent erosion and sedimentation control measures. MDOT has developed a series of standard erosion control items to be included on design plans to prevent erosion and sedimentation. The design plans will describe the erosion controls and their locations. Payment is made to the contractor for construction and maintenance of items used from this list or items specifically developed for the project.

MDOT has on file with the Michigan Department of Environmental Quality (MDEQ) an approved operating erosion and sedimentation control program which ensures compliance with Part 91, Soil Erosion and Sedimentation Control of Act 451 (Natural Resources and Environmental Protection), as amended. MDOT has been designated an “Authorized Public Agency” and is self-regulated in its efforts to comply with Part 91. However, MDEQ may inspect and enforce soil erosion and sedimentation control practices during construction to ensure that MDOT and the contractor are in compliance with Part 91 and the acceptable erosion and sedimentation control program.

The following is a list of the mitigation measures for this project to be carried out in accordance with permit requirements.

1. No work will be done in the channels of the River Rouge, or other water courses during periods of seasonally high water, except as necessary to prevent erosion.
2. All construction operations will be confined to the highway right-of-way limits or acquired easements.
3. Areas disturbed by construction activities will be stabilized and vegetated as soon as possible during the construction period in order to control erosion. Road fill slopes, ditches, and other raw areas draining directly into the River Rouge will be protected with riprap (up to three feet above the ordinary high water mark), sod, seed and mulch, or other measures, as necessary to prevent erosion.
4. Special attention will be given to protecting natural vegetative growth outside the project's construction limits from unnecessary removal or siltation. Natural vegetation, in conjunction with other sedimentation controls, provides filtration of highway runoff.
5. Protection of storm sewer inlets will be done to prevent sediment from entering the storm sewer system.
6. The contractor shall have the capability of performing seeding and mulching at locations within 500 feet of any wetlands, lakes, streams, and drains within 24 hours of being directed to perform such work by the project engineer.
7. The contractor is responsible for preventing the tracking of material onto local roads and streets. If material is tracked onto roads or streets, it shall be removed.

## **5.4 River, Stream and Drain Crossings**

Bridge and culvert work at river, stream, and drain locations will require construction staging and additional protection items to minimize impacts on the water course. The following are general mitigation items designed to reduce impacts at water crossings. The design plans will show all specific controls for each watercourse.

1. All work below the ordinary high water mark of any river, stream or drain will require permits from MDEQ and/or the U.S. Army Corps of Engineers. All permit conditions will be adhered to during construction. Permit conditions may include fish spawning protection dates where no work can occur in the water unless it is isolated behind a cofferdam installed prior to the start of the protection date.
2. All construction operations adjacent to watercourses will include appropriate soil erosion and sedimentation controls (Section 5.3).
3. All construction activities will be isolated from the flowing watercourse where possible. This can be done by installing a cofferdam (steel sheeting or sand bags) around the construction area. Another method may be to construct a temporary channel to relocate the existing watercourse while construction takes place at the existing watercourse location. The temporary channel and proposed new channel shall be stabilized prior to water flow being diverted into it.

## 5.5 Environmental Permits

Proposed construction activities will involve the need for permits. Impacts on bodies of water such as lakes, streams, drains and wetlands will require permits under federal and state law:

### Federal

- Executive Order 11990
- Clean Water Act of 1977, as amended: Section 401, state Water Quality Certification; Section 402(p), National Pollutant Discharge Elimination System, storm water permit; and, Section 404, related to dredge and fill.

Federal Executive Order 11990 states that when federal funds are used on a project, impacts to any wetland (regardless of size) will require that there be no practicable alternative to impacts on that wetland.

Section 401 of the Clean Water Act of 1977, as amended, requires certification from the state's water quality agency (MDEQ) to ensure that the discharge of dredged or fill material complies with the provisions of the Federal Water Pollution Control Act.

Section 402(p) of the Clean Water Act and subsequent regulation under 40 CFR 122.26 requires a National Pollutant Discharge Elimination System Storm Water discharge permit for construction projects that involve land clearing or disturbance of five acres or greater. Permit application requirements include: 1) a location map and description of the nature of the construction activity; 2) location of the proposed discharge; 3) total area of the site and area to be disturbed; 4) an estimate of the runoff coefficient of the site and the increase in impervious area after construction is complete; and, 5) the nature of the fill. The intent of these requirements is to reduce impacts on water quality during and after construction.

Section 404 of the Clean Water Act requires a permit from MDEQ (acting for the U.S. Army Corps of Engineers) for the excavation and discharge of dredged and/or fill material in "waters of the United States," including wetlands. Section 401 Water Quality Certification from MDEQ is required prior to the issuance of the Section 404 permit.

State – Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended:

- Part 31, Water Resource Protection
- Part 55, Air Pollution Control
- Part 301, Inland Lakes and Streams
- Part 303, Wetland Protection

Parts 31 and 301 of Michigan Act 451 are administered by the MDEQ. A Part 31 permit (which is reviewed and issued with the Part 301 application) is needed to place fill material within any part of a floodplain with a drainage area of two square miles or more. A Part 301 permit is required for any work below the ordinary high water mark of any inland lake, stream, or drain including the placement of any permanent or temporary river or stream structure.

A Part 55 air quality permit is required for any bituminous or concrete proportioning plant or crusher.

A Part 303 wetland permit is required for any wetland disturbance, permanent, as well as temporary. The Part 303 permit is reviewed and issued as a single permit that also includes Part 301 and Part 31.

Final mitigation measures proposed in areas requiring the above permits will be developed in consultation with the appropriate agencies, and will be included in the permit application(s).

## **5.6 Existing Vegetation**

The existing natural and ornamental vegetative cover will be retained wherever and whenever possible within the right-of-way limits. Where the existing ground cover must be removed, replacement vegetation will be established in a timely manner, using seed and mulch or sod.

Trees within MDOT right-of-way will be saved as long as safety requirements are met. All property owners will be notified before any trees in front of their residences are removed and will be offered replacement trees to help offset the aesthetic and/or functional loss of trees.

Replacement tree species, numbers, and planting recommendations will be made jointly by MDOT's Roadside Development Section and/or the Region Resource Specialist as part of the project design process following contact and coordination with adjacent property owners. For those owners who request replacement trees, the trees are to be replaced (with the property owners' approval) on their property as close to the right-of-way line as possible. The property owners will then assume the responsibility for maintaining these trees.

As a part of the project design phase, opportunities to enhance the visual quality along I-75 will be studied for implementation. This will include landscaping that utilizes native vegetation in interchange areas, and the addition of vegetative screens to help buffer I-75 from adjacent unattractive or sensitive land uses.

The U.S. EPA in a letter dated February 23, 2004 (Section 6.4, Letter 4) recommends use of native vegetation as part of the project's storm water management plan and elsewhere along the right-of-way limits, especially in the vicinity of 13 Mile Road. During the design phase of this project, MDOT will provide a more detailed plan, which will incorporate native vegetation as a part of the project's storm water management plan, near right-of-way limits and in the vicinity of 13 Mile Road.

## **5.7 Disposal of Surplus or Unsuitable Material**

Surplus or unsuitable material generated by the removal of structures, trees, etc., will be disposed of in accordance with the following provisions designed to control the possible detrimental impacts of such actions. When surplus or unsuitable material is to be disposed outside of the right-of-way, the contractor will obtain and file with MDOT written permission from the owner of the property on which the material is to be placed. In addition, no surplus or unsuitable material will be disposed in any public or private wetland area. Inert material may be used as a basement fill to a depth not less than two feet below the ground level, if the basement is not within the roadway cross section. Such material must be covered with at least two feet of clean soil to fill voids. Basement walls are to be removed to ground level. All regulations of the MDEQ governing disposal of solid wastes will be complied with.

## 5.8 Contamination

A Preliminary Site Investigation is needed at the Marathon Unit #711 (Service Drive Auto) at 402 South Stephenson Highway in Royal Oak. That site has underground storage tanks and is planned for right-of-way acquisition.

Standard mitigation measures that could apply include:

- A Preliminary Site Investigation with any areas of contamination marked on design plans.
- Proper disposal of any contaminated soil.
- Testing/treatment of water from any dewatering operations before pumping to storm drains or surface water discharge points.
- Testing of river bottom sediments to determine proper disposal methods.
- Preparation of underground utility plans to ensure no deep utility cuts will impact any contaminated areas. Any utility cuts in contaminated areas will be reviewed to ensure proper excavation and backfill methods.
- Preparation of a Risk Assessment Plan, which includes a Worker Health and Safety Plan, to reduce dermal exposure and address direct contact issues, if contaminated materials are encountered.
- Closing and abandoning any monitoring wells properly.

## 5.9 Groundwater Quality

The sealing of water wells, septic systems, and sewer lines for the protection of groundwater quality will be ensured by the enforcement of MDOT specifications imposed on the contractor during construction. For houses or other structures with sewer service that are relocated or must be razed, sewer lines will be filled with concrete grout at the basement level, and water will be turned off at the street. In rural areas, the sewer line to the septic tank must be filled at the basement level. Abandoned water wells will be filled with grout applied from the bottom upwards through a conduit extended to the bottom of the well in one continuous operation until the well is filled. The contractor must also meet all local and Michigan Department of Community Health (MDCH) requirements.

Contractors will generally be allowed 60 to 90 days following issuance of the demolition contract for the site to be completely cleared. However, no more than 48 hours will be permitted following removal of any structure to fill the foundation to ground level. If the foundation is not filled within this time, MDOT will take independent action to fill the foundation, charging costs incurred to the contractor. The MDEQ notification procedures for demolitions will be followed.

The above specifications have been approved by the Michigan Department of Community Health. The contractor will also be referred to the local health department for assistance when special conditions such as flowing wells or wells with a high artesian head are encountered. If high water tables are encountered in cut sections, special methods will be used to reduce any negative effects on the area groundwater.

Drainage structures will be built as necessary along the pavement to drain the roadway sub-base. Edge drains will be used to intercept horizontal seepage. Stone baskets will be used to maintain and reroute the flow of springs when found below the roadway. Intercepted water will be discharged into an available roadside ditch, watercourse, or storm sewer. Although siltation of

such watercourses from this intercepted water is rare, it will be controlled, when necessary, by the placement of material around the edge drainpipe to filter fine material.

## **5.10 Surface Water Quality**

Adequate soil erosion and sedimentation control measures will be implemented. Rural drainage with grass slopes and swales will be maintained where possible, subject to the results of the ongoing drainage analysis. A combination of detention basins, sediment basins and vegetated ditches will be used to promote infiltration, thereby reducing the potential impacts on the streams from added runoff and associated pollutants, including deicing salts and heavy metals.

Because there will be a substantial amount of ditch detention, MDOT will explore use of native vegetation or other vegetation for use in these ditch areas to filter runoff and associated pollutants. See Section 5.6.

In the depressed section of I-75 between M-102 (8 Mile Road) and 12 Mile Road the storm water from I-75 flows into the combined sewer system that serves the area. With the project the storm water from I-75 will be separated from the existing system. By providing its own system for I-75 storm water, MDOT will positively affect water quality by: 1) reducing flow in the combined sewer system so that overflows of sewage into the Red Run Drain occur less frequently; and, 2) reducing flow to the Detroit wastewater treatment plant, so that facility treats less storm water. However, by diverting I-75 runoff from the combined system, there is the potential for increased amounts of pollutants from road runoff to be discharged, but this will be mitigated through installation of Best Management Practices to the maximum extent practical.

## **5.11 Maintaining Traffic During Construction**

The disruption of traffic in the construction area will be minimized to the extent possible. Two lanes will be kept open in each direction on I-75 at all times. All construction areas and altered traffic patterns will be clearly marked during the construction phase. A preliminary construction staging program that calls for part-width construction has been developed and is the subject of ongoing review to ensure the constructability of the project and minimize impacts to the local neighborhoods and the motoring public.

Part-width construction is applicable where the road is widened, such as with this project. But, as total reconstruction of I-75 is planned to coincide with the lane addition, the entire road width will be closed at one time or another. In the depressed section, bridges will be replaced. This means there will be brief periods when one side of the freeway will have to be totally closed as bridge beams are removed and new ones put in place. The general process in the depressed section would be:

- Excavate for and construct the new lane and outside shoulder on side 1 of the freeway.
- Make simultaneous improvements to service drives.
- Construct the new bridges over side 1.
- Divert all traffic to side 1, which would have 4 lanes, two in each direction, plus adequate lateral clearances.
- Construct the bridges on side 2.
- Use service drives as necessary to detour traffic. All service drives can carry two lanes of traffic.



In the at-grade/elevated section from 12 Mile Road north the process would be:

- The bridges would be widened to the inside on one side of the freeway.
- The inside lane addition would be made on that side.
- All traffic would shift to that side of the road.
- The other side of the road would be completely reconstructed with the bridge widening and lane addition.
- Finally, traffic would shift to the fully constructed side and the original side would be reconstructed.

MDOT will establish official detour routes over the state trunkline system. The project will be built in phases so that the entire length of I-75 is not under construction at once. Consequently, the posted detours will vary depending on the section under construction. It is likely that detour routes will include all state trunklines in the area, including M-1 (Woodward Avenue), M-102 (8 Mile Road), I-696, I-75 BL/BR 24 (Square Lake Road), and M-59. The proposed detour routes will be determined in the design phase through coordination with local jurisdictions.

There are service drives on either side of the depressed section of I-75. Due to the short blocks that prevail in this section of the corridor, access can be maintained to local properties.

It is anticipated that multiple construction seasons will be needed to complete the project. The number of years is dependent on funding availability. Construction phasing involves a number of factors, beyond funding availability, such as: length of a segment; type of proposed facility (bridges, ramps, mainline); political jurisdictions; and, related projects. Drainage patterns could also influence the definition of final segments. Other important considerations are the level of congestion of project segments and the cost effectiveness of constructing these segments.

The section with the greatest need from the standpoint of congestion, capacity, and safety is north of I-696. The proposed ramp braiding in that location would have a positive effect on the entire northbound section of I-75 from north of 8 Mile Road to near 12 Mile Road. Therefore, the recommendation is to construct the ramp braiding first. Congestion analyses find that the next steps would be to work from the south to the north along the corridor. Details of construction phasing will be developed in later phases of the project.

It is anticipated that (based on available funding) special transit services will be initiated in advance of the construction period. Existing MDOT and SEMCOG rideshare programs would be enhanced, with particular emphasis on major corridor employers. New bus transit service could be established on I-75 serving park-and-ride lots to encourage a mode shift away from single-auto occupancy vehicles. In addition, MDOT continues to seek new carpool lots to develop along the I-75 corridor. Michivan, a private organization that promotes ridesharing, can also be key in maximizing the availability of alternative transportation modes during and after construction.

## **5.12 Continuance of Public Utility Service**

Utilities will require relocation or adjustment. In doing so, coordination between MDOT and the affected utility company will take place during design, prior to actual construction. Proposed staging plans will also be presented to utilities to make them aware of the project. Service to the project area will be maintained with temporary connections during construction so service interruptions will be minimized.

### **5.13 Construction Noise and Vibration Impacts**

Construction noise will be minimized by measures such as requiring that construction equipment have mufflers; that portable compressors meet federal noise-level standards for that equipment; and, that all portable equipment be placed away from or shielded from sensitive noise receptors, if at all possible. All local ordinances will be adhered to.

Where pavement must be fractured, structures must be removed, and/or piling or steel sheeting must be driven, care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is possible, basement surveys will be offered. These areas will be identified during the design phase and surveys would be conducted before construction begins to document any damage caused by highway construction. Geotechnical analysis being conducted for the project will aid in the understanding of potential vibration impacts and mitigation. Vibration impacts are not anticipated at this time.

### **5.14 Control of Air Pollution During Construction**

The contractor will be required to comply with all federal, state and local laws and regulations governing the control of air pollution.

*Dust Control:* During construction of any project, adequate dust-control measures will be maintained to avoid detriment to the safety, health, welfare, or comfort of any person, or cause damage to any property or business.

*Bituminous and Concrete Plants:* All bituminous and concrete proportioning plants and crushers will meet the requirements of the rules of Part 55 of Act 451, Natural Resources and Environmental Protection. For any portable bituminous or concrete plant or crusher, the contractor must apply for a permit-to-install or general permit from the Permit Section, Air Quality Division of the MDEQ. This permit should be applied for a minimum of 45 calendar days for plants with an active MDEQ permit (or 75 calendar days for plants not previously permitted in Michigan) prior to the plant being installed.

Dust collectors must be provided on all bituminous plants. Dry, fine aggregate material removed from the dryer exhaust by the dust collector must be returned to the dryer discharge unless otherwise directed by the project engineer.

### **5.15 Wetland Mitigation**

Wetland mitigation will conform to Executive Order 11990 and the Michigan Natural Resources and Environmental Protection Act (PA 451 of 1994, as amended), Part 303 – Wetland Protection, administered by MDEQ. Impacts to wetlands will require a permit under Part 303. Wetland mitigation adjacent to the study area is preferred by regulatory agencies so that replacement will occur as close to the impact as possible.

Delineated wetlands are all within, or contiguous to, the existing right-of-way of I-75. The No Build and GP alternatives had no wetland impacts. The Preferred Alternative would require unavoidable impacts at the Square Lake Road interchange to construct the northbound HOV lane through the interchange. The impact will be to approximately 0.41 acres of wetlands, as follows:

- Wetland 39 – Palustrine Emergent and Palustrine Shrub/Scrub - 0.25 acres
- Wetland 41 - Palustrine Emergent and Palustrine Shrub/Scrub - 0.16 acres

Compensatory wetland restoration or creation is planned in accordance with state and local wetland protection ordinances. The emergent and scrub shrub wetlands that would be affected by this project would be mitigated at a 1.5:1 ratio, so that each acre of impact is compensated with 1.5 acres of mitigation wetland, for a total mitigation need of 0.6 acres.

The impacted wetlands fall within the ecoregion called Sub-subsection VI.1.2 Ann Arbor Moraines, of Subsection VI.1 Washtenaw, of Section VI Southern Lower Michigan.<sup>87</sup> They are within the Clinton River watershed. The wetland impact site and the proposed mitigation site are shown in Figure 5-1.

The mitigation site is located in the southeast quadrant of Section 25 of Armada Township in Macomb County. It falls within the ecoregion called Sub-subsection VI.1.1 Maumee Lake Plain, of Subsection VI.1 Washtenaw, of Section VI Southern Lower Michigan. The National Resource Conservation Service has classified the site as Prior Converted wetland. The site has been cleared of any environmental issues. The MDEQ approved use of this site in a letter dated December 21, 2004 (see Section 6.4, Letter 6c).

A detailed wetland mitigation and monitoring plan will be designed by MDOT that will restore adequate hydrology to the mitigation site to re-establish wetland habitats. The primary emphasis will be on minor grading and construction of low-head berms, along with water control structures. A mitigation and monitoring plan will be prepared to document the development of the created wetland. The plan will include performance criteria, address the control of invasive species, and specify the protection of the mitigation area in perpetuity through use of a conservation easement.

Minimization of sedimentation to wetlands during construction would be accomplished by soil erosion and sediment control practices consistent with conditions of MDOT's Soil Erosion and Sedimentation Control Program. As the project includes major reconstruction of the interstate, and ordinarily the disturbance limits of construction equipment are broad in such circumstances, construction contracts will specify that there be no disturbance in the delineated wetland areas.

## **5.16 National Geodetic Survey Monuments**

The corridor will be reviewed prior to construction to determine the location of U.S. Department of Commerce, National Geodetic Survey monuments (<http://www.ngs.noaa.gov>) to prevent disturbance to such monuments. If there is any anticipated disturbance, 90-day notification in advance will be given to the National Geodetic Survey.

## **5.17 Additional Mitigation or Modifications**

The final mitigation package will be reviewed by division representatives on the MDOT project study team, in cooperation with concerned state, federal, and local agencies.

Some changes to the early mitigation concepts discussed in this document may be required as design proceeds. These mitigation concepts will be implemented to the extent possible. Where changes are necessary, they will be designed and field reviewed before permits are applied for or construction begins.

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<sup>87</sup> *Regional Landscape Ecosystems of Michigan*, D.A. Albert, 1995.

MDOT is concerned with worker health and safety and will abide by appropriate federal, state and local criteria and guidelines.

These preceding mitigation concepts are based on the best information available through January 2005.

### Wetland Impacts at Square Lake Road



Source: Rowe, Inc. and Tilton & Associates

### Mitigation Site (in blue)



Source: MDOT



Source: US Geological Service

**Figure 5-1**  
**Wetland Impact and Mitigation Sites**



## **SECTION 6**

# **EARLY COORDINATION, PUBLIC MEETINGS, AND SCHEDULE**

This section provides an overview of the public and agency input that was vital to the development of the alternatives, the analysis of impacts, the selection of the Preferred Alternative and the measures to minimize harm that have been developed to mitigate project impacts. This section includes: early coordination; the public meetings held during the course of the project that led to the public hearing; comments received from the public at the public hearing and during the comment period and the responses to them; the comments of agencies and other entities and responses to them; and, finally, the subsequent steps that will lead to project implementation.

### **6.1 Early Coordination**

A Notice of Intent to prepare an Environmental Impact Statement was published in the *Federal Register* June 14, 2002 (Appendix C, Section 1). A scoping meeting was held August 29, 2002, in the city of Troy for agencies and local entities. A scoping packet was mailed to those invited prior to the meeting. A listing of those invited, those who attended, and those who responded to scoping materials is found in Appendix C, Section 2. Minutes of the scoping meeting are in Appendix C, Section 3.

Because of the potential for wetland impacts, MDOT initiated the Section 404 Concurrency Process. This process ensures that MDEQ, US EPA, the US Fish & Wildlife Service, and the US Army Corps of Engineers concur with MDOT on the project purpose and need and the practical alternatives to be evaluated in the DEIS. The intent is to get agreement at key points in the process to avoid delays later. As only 0.4 acres of wetland would be affected, the concurrency process was later deemed unnecessary. It is for this reason that there are references to concurrency in the letters from MDEQ dated March 14, 2003, and from US EPA dated May 23, 2003 (Appendix C, Section 4). And, in the letter dated October 17, 2002, the Corps noted that the project was outside their jurisdiction. The US Fish & Wildlife Service made no mention of concurrency in their letter dated March 21, 2003. Letters were sent by FHWA to MDEQ, US EPA, and the US F&WS ending the concurrency process.

Comments received in correspondence from federal and state agencies in response to early coordination are listed below.

#### **6.1.1 Federal Agencies**

- U.S. Fish & Wildlife Service – Noted that, “based on information presently available, there are no endangered, threatened, proposed, or candidate species, or critical habitat occurring within the proposed project areas. This presently precludes the need for further action on this project as required under Section 7” of the Endangered Species Act of 1973.
- U.S. Department of the Army, Corps of Engineers, Detroit Division – The Civil Works Program recommended contacting several individuals with respect to planning for the Twelve Towns Drain Environmental Infrastructure Program, including the Corps Project Manager, Pat Kuhne (313-226-6767). The Floodplain Manager recommended avoiding

or minimizing adverse impacts associated with use of floodplain and stressed contact with MDEQ, Land and Water Management Division, Hydraulic Studies Unit (517-335-3181) regarding applicability of a floodplain permit. The Regulatory Office noted that the project is outside the limits of the Corps regulatory jurisdiction for Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, and that contact should be made with MDEQ, Land and Water Management Division, Permit Consolidation Unit 517-373-9244).

- U.S. Environmental Protection Agency – Encouraged broadening the statement of purpose and need so transit and high occupancy vehicle use could be considered.

### **6.1.2 State Agencies**

- Michigan Department of Natural Resources, Wildlife Division – Noted the project, “should have no impact on rare or unique natural features at the location specified above if it proceeds according to the plans provided.”
- Michigan Department of Agriculture – Noted ‘little or no adverse impacts to agriculture,’ but asked that contact be made with Mr. John McCulloch, Oakland County Drain Commissioner (248-858-0958) to avoid impacts to drainage systems.
- Michigan Department of Environmental Quality – Suggested changes to a table related to roadway deficiencies.
- Michigan Department of State, State Historic Preservation Office – Provides concurrence with the Area of Potential Effects (APE) and the recommendations regarding *National Register* eligible properties. Stated that “no historic properties are affected.”

### **6.1.3 Local Agencies**

- Road Commission for Oakland County – Supports four lanes on I-75 through Oakland County; believes the lane additions should be for general purpose, not HOV; supports single-point interchange design at both 12 Mile Road and 14 Mile Road; and, noted that it is essential that design review and collaboration take place with their Engineering/Design staff regarding county roads: 12 Mile, 14 Mile, Big Beaver, Long Lake, Crooks, and Adams.

## **6.2 Public Meetings and Public Involvement**

Meetings were held during the course of the study to solicit information from the public, interested groups and agencies. The study has been guided by a Steering Committee comprised of representatives of a number of disciplines within MDOT. An I-75 Council comprised of local elected officials, representatives of community-based organizations and businesses, and interested local citizens also provided significant input. Meeting dates of the I-75 Council and key activities at each are listed below.

- May 22, 2002 – Introduction to the project, schedule, information about the first public meeting.
- July 30, 2002 – Review of transit/HOV methodology, indirect and cumulative methodology, the upcoming scoping meeting, and the second public meeting.
- November 7, 2002 – Results of the transit and HOV analyses.
- March 12, 2003 – Presentation of video summary of project, graphics of preliminary engineering performed to that date, a simulation of noise along the freeway, and a



simulation of how the single-point interchange would operate at 12 Mile Road. This meeting coincided with the public meeting, with the I-75 Council invited to attend.

- June 5, 2003 – Review of project status, capacity analysis, crash study results, and preliminary impact analysis results.
- November 20, 2003 – Review of project status and discussion regarding publication of DEIS and public hearing.

The public was directly involved at all stages, with multiple meetings prior to the public hearing. The mailing list from the I-75 Feasibility Study was carried over to the DEIS. Over 7,000 postcard notifications were mailed about ten days in advance of each meeting. Meeting dates, topics, and issues of interest at each meeting are noted below.

- June 5 & 6, 2002 – Kickoff meeting to introduce the project, discuss the schedule, and solicit initial ideas regarding solutions. Auburn Hills Community Meeting Room and the Viking Ice Arena in Hazel Park. Issues of interest: concern with noise, overweight trucks, notification process, and control of growth; support for transit and park-and-ride. (Total attendance 38 and 11, respectively).
- August 21, 2002 – Preliminary results of the transit and HOV analyses. Troy Public Library. Issues of interest: benefit/cost of proposed project; transit support; air quality; noise; poor bridge conditions; poor arterial conditions; build as quickly as possible. (Total attendance 60).
- March 12, 2003 – Preliminary roadway layout, including 12 and 14 Mile Road interchanges, and noise simulation. Auburn Hills Community Meeting Room. Issues of interest: concern with how long it may take to get lane added, and whether funding would be cut; concern that HOV might add to project cost; concern with noise and support for use of “quiet” pavement; support for other transportation modes; support for motorcycle use of HOV lane. (Total attendance 45).

At the first two meetings, a brief presentation was provided, followed by questions/answers and discussion. Graphics were present at all meetings to allow informed discussions. Comment forms were available at all meetings and collected at the meeting or later by mail. Comments were also solicited and recorded by staff attending the meetings. A toll-free phone number (1.800.GO FIX 75 or 886.463.4975) was available to sign up for mailings and to make any comments. A log of e-mail (the e-mail address is [www.mdot.state.mi.us/projects/I-75corridor/](http://www.mdot.state.mi.us/projects/I-75corridor/)) and other correspondence was kept during the course of the project. E-mails and correspondence were responded to promptly. Local officials were visited numerous times to understand the interests and concerns of their constituents. Logs of e-mail and phone calls are on file at MDOT.

During the I-75 Feasibility Study (1999-2000), a private individual prepared position papers entitled “Cycling Mobility: I-75 Corridor, South Oakland County” (February 2000), and, “Cycling Accessibility: I-75 Corridor, South Oakland County” (November 2000). These documents support increased bicycle/pedestrian access across I-75 between 8 Mile Road and M-59, calling for new non-motorized bridge crossings of I-75:

- Between 12 and 13 Mile Roads at Girard Avenue in Madison Heights;
- Between 13 and 14 Mile Roads at Whitcomb Avenue in Madison Heights;
- Between 14 Mile and Maple Roads in Troy;
- Between Livernois Road and Rochester Road near Kirkton Street in Troy;
- Between Big Beaver and Wattles in Troy; and,
- Near the Rouge River to connect Northfield Parkway with Firefighters Park in Troy.

Local officials in Madison Heights and Troy did not mention a need for additional overpasses when they were interviewed for this project in May 2002. Subsequently, the only comment received from these cities was a request from the city of Madison Heights that pedestrian and bicycle access be maintained under the Red Run overpass and a non-motorized path be developed along the east side of I-75 north of Gardenia to 14 Mile Road (see response in next section). This comment was addressed in coordination meetings held with Madison Heights April 15 and October 6, 2004.

### **6.3 Public Hearing, Public Comments, and Responses**

A Public Hearing was held January 27, 2004, at the Troy Marriott Hotel in Troy, Michigan. Approximately 70 people signed in at the public hearing. The numbers of comments received are as follows:

- 19 comment forms turned in at the hearing or received before the close of comments on March 12, 2004.
- 19 people speaking at the public hearing to court recorders
- 42 e-mails
- 3 faxes
- 26 letters from individuals, groups, or public entities
- 12 letters from resource agencies

Full copies of all comments (including the public hearing transcript) can be reviewed at the locations listed in the preface to this FEIS.

It should be noted that a commenter often had multiple comments or issues. Comments were systematically grouped into one of the following classifications:

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| • Project Support                  | • Right-of-way                    |
| • Project Opposition               | • Air/Health                      |
| • Legal or Regulatory Requirements | • Noise                           |
| • Purpose and Need                 | • Visual                          |
| • Alternatives/Evaluation          | • Environmental Justice           |
| • Cost/Financing                   | • Indirect and Cumulative Impacts |
| • Consistency with Planning        | • Sprawl                          |
| • Travel Forecasting/Modeling      | • Storm Water                     |
| • Traffic/Safety                   | • Construction                    |
| • Business Access                  | • Public Involvement              |
| • Pedestrian/Bicycle Access        | • Miscellaneous                   |

The following pages represent comments received from the general public and a number of organizations. These are organized using the above categories.

Comments received from agencies and government entities are treated separately in Section 6.4. That group of letters includes those from the cities of Troy, Royal Oak and Madison Heights, plus an unsigned draft interdepartmental communication from the City Manager of Ferndale to the Mayor and Council (attached to the letter from SEMCOG).

### 6.3.1 Project Support

**Comment:** Supports the lane addition.

**Response:** Comments acknowledged.

**Comment:** Supports the HOV lane.

**Response:** Comments acknowledged.

**Comment:** Supports the HOV lane for transit use.

**Response:** Comments acknowledged.

**Comment:** MichiVan's role should be noted in EIS as promoter of TDM strategies and as fleet manager of vehicles that would operate in HOV lane.

**Response:** MichiVan has been noted in the FEIS text.

**Comment:** Business Roundtable Transportation Committee will explore carpooling and vanpooling. Automation Alley supports carpooling and vanpooling.

**Response:** Additional discussion of carpooling and vanpooling has been added to the FEIS.

**Comment:** Add a lane to support jobs/economy.

**Response:** Comments acknowledged.

**Comment:** Strong support offered by the following: Automation Alley, the Oakland County Executive Office, Oakland County Business Roundtable, Road Commission for Oakland County, Waterford Chamber of Commerce, City of Troy.

**Response:** Comments acknowledged.

### 6.3.2 Project Opposition

**Comment:** Unspecified opposition to project.

**Response:** Comments acknowledged.

**Comment:** Unspecified opposition to the HOV lane.

**Response:** Comments acknowledged.

**Comment:** Against project braid design due to local traffic impacts in Royal Oak, especially related to Mohawk area or east 4th Street area.

**Response:** This concern was raised because the braid configuration presented in the DEIS did not allow direct access from I-696 to 11 Mile Road. The modified braid configuration presented in this FEIS maintains this access, eliminating the concern expressed in the above comment.

**Comment:** How would a 2-person per car peak-hour lane function in this car-loving state?

**Response:** Two-person HOV lanes prevail in most applications nationwide. Detroit has among the lowest auto occupancies in the nation. It is true, however, that all major cities have low rates. Detroit is not unique. The HOV lanes will encourage carpooling, vanpooling, and bus service by providing a travel time advantage, just as they do in other cities.

### **6.3.3 Legal or Regulatory Requirements**

**Comment:** The Notice of Intent did not include consideration of the Woodward/Chrysler Freeway Corridor regional or commuter railroad services identified in MDOT's 1997 "Southeastern Michigan Regional Rail Study" or the Chrysler Freeway Corridor commuter rail service or regional rail service option.

**Response:** The Notice of Intent (NOI) is the first formal step in the EIS process. The NOI should include the description of the proposed action, possible alternatives, the proposed scoping process, the purpose and need for the action, and the contact information for the lead agency, in this case the Federal Highway Administration. The NOI for this study included all of these elements and stated there would be a thorough analysis of transit alternatives and HOV. That analysis has been completed.

**Comment:** The project does not meet the requirements of Title 23, Section 134 for Metropolitan Planning related to safe and efficient surface transportation systems.

**Response:** The project does meet these requirements by encouraging the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development with and through urbanized areas, while minimizing transportation-related fuel consumption and air pollution.

**Comment:** Council on Environmental Quality regulations were violated: 1) A requested EIS of the entire metro Detroit Chrysler Freeway Corridor was not considered; 2) the availability of the railroad corridor was not evaluated as an alternative; 3) tiering of the EIS should be undertaken.

**Response:** The regulations were not violated. All reasonable and prudent alternatives were considered. The EIS is for the section of independent utility between M-102 and M-59. The Woodward Corridor was evaluated for transit propensity and while not meeting the purpose and need of the project, was found to be viable for a future transit project. Tiering of the EIS is not appropriate.

**Comment:** TRU reaffirms its comment on the I-375 EA that a single EIS is needed covering the Chrysler Freeway corridor from downtown Detroit to the north boundary of Oakland County, and includes its comments on the I-375 EA by reference.

**Response:** MDOT reaffirms its response that it will not combine I-375 and I-75 into one environmental impact statement, as these projects are separated by more than seven miles, and each has logical termini and utility. In the response to the I-375 EA, TRU sought more analysis of air toxics and noted the conformity needs for ozone and particulate matter. There were I-375-specific comments on noise, pedestrian access, cultural resources (Section 4[f]), and parking garages. There was concern for lost opportunity costs from not pursuing a regional transit plan. There was concern about the public participation process, especially the format of the public hearing. TRU indicated the scope of the I-375 project was too narrow; that modeling in support of the project was weak; that rejecting transit was arbitrary and capricious; that anything other than analysis of I-375 with I-75 to the north Oakland County line was segmentation; that an auto solution was contrary to environmental justice; that TRU was excluded from stakeholder meetings; and that an environmental impact statement should be prepared for the I-375 project. Where their comments were not project-specific, TRU's comments on the I-375 Environmental Assessment were virtually the same as those now being made on this DEIS. These comments are addressed by subject area in the following pages.

**Comment:** TRU recommends that MDOT carry out a Programmatic EIS (PEIS) to evaluate the regional impacts of geographically and generally related transportation projects.

**Response:** Regional effects are in Section 4.18 of the FEIS. Analysis was provided for public review in the *Indirect and Cumulative Impact Analysis Technical Report*, revised January 2005.

**Comment:** MDOT has engaged in unlawful segmentation. Traffic drawn or induced to an expanded I-75 will necessitate the need to expand 56 miles of arterials.

**Response:** The three elements of 23 CFR 771 related to segmentation: logical termini, independent utility, and full consideration of alternatives have been met. The proposed action connects four-lane sections of I-75 to the north and south and all practical alternatives to meeting the purpose and need have been considered. The "56 miles of arterials" are independent regional needs identified in the cumulative impact analysis. Section 4.18 identifies indirect impacts to eight miles of arterials related to the proposed project, but these too have independent utility.

**Comment:** MDOT's segmentation has precluded the objective consideration of mass transit alternatives.

**Response:** Segmentation has not occurred, as the Preferred Alternative has independent utility. The mass transit alternative analysis considered rapid transit in the Woodward corridor (parallel to and near I-75) from downtown Detroit to Pontiac, extending beyond the limits of the project in each direction. Modeling of transit in the Woodward corridor found the diversion of trips from I-75 cannot meet the project purpose and need.

**Comment:** MDOT's persistent pattern of road-based solutions undercuts SEMCOG's ability to make a systemic review of the regions' needs and develop integrated, intermodal solutions.

**Response:** MDOT's mandate is, in part, to preserve and improve Michigan's trunkline system. MDOT also supports regional transit development, which must have its origin at the local/regional level. The DEIS reports on a multi-modal solution and includes rapid transit in the Woodward Avenue corridor as part of the background network of the entire transportation analysis. HOV implementation will encourage carpooling and transit development and use.

**Comment:** It is totally inappropriate to design I-75 expansion based on the SEMCOG 2025 Development Forecast or the 2030 Development Forecast. The bias in the predictive land use and transportation models biases in favor of road investment and away from alternatives.

**Response:** The SEMCOG is the Metropolitan Planning Organization (MPO) for the region. They are responsible through the federal regulatory process for forecasting socioeconomic data and traffic. Their approved model is appropriate for MDOT use.

### 6.3.4 Purpose and Need

**Comment:** The DEIS states that inadequate roadway capacity is a need for expanding I-75. This project rejects the opportunity to create a commuter rail link that could serve to reduce VMT.

**Response:** As stated in Section 2.1, the purpose is "to increase the capacity of the transportation infrastructure in the I-75 corridor to meet travel demand for personal mobility and goods movement." As stated in Section 2.2, the need is "for increased corridor capacity" (emphasis added). Roadway capacity is not specified. Transit was included as part of the background network to assist in reducing vehicle miles of travel.

**Comment:** MDOT framed a purpose and need that improperly excluded alternatives. MDOT's intent to significantly expand highway capacity through the I-75 corridor is shown in its own Five Year Plan: new access ramps to the Ambassador Bridge; a new interchange at I-375; expanded interchanges at I-94, M-59, and Crooks Road; and other nearby projects.

**Response:** All reasonable and prudent alternatives were properly considered. Each of the noted projects has been considered in the cumulative impact analysis. MDOT does intend to preserve and expand (where needed) Michigan's Trunkline system.

**Comment:** MDOT has failed to justify its proposed expenditure in excess of \$530 million that further limits transportation options in Metro Detroit and southern Oakland County.

**Response:** MDOT has properly defined its proposed expenditure, consistent with the SEMCOG's *2030 Regional Transportation Plan* and the project's purpose and need. The widening of I-75 does not limit other transportation options and highlighted the viability of transit in the Woodward corridor.

**Comment:** The DEIS fails to properly analyze transportation and mobility needs intermodally or at a systems level within the corridor, such as better rail for freight and passenger movement and more transit.

**Response:** A multi-modal system is defined for the region in the transportation networks used in the DEIS. The Preferred Alternative of a new lane dedicated for use by HOV in peak period hours addresses mobility needs, as the HOV lane will encourage transit and ridesharing, which is available to serve mobility needs, including those without access to their own vehicle. (Section 3.6 and Technical Memorandum 2, *Refined Analysis of Transit and HOV Concepts*).

**Comment:** The purpose and need fails to take into account important regional planning objectives.

**Response:** The project is consistent with SEMCOG's *2030 Regional Transportation Plan*.

**Comment:** The worst congestion along the Preferred Alternative is at the I-696 interchange that ranked only 110 of 144 of the nations' worst traffic bottlenecks, hardly sufficient to justify the project.

**Response:** The I-696 interchange congestion does not alone justify the project. Since the interchange ranks as a congestion problem of national significance, it is logical to correct the situation. Congestion leads to crashes and safety issues. There is a recognized crash incidence at this location.

**Comment:** If streets serving an expanded I-75 are not modified, the purpose of expanding I-75 will be negated.

**Response:** Adding a lane to I-75 will increase the capacity of the corridor, meeting the project purpose and need. As stated in Section 2.1, the purpose is "to increase the capacity of the transportation infrastructure in the I-75 corridor to meet travel demand for personal mobility and goods movement." As stated in Section 2.2, the need is "for increased corridor capacity" (emphasis added). The lack of improvements to other streets will not nullify the increase in capacity, but, as the other streets are improved by local jurisdictions, the entire system will operate better, providing an efficient and safe transportation network.

### **6.3.5 Alternatives/Evaluation**

**Comment:** A number of comments supported mass transit development, as an alternative to the proposed action, or in addition to it.



**Response:** The DEIS found mass rapid transit to be viable in the Woodward corridor from downtown Detroit to 9 Mile Road. However, mass transit alone cannot meet the project purpose and need and so was not considered a practical alternative. Transit is an essential part of transportation in the region. The Preferred Alternative will encourage this

**Comment:** The DEIS did not develop a thorough analysis of transit (as directed by SEMCOG). The EIS bypasses a comparative analysis of alternatives. Reasonable and practicable alternatives, such as transit, are not adequately considered.

**Response:** A full transit analysis was performed with frequent, high-speed service and an extensive feeder bus network. See, Section 3.6 in this EIS and the *I-75 Corridor Planning/Environmental Study Refined Analysis of Transit and HOV Concepts* (Technical Memorandum No. 2), October 2002. It was found to not be a practical alternative.

**Comment:** The plan does not include mass transit or HOV.

**Response:** The DEIS found mass transit to be viable in the Woodward corridor, but cannot meet the project's purpose and need. HOV, which will encourage transit use, is the Preferred Alternative, so the final plan does include HOV lanes for use in the peak hours (approximately 7-9 a.m. and 4-6 p.m.).

**Comment:** The DEIS shirks factoring how a blend of alternatives could help. A new light rail line in the Woodward corridor may minimize the need to dramatically expand traffic capacity on I-75, rather than simply making interchange improvements and safety enhancements.

**Response:** A new light rail line in the Woodward Avenue corridor, as defined by regional planning efforts, would not eliminate the need for a full lane addition on I-75 because it would not attract enough trips or divert enough trips. TSM and ITS solutions also cannot alone meet the purpose and need. As stated in Section 2.1, the purpose is "to increase the capacity of the transportation infrastructure in the I-75 corridor to meet travel demand for personal mobility and goods movement." As stated in Section 2.2, the need is "for increased corridor capacity" (emphasis added). TSM and ITS solutions are in place already and are under constant review. These, in conjunction with a new light rail line, fall short of substituting for the I-75 lane addition.

**Comment:** The project will discourage people from walking and finding alternative means of transportation.

**Response:** Improved pedestrian linkages across I-75 will offer equal or improved access across the freeway. Table 4-2 lists these bridges, including the six pedestrian bridges that will be reconstructed. All access will be ADA compliant. Implementation of HOV will offer expanded opportunities in the form of ridesharing and buses to those with limited means of transportation.

**Comment:** Alternatives are limited to those that begin and end within the geographic limits of the highway segment being considered.

**Response:** This is incorrect. The technical analysis of mass rapid transit was conducted from downtown Detroit to Pontiac. An expanded feeder bus system extending several miles beyond the mass transit system was also included in the analysis. The analysis extended beyond the proposed I-75 project limits at both ends.

**Comment:** The Transportation Improvement Association supports inclusion of: 1) an HOV lane in peak periods, 2) travel demand management, 3) ITS technology, and 4) para-transit.

**Response:** Comment acknowledged.

**Comment:** MDOT should use a "Triple Bottom Line" approach to alternatives evaluation. The DEIS totally bypasses a comparative analysis of alternatives.

**Response:** The DEIS considered all reasonable and prudent alternatives consistent with the Council on Environmental Quality Guidelines (40 CFR Parts 1500-1508), FHWA's Technical Advisory 6640.8A, and other applicable federal laws and regulations.

**Comment:** The project does not provide job access for the transit dependent.

**Response:** Although providing job access for transit dependents was not implicit in the purpose and need, the implementation of the HOV lane will support bus transit development and encourage ridesharing available to transit dependents.

**Comment:** Failure to invest in transit deprives metro Detroit of economic development opportunities.

**Response:** Transit investments in the Detroit region are extensive. Development of a rapid transit system will depend, as defined by the federal government, on a locally dedicated funding source to support such a transit component.

**Comment:** The project should include Single Point Urban Interchanges (SPUIs).

**Response:** Analysis of SPUIs has found that reconstructing the 14 Mile interchange is the best solution when considering traffic level of service and cost. The 12 Mile Road interchange, as well, is anticipated to operate with the least impact as a reconstruction. However, during the design and value engineering phases, interchange designs such as the SPUI will be reexamined for the 12 Mile interchange.

**Comment:** The single-point interchange provides no safe haven for pedestrians.

**Response:** No SPUI has been incorporated in the Preferred Alternative. However, as noted in Section 4.2.2, SPUIs have the advantage of stopping most traffic movements so that pedestrians can safely move. The safety of the pedestrian movement across continuously moving right-turn traffic at ramp ends is a function of the curve radius and traffic control, if any, at these locations.

### 6.3.6 Cost/Financing

**Comment:** The cost of the project, combined with the cost of other needed projects is unaffordable.

**Response:** The project is included in SEMCOG's cost-feasible *2030 Regional Transportation Plan* and, therefore, has been demonstrated to be affordable.

**Comment:** Money should be spent on existing roads.

**Response:** The Governor's Fix-it First/Preserve First plan is doing just that. This EIS, however, is funded through completion. The project is scheduled for 2011-2015 in SEMCOG's *2030 Regional Transportation Plan*, after the Governor's plan is complete.

**Comment:** The cost estimate of half a billion dollars is very low. The DEIS is deficient for not providing a more detailed cost estimate to allow evaluation of opportunity costs.

**Response:** The cost estimate is based on best early preliminary engineering practices used at this planning stage of project development. It will be refined during subsequent phases, particularly in the design phase.

**Comment:** I-75 is not a stand-alone project. The DEIS must address arterial street impacts and how costs will be met. The cost to expand the other 56 miles of arterials should be reported in the DEIS. The true cost of expanding I-75 will be closer to \$1.5 billion. This project requires additional spending on interchange expansions within and adjacent to the project and sets the stage for expansion of I-75 north.

**Response:** The proposed project is a stand-alone project with independent utility. As noted in Section 1.2.8, interchange improvements at Crooks/Long Lake and at M-59 have independent utility and are separate projects. The cost of the I-75 project is presented in Section 4.20. The discussion of indirect and cumulative impacts in the FEIS (Section 4.18) covers the referenced 56 miles of arterials.

**Comment:** The project would drain public money from transit investments.

**Response:** It is inaccurate to characterize the I-75 project as in competition with transit projects. For example, there have been referenda in Oakland County related to transit development and funding. Transit is an essential part of transportation in the region in conjunction with needed road improvements. The future of highway and transit funds will be determined by a new federal funding authorization bill. A key to major transit investments is the extent to which a local community or region contributes, minimizing the federal share. Major transit initiatives have historically been distinct from other transportation funding.

**Comment:** More highway lanes means more maintenance cost.

**Response:** Comment acknowledged.

**Comment:** The HOV lane will be difficult to enforce for only 4 hours a day. HOV should not be approved without a permanent and dedicated source of funding for proper enforcement.

**Response:** Peak hour HOV lanes have been implemented in many other states successfully. Dedicated funding and other options, including partnerships, will be coordinated for enforcement activities with the FHWA, MDOT, and local jurisdictions during subsequent phases.

**Comment:** There is a significant difference in cost between repairing I-75 to its existing design and the full project.

**Response:** The cost of the reconstruction of I-75 without the lane addition (one in each direction) would be approximately \$300 million, compared to \$572 million with the lane addition and associated improvements (reconstructing 12 and 14 Mile interchanges, safety improvements at I-696 and M-102, and a new drainage system). With implementation of an HOV lane, the federal funding percentage may be 90 percent rather than the typical 80 percent. In such a case, the non-federal share would be 10 percent of \$572 million, or \$57 million. The non-federal share with a reconstruction of I-75 without the HOV lane would be 20 percent of \$300 million, or \$60 million. Therefore, the non-federal share would be less with the Preferred Alternative, than reconstruction without the lane addition.

**Comment:** MDOT's decision to finance preliminary engineering with Build Michigan III dollars increases the financial burden on local taxpayers.

**Response:** Comment acknowledged.

**Comment:** The project will lower property values and reduce Metro Detroit's tax base.

**Response:** The very minor tax base loss associated with acquisition of private property by government will be recouped by improved access and safety.

**Comment:** MDOT should carry out a cost-benefit analysis of the proposed I-75 expansion and its alternatives. With the major focus of this project on reduced travel times, no analysis was provided to show the payback in investment in time due to delays caused by construction.

**Response:** Benefit/cost analysis has been used for specific improvements where one can demonstrate a clear cause/result relationship - such as safety improvements (see *Crash Analysis* The Corradino Group, June 2003). It is difficult and often inaccurate to capture the decision-making process in simple benefit/cost terms, and benefit/cost is not used in such a capacity.

### **6.3.7 Consistency with Planning**

**Comment:** Michigan's Transportation Vision is not met. The project is not safe, efficient, embracing of all modes, equitable, a good investment for taxpayers, socially responsible, or environmentally responsible.

**Response:** The "Vision" that emerged from the Transportation Summit held December 2 and 3, 2003, states, "Michigan will lead the 21st century transportation revolution as it led innovation in the 20th century. We will move people and goods with a safe, integrated and efficient transportation system that embraces all modes, is equitably and adequately funded, and socially and environmentally responsible. Michigan's transportation community will work together to ensure that resources are in place to deliver the system." The Preferred Alternative fully meets this vision by providing safety upgrades to 18 miles of freeway, implementing HOV as an alternative to single-occupancy vehicle use, minimizing impacts to the greatest extent possible, and selecting the most environmentally responsible alternative.

**Comment:** The project does not further SEMCOG's *2030 Regional Transportation Plan* Goals and Objectives (and similar TEA-21 goals) to: enhance accessibility and mobility for all people; enhance accessibility and mobility for freight; enhance community and economic vitality; promote a safe and secure transportation system; and protect the environment.

**Response:** The proposed widening of I-75 accommodates single-occupancy vehicles, freight, and high-occupancy vehicles in peak periods. The project enhances accessibility and mobility for all who contribute to the economic vitality of the area, while providing a safe transportation system to travel on.

**Comment:** The project does not satisfy historic goals of the *Greater Detroit Area Freeway Rehabilitation Program* (1990), including a number of issues identified by the City of Detroit relating to low auto ownership in the city, consideration to improvement of parallel surface routes or freeway transit lanes and pursuit of federal funding for fixed rail systems on Woodward and Gratiot.

**Response:** This project serves Detroiters by improving access to jobs in Oakland County. As noted in Table 4-7, more commuters travel from Wayne County to work in Oakland County than the reverse. Goal #7 of the *Greater Detroit Area Freeway Rehabilitation Program* (1990) is to "strive to maintain the system . . . at no lower than Level of Service E." This project would achieve that goal, while also providing HOV lanes, which facilitate transit on the freeway.

**Comment:** Conformity must be demonstrated before this project can become a part of the Regional Transportation Plan.

**Response:** The project is on SEMCOG's conforming *2030 Regional Transportation Plan*.

**Comment:** MDOT must factor in the increase in VMT that would result from the I-75 expansion in its analysis of air quality impacts.

**Response:** VMT is accounted for in the analysis performed by SEMCOG to determine conformity with the State Implementation Plan.

### 6.3.8 Travel Forecasting/Modeling

**Comment:** The DEIS team did not use mode choice tools. This DEIS has not evaluated shifts to transit because SEMCOG and MDOT do not have a model in place to study the benefits of transit for relieving the congestion burden.

**Response:** A mode choice model was used in the transit analysis for this study. This is documented in Section 1 of *Technical Memorandum No. 2, Refined Analysis of Transit and HOV Concepts (October 2002)*. It has been available for public review since the time of its publication and was a topic of discussion at the November, 2002, I-75 Council meeting and the August 21, 2002, public meeting.

**Comment:** MDOT's model fails to account for induced travel demand. The transit analysis did not consider induced development of transit investment. Modeling did not include alternative land development trends that transit would support.

**Response:** US EPA and FHWA have determined that the tools to analyze induced travel are not fully developed at this time. There is no requirement to account for this at this time. The transit analysis, however, did assume high speeds, frequent service, and a supporting bus feeder system to test an optimized mass transit system on the Woodward corridor.

**Comment:** SEMCOG's forecasting treats the continuous outward land development pattern as an independent variable, however land development is completely dependent on capacities currently available.

**Response:** SEMCOG uses an approved planning process of small area forecasts that takes into account land use and zoning in each constituent jurisdiction. This becomes the approved land use and trip-making base for the transportation model, approved by FHWA with US EPA review. It should be noted that land development is not "completely dependent" on transportation capacities, since much of the region (Detroit) has roadway capacity but no growth.

**Comment:** Modeling failed to consider the effect on traffic counts of the Governor's Land Use Council recommendations.

**Response:** It is speculative to adjust the approved MPO's (SEMCOG) triptable in response to these conceptual initiatives. However, even with a 10 percent reduction in traffic volumes the project would still be needed.

**Comment:** How can traffic increase when population and employment will reduce between 8 Mile Road and Troy?

**Response:** There is a substantial amount of travel with origins and/or destinations beyond these points.

**Comment:** When these projects are undertaken, there will be gridlock. Congestion will not be alleviated and will be aggravated for years. Congestion will increase on 11, 12, & 14 Mile.

**Response:** Traffic modeling summarized in Table 2-3 and in Figures 2-1 and 2-2 demonstrates this is not so.

**Comment:** MDOT must address the increase in NAFTA-related international truck traffic.

**Response:** SEMCOG has conducted truck surveys at key points in the regional network to assist in the forecasting of traffic. That analysis is taken into account in building the regional trips tables used in the modeling effort.

### 6.3.9 Traffic/Safety

**Comment:** The project will improve safety.

**Response:** Comment acknowledged.

**Comment:** The study leaves ten-foot shoulders on the inside. Are there alternatives in the existing right-of-way?

**Response:** The ten-foot median shoulders meet current design standards. Construction of a wider shoulder of 12 feet was studied. It was determined that such shoulders would result in increased impacts in the form of acquisitions/relocations (Section 3.7.3), the cost of which could exceed an additional \$100 million. It was not considered a practical alternative.

**Comment:** The study leaves the dangerous "S" curve in Hazel Park.

**Response:** The study analyzed "straightening" the "S" curve in Hazel Park. To do this, 150 parcels, including 100 residential structures, 20 business structures, a church, and an elementary school (Section 3.7.2) would be impacted. The cost would exceed \$100 million. The significant impacts to the community and cost made it an impractical design alternative.

**Comment:** Adding a lane will increase crashes.

**Response:** According to FHWA *Highway Statistics*, urban freeways have a lower crash rate than arterial streets. As traffic diverts from surface streets to freeways, overall crash totals are expected to decline.

**Comment:** The 4<sup>th</sup> Street ramp shift will increase local traffic on several north-south streets at the east end of 4<sup>th</sup> Street.

**Response:** The 4th Street ramp shift proposed in the DEIS was studied further and coordination occurred with the city of Royal Oak. The result is that access from 4<sup>th</sup> Street will continue to be allowed and the layout at the access point will be improved.



**Comment:** The inability to exit from I-696 to 11 Mile Road with the proposed braid will shift harmful amounts of traffic to the Mohawk area. The public is outraged at having to divert a few blocks around us on Mohawk.

**Response:** After the comments were received, additional analysis was conducted and local coordination occurred. The DEIS braid design was modified so that access from I-696 to 11 Mile Road is maintained. Therefore, there will be no shifts of traffic to the Mohawk area.

**Comment:** Crash rates may go up. The driving option is more dangerous. The safety impacts on the aging have not been considered. Higher speeds and level of service will result in more crashes with greater severity.

**Response:** Crash rates will not go up (Section 2.2.6). The elderly will benefit, as will all travelers, from the crash countermeasures that are proposed as a part of the project.

#### **6.3.10 Business Access**

**Comment:** Traffic diverted from 11 Mile will hurt businesses.

**Response:** The modified braid design presented in this FEIS allows exiting to 11 Mile Road. The opportunity will also exist for local residents to turn at Lincoln Avenue as the ramp will shift to the south to allow this movement.

#### **6.3.11 Pedestrian/Bicycle Access**

**Comment:** MDOT's I-75 project significantly interferes with pedestrian access within the I-75 corridor, which will have serious health consequences.

**Response:** Table 4-2 demonstrates that pedestrian access across I-75 will be improved along the corridor. When the five pedestrian bridges in Hazel Park and the one in Madison Heights are replaced, they will meet the guidelines of the Americans with Disabilities Act (ADA). Current guidance calls for more extensive ramps (which in several locations in the corridor will require property acquisition and relocations, see Section 3.7.1). Future guidance may offer the option of elevators. MDOT will continue to study the most appropriate ways to comply with ADA and will incorporate those elements into design.

#### **6.3.12 Right-of-Way**

**Comment:** There is a new house at 26091 Hampden.

**Response:** Comment acknowledged.

**Comment:** A business owner has a concern regarding the taking of the business' parking lot, and details of design.

**Response:** These issues will be coordinated during right-of-way acquisition and design, which is anticipated to be several years away.

### 6.3.13 Air/Health

**Comment:** The project will improve air quality.

**Response:** Comment acknowledged.

**Comment:** The study was not thorough on air pollution. Air pollution from cars and trucks is a major health hazard. MDOT must address the increase in toxic air pollutants. The DEIS ignores, underestimates, or miscalculates impacts on human health and the environment. NEPA requires MDOT to carry out a corridor health study, including research evidence identified in EPA's Criteria Document (on particulate matter). Health concerns should stop the project.

**Response:** Sufficiently reliable analytic methods are not available to provide credible estimates/forecasts of air toxics impacts on human health. The National Environmental Policy Act (NEPA) does not require such epidemiological health studies to be conducted. The air quality analysis conducted was in compliance with NEPA and other federal environmental law. It should be noted, however, that air quality is improving and will continue to do so as vehicles in operation in the study area, built to meet continually more stringent air quality controls, continue to populate the fleet.

**Comment:** A more detailed analysis of particulate matter must be done. Impacts to asthma sufferers should be considered in more detail. There should be a greater effort to examine data and research on health and proximity to freeways.

**Response:** Unfortunately, sufficient reliable methods are not available to provide credible estimates/forecasts of particulate matter's impacts on human health. They are not required as a part of the NEPA process at this time.

**Comment:** The DEIS does not propose appropriate mitigation. What measures would be taken to abate air pollution?

**Response:** No air quality standards are violated, and the project is listed on SEMCOG's conforming, cost-feasible *2030 Regional Transportation Plan*. By the time the project is constructed on-road and off-road (construction) vehicles will meet more stringent air quality standards, and diesel fuel will be substantially cleaner. Standard mitigation with respect to maintenance of traffic (Section 5.10), dust, and bituminous and concrete mixing plants (Section 5.13) will be adhered to.

**Comment:** MDOT must verify that the cold start default average is appropriate.

**Response:** The US EPA and FHWA review and approve modeling assumptions related to conformity made by SEMCOG, the regional Metropolitan Planning Organization. SEMCOG's assumptions have been reviewed and approved by both agencies.

**Comment:** MDOT needs to use proper mixing heights and surface roughness factor in the air quality analysis.

**Response:** Mixing heights and surface roughness factors used are consistent with those recommended in documentation accompanying the CAL3QHC model. Details of the air quality analysis are available in the *Air Quality Impact Analysis Technical Report*, October 2003.

**Comment:** The model needs to include receptor grids near locations that are likely to serve traffic during peak hours originating within a fifteen-minute drive of the project area.

**Response:** Receptors were positioned consistent with the best practices for such air quality analysis. Receptors represent locations where humans are likely to be present for at least an hour. As Section 4.7 indicates, over 50 receptors were modeled at 11 locations that were considered to be most sensitive to traffic effects. All estimated values were well within National Ambient Air Quality Standards.

**Comment:** Increasing travel speeds by adding capacity actually increases CO and VOC emissions (citing data from MOBILE5a and EMFAC7F models).

**Response:** Newer data have changed the speed vs. emission factor curves, especially for newer vehicles and future years (*Sensitivity Analysis of MOBILE6.0*, EPA-420-R-02-035, December 2002). A key factor in the creation of air pollutants by mobile sources is to reduce stop-and-go travel, which occurs when capacity is limited and congestion occurs. An additional lane reduces the amount of delay related to incidents as it helps traffic pass an incident and allows traffic to move more smoothly and efficiently. With the lane devoted to HOV use ridesharing is increased and average auto occupancy improves.

**Comment:** The DEIS refers to the need to obtain air quality permits from Wayne County. This permitting is now performed by the Michigan Department of Environmental Quality.

**Response:** Comment acknowledged. The reference has been changed.

**Comment:** The DEIS fails to address increased energy consumption and potential increases in emissions of greenhouse gases from mobile sources.

**Response:** Analysis of greenhouse gases is not required on a project-level basis.

#### 6.3.14 Noise

**Comment:** Please provide a graphic showing noise changes at the next public meeting. Will there be noise walls and where?

**Response:** Graphics displayed at the public hearing (and earlier at a public meeting held March 12, 2003), in the DEIS (Figure 4-5), and in this FEIS (Figure 4-5), show the location of proposed noise walls. The text (Section 4.8.5) provides extensive documentation of why areas did, or did not, qualify for consideration of noise abatement. Three locations changed due to

changes in the MDOT Noise Policy. These are listed in Table 4-14. Walls 17 and 18 became reasonable as the length restriction that was earlier included in the Policy was removed. Wall 5 was no longer considered reasonable as there are no benefiting residences to go along with the school. Please refer to the updated *Noise Study Report* available upon request.

**Comment:** The study was not thorough on noise pollution. The DEIS does not accurately disclose increases in noise pollution or propose appropriate mitigation.

**Response:** Increases in noise levels were documented in the DEIS. Modifications to the braid and changes in the Noise Policy resulting in an updating of the *Noise Study Report* and Section 4.8.5 of this FEIS. Eighteen noise walls totaling 4.9 miles in length are proposed.

**Comment:** Will Northfield Hill subdivision get a noise wall?

**Response:** Yes. See Section 4.8.5 and Figure 4-5d. Wall 16 (0.4 miles long) and Wall 18 (0.1 miles long) as listed in Table 4-14 would provide mitigation to Northfield Hill subdivision.

**Comment:** Aesthetically pleasing noise walls must be included along with treatment to individual homes not protected by noise walls. Noise wall design materials, cost, maintenance and jurisdiction must be identified.

**Response:** A series of criteria must be met for consideration of noise abatement (see Table 4-12, FHWA Noise Abatement Criteria). Typically, individual homes do not meet the adopted criteria. Determinations regarding the appearance of walls will result from future meetings with property owners in the sections eligible for such walls in the design phase of the project. Meanwhile, the context sensitive design process would invite local municipal officials to share their views on the overall project design.

### 6.3.15 Visual

**Comment:** How high will the ramp braid be?

**Response:** The ramp braid connecting I-696 to northbound I-75 would be at ground level. The off ramp from northbound I-75 to the service drive would pass underneath, below ground level.

### 6.3.16 Environmental Justice

**Comment:** The DEIS does not appropriately evaluate environmental justice implications or mitigate disparate adverse impacts on minority and low-income populations.

**Response:** The impacts to minority and low-income populations are not disproportionately high and adverse (see Section 4.3). The project will maintain access to jobs and support transit development and ridesharing opportunities for those with limited access/use of an automobile. A continuing effort will be made to identify disproportionately high and adverse impacts to minority and low-income populations during subsequent phases of this project. If such effects are

identified, every effort will be made to actively involve minority or low-income populations in the project development process, and to avoid or mitigate any potential disproportionately adverse impacts that may result.

### **6.3.17 Indirect and Cumulative Impacts**

**Comment:** There is no discussion of the cost and impacts of the 56 miles of arterial lane additions.

**Response:** Analysis is presented in Section 4.18 of this FEIS. Details are provided in the *Indirect and Cumulative Impact Analysis Technical Report*, January 2005. Table 4-23 provides information on the impacts and costs related to these projects.

**Comment:** The DEIS fails to give adequate consideration to the social and economic costs and ramifications of the expansion of I-75 and the multiple societal social and economic problems that could begin to be solved by recommending alternatives as priorities.

**Response:** The EIS recommends implementation of actions that address the project's purpose and need and examines the social and economic impacts of those actions. The EIS has addressed a full range of alternatives, including transit and Transportation System Management (TSM). SEMCOG and its constituent members continue to examine a full range of transportation modes for Southeast Michigan.

**Comment:** The DEIS ignores, underestimates, or miscalculates the economic impact.

**Response:** Economic issues are covered in Section 4.4 of this FEIS. Data show Oakland County to be the leading job producing area in Michigan. The Preferred Alternative responds to the growth in the county. Changes in State Equalized Value indicate that growth has occurred along the entire length of the Preferred Alternative. Direct tax base effects have been accurately estimated. The anticipated continued growth in the tax base substantially exceeds estimated losses due to the potential property acquisition for the project.

**Comment:** MDOT has ignored the cumulative impacts and the (lost) opportunity costs of investing the large sum of public dollars for so little economic benefit to the entire region. MDOT has failed to consider the cumulative impact of the proposed project along with other past, present, and reasonably foreseeable future actions, including the widening to the north Oakland County line of I-75 and other highway projects, such as I-94, and I-375, and, initiatives to implement transit and commuter rail in the I-75 corridor from downtown to at least Pontiac.

**Response:** The indirect and cumulative analysis is presented in Section 4.18 of this FEIS. Details are provided in the *Indirect and Cumulative Impact Analysis Technical Report*, January 2005.

**Comment:** For cumulative impact analysis the DEIS needs to develop a mitigation plan for the environmental impacts of the entire plan, including arterial road changes.

**Response:** The FEIS addresses impacts due to the freeway improvement. It is up to the implementing agencies to define mitigation at the time each of these independent projects undergoes its environmental review within its respective jurisdiction.

**Comment:** There is an inadequate summary of indirect impacts. The agency has failed to meet the "hard look" standard (for indirect and cumulative impacts) that requires more than general information or reference to other documents, sufficient to let courts and the public make a reasoned decision of the anticipated impacts.

**Response:** Federal guidance states ". . . the continuing challenge of cumulative effects analysis is the focus on important cumulative issues, recognizing that a better decision, rather than a perfect cumulative effect analysis, is the goal of NEPA." The FEIS is in compliance with this guidance. The FEIS Section 4.18 Indirect and Cumulative Impacts has been substantially expanded, drawing from the revised *Indirect and Cumulative Analysis Technical Report* (January 2005).

**Comment:** The secondary air quality impacts of this project are not addressed in the DEIS.

**Response:** The secondary air quality effects are accounted for in SEMCOG's conformity analysis performed for projects in its cost-feasible *Regional Transportation Plan*.

### **6.3.18 Sprawl**

**Comment:** This project promotes sprawl. The project will encourage people and jobs to move out into northern Oakland County.

**Response:** Existing travel demand is being served poorly, and travel demand will increase. The project responds to the defined purpose and need. It will serve the existing and growing travel demand. The multiple reasons for that demand and its relationship to sprawl are addressed in the *Indirect and Cumulative Impact Analysis Technical Report*, January 2005, in the section entitled "Regional Issues."

### **6.3.19 Storm Water**

**Comment:** The cost of the impact of storm water hasn't been addressed. The DEIS does not provide detail of how separation of storm water system affects Madison Heights.

**Response:** I-75 storm water now flows into a combined sewer system (meaning storm water mixes with sewage in one set of pipes) that flows to the Detroit treatment plant via the Twelve Towns Combined Sewer Overflow system. The Preferred Alternative will separate these flows, thus reducing the potential for overflow of sewage into the Red Run Drain during storm events. The storm water would be redirected to the Red Run drain downstream of the Twelve Towns Combined Sewer Overflow system. During normal flow periods, the Red Run drain can accommodate this flow. During storm events, I-75 storm water would continue to go to Red Run drain as it does today, but it would not mix with sewage that flows to Red Run Drain today under overflow conditions via the Twelve Towns Combined Sewer Overflow system. The preliminary

cost estimate for the changes to the storm water system is \$11 million and is included in overall project costs.

**Comment:** The DEIS does not accurately disclose increases in water pollution or propose appropriate mitigation.

**Response:** See the above response. The separation of I-75 storm water from the combined sewer system means that there will be less water pollution due to combined sewer overflows. Overflows occur when the combined system is overwhelmed by storm water. When the I-75 storm water is removed from the system, there will be fewer overflows. However, by diverting I-75 runoff from the combined system, there is the potential for increased amounts of pollutants from road runoff to be discharged, but this will be mitigated through installation of Best Management Practices to the maximum extent practical. Standard MDOT mitigation practices are detailed in Sections 5.3 and 5.9 of the EIS.

### **6.3.20 Construction**

**Comment:** Where is the planning for transit as mitigation during construction? MDOT should use Construction Traffic Maintenance and Congestion Mitigation and Air Quality Improvement Program (CMAQ) funding to finance transit in advance of and during construction. The DEIS is deficient for not having proposed a specific plan such as this.

**Response:** Planning for transit as mitigation during construction has been outlined in the FEIS in Section 4.2.4. A funding plan will be developed in later phases of the project. Many funding sources will be considered for use.

**Comment:** The DEIS does not discuss the potential duration of construction, its phasing or reasonable opportunities for transit investment as a tool for congestion management. Without this information it is impossible to assess the construction impacts on host communities, and their economic viability.

**Response:** Construction phasing will be developed further in the design and value engineering phases of this project. Adding a lane in each direction is expected to take approximately four construction seasons, once all right-of-way has been acquired and the design has been approved. Local coordination will occur with adjacent communities in order to minimize construction impacts. The project is now listed on SEMCOG's *2030 Regional Transportation Plan* for the 2011 to 2015 time period. It should be noted that the design portion of this project has been deferred to the Governor's Preserve First Program. Construction funding has not been identified for this project.

**Comment:** Detours will cause enormous negative impacts on the residences and businesses along Woodward. There is no plan to handle traffic and disruptions during the multiple years of construction.

**Response:** An analysis of traffic shifts to Woodward Avenue during construction of the I-75 project was conducted for the Environmental Assessment prepared for the M-1/M-102 Project. Analysis showed that Woodward Avenue would handle the traffic without significant congestion



or safety issues. However, details of detour routes will be coordinated locally during the design phase of this project in order to minimize impacts to the greatest extent possible. It should be noted that the lane addition makes maintenance of traffic easier because another lane is available into which traffic can be diverted.

**Comment:** The community must be protected from adverse air quality impacts during construction. Construction and related off-road vehicles are for the most part unregulated.

**Response:** Details of mitigation of air quality during construction are found in Section 5.13. As announced May 10, 2004, EPA is implementing more stringent emission rules for off-road vehicles and fuels. These mandatory rules will be in effect prior to the construction of the I-75 project.

### 6.3.21 Public Involvement

**Comment:** MDOT subverted public participation by too narrowly defining stakeholders.

**Response:** Section 6.2 covers the extensive public involvement program, leading to the public hearing; three sets of public meetings and five meetings of the I-75 Council, comprised of local elected officials, representatives of community-based organizations and businesses, and interested local citizens. The meetings were all open to the public. The mailing list for meeting notification exceeded 7,000 by the time of the public hearing. Members of the public and organizations came and participated in all these meetings. Additionally, a free "800" telephone hotline number has been available for calls; the project Web site has been continuously updated, including information on upcoming meetings and the I-75 Council minutes; and, the opportunity to e-mail MDOT with questions and comments has been available since the project's beginning.

**Comment:** MDOT's public participation process was inadequate because the agency failed to hold a "town hall" style public hearing.

**Response:** Public participation was conducted in a manner consistent with the FHWA-approved process. It reaches many people and provides a multitude of opportunities to contact the study team and comment on the study. Study team members were available at all meetings to answer questions on an individual basis. The format was designed to effortlessly reach more people, as some are intimidated by the public speaking format.

### 6.3.22 Miscellaneous

**Comment:** There should be transit funding for the disabled.

**Response:** Comment acknowledged.

**Comment:** MDOT should examine the potential for or institute HOT lanes.

**Response:** HOT lanes are high occupancy toll lanes. The concept is to offer the option to the public of using the HOV lane for a fee. It should be recognized that in practice, HOT lanes are generally implemented when HOV lanes are barrier-separated from general traffic flow and

are only established after the rate of use of an HOV lane is known from actual experience. HOT lanes also require a substantial capital investment and an oversight agency with tolling authority. MDOT will construct HOV lanes. If, in the future, HOT lanes seem to be a viable alternative, they will be studied.

**Comment:** Truck-only lanes should be considered.

**Response:** I-75 through the study area has a relatively low percentage of trucks, especially during peak periods. A truck-only lane would not be a cost-effective alternative for the freeway.

**Comment:** What is the effect on Holly? Are there plans to widen I-75 to Holly?

**Response:** Residents of the Holly area will benefit from reduced congestion, if they use I-75 south of M-59. MDOT does plan to study I-75 further north, but the schedule for such widening is unfunded and unknown at this time.

**Comment:** Add a lane all the way through Oakland County. Add interchange at Clintonville.

**Response:** The *I-75 Corridor Study in Oakland County* (November 2000) recommended adding a lane through Oakland County. The same study concluded that an interchange at Clintonville Road did not have sufficient public support to pursue it. An additional study from M-59 north to the county line will need to be conducted to determine the need of a lane.

**Comment:** I am against the I-75/Long Lake Road interchange.

**Response:** The I-75/Long Lake Road interchange is an independent project not covered by this EIS.

**Comment:** Slotted barriers should be used to protect small animals and for visual appeal. Higher fences would protect deer, and smaller mesh fences would protect small animals.

**Response:** Comment acknowledged.

**Comment:** The Square Lake interchange should be the top priority.

**Response:** A lane addition for northbound I-75 through this interchange was implemented in the summer of 2002. Additional changes are under construction now, modifying lane use from north- and southbound I-75 to Square Lake Road.

**Comment:** The DEIS fails to provide adequate mitigation for impacts it does acknowledge.

**Response:** Specifics of mitigation are covered in Section 5 of the FEIS.

## 6.4 Agency Comments and Responses

Comments were provided to MDOT through interagency coordination resulting from the circulation of the DEIS. Table 6-1 lists agencies that received the DEIS and those that commented, with the date of the response. This section presents each of the letters and follows with responses to the questions and comments.

**Table 6-1  
Agencies Sent DEIS Copies and Comments Received**

	Comments	
	Requested	Received
<b>Federal Agencies</b>		
US Department of Agriculture, National Resource Conservation Service	X	December 31, 2003
US Department of Commerce, Environmental Affairs	X	January 29, 2004
US Department of Energy, Washington Office	X	
US Department of Health & Human Services, Centers for Disease Control	X	
US Department of Housing and Urban Development, Area Director	X	
US Department of Interior, National Parks Service	X	
US Department of Interior, Office of the Secretary		March 10, 2004
US Department of Interior, US Fish & Wildlife Service	X	
US Department of Transportation, Federal Transit Administration	X	
US Environmental Protection Agency, Region V	X	February 23, 2004
US Environmental Protection Agency, EIS Filing Station, Washington	X	
<b>State Agencies</b>		
Department of Agriculture	X	January 20, 2004
Department of Community Health	X	
Department of Environmental Quality	X	February 17 & 27, & December 21, 2004
Department of Natural Resources	X	
Department of State, State Historic Preservation Office	X	February 20, 2004

**Table 6-1 (continued)  
Agencies Sent DEIS Copies and Comments Received**

	Comments	
	Requested	Received
<b>Local Jurisdictions, Agencies, Interested Groups, and Elected Officials</b>		
Clean Water Action	X	
Michigan Environmental Council	X	
Michigan United Conservation Clubs	X	January 28, 2004 <sup>a</sup>
Sierra Club	X	
Traffic Improvement Association of Oakland County	X	January 28 & March 2, 2004 <sup>a</sup>
Auburn Hills	X	
Bloomfield Township	X	
Detroit	X	
Ferndale	X	At Public Hearing and in SEMCOG's submittal <sup>b</sup>
Hazel Park	X	
Madison Heights	X	March 9, 2004
Royal Oak	X	March 1, 2004, March 2, 2004 & March 7, 2005
Troy	X	March 1, 2004
Oakland County	X	
Oakland County Conservation District	X	
Oakland County Drain Commission	X	January 30, 2004
Oakland County Emergency Management	X	
Oakland County Health Department	X	
Oakland County Sheriff's Department	X	
Oakland County Soil Conservation District	X	
Road Commission for Oakland County	X	January 15 & 27, 2004
Southeast Michigan Council of Governments	X	February 23, 2004
SMART	X	January 27, 2004
Wayne County Department of Public Services	X	
State Senator Michael D. Bishop, District 12	X	
State Senator Shirley Johnson, District 13	X	
State Senator Gilda Z. Jacobs, District 14	X	
State Representative David T. Woodward, District 26	X	
State Representative Andy Meisner, District 27	X	
State Representative Clarence Phillips, District 29	X	
State Representative Shelly Goodman Taub, District 41	X	
State Representative John G. Pappageorge, District 41	X	
US Senator Carl Levin	X	
US Senator Debbie Stabenow	X	
US Representative Joe Knollenberg	X	
US Representative Sander Levin	X	

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup> The comments in these letters are addressed in Section 6.3.

<sup>b</sup> This draft interdepartmental communication from Ferndale was attached to SEMCOG's letter and is addressed in Section 6.4.13.

Letter 1 December 31, 2003, United States Department of Agriculture, Natural Resources Conservation Service



December 31, 2003

United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

Michigan State  
Office

3001 Coolidge  
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East Lansing, MI  
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Ms. Margaret M. Barondess, Manager  
Environmental Section  
Project Planning Division  
Department of Transportation  
P.O. Box 30050  
Lansing, Michigan 48909

**RE: Draft Environmental Impact Statement (DEIS) for the Widening and Reconstruction of I-75 from M-102 to M-59**

Dear Ms. Barondess:

We have reviewed your DEIS for the widening and reconstruction of I-75 from M-102 to M-59. It is anticipated that there will be no negative effects on prime and unique farmland since the proposed project alternatives will be completed on soil areas that have already been converted to urban uses.

1-1

Thank you for the opportunity to comment.

Sincerely,

*Stephan S Davis acting for*

RONALD C. WILLIAMS  
State Conservationist

cc:

Albert Jones, ASTC for Field Operations, NRCS, Flint, Michigan



The Natural Resources Conservation Service works in partnership with the American people to conserve and sustain natural resources on private lands.  
An Equal Opportunity Provider and Employer

#### 6.4.1 US Department of Agriculture – Letter 1

Response 1-1: Comment acknowledged.

Letter 2

January 29, 2004 – United States Department of Commerce, National  
Oceanic and Atmospheric Administration, National Geodetic Survey



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
PROGRAM PLANNING AND INTEGRATION  
Silver Spring, Maryland 20910

January 29, 2004

Ms. Margaret M. Barondess, Manager  
Environmental Section  
State of Michigan, Dept. of Transportation  
Murray D. Van Wagoner Building  
PO Box 30050  
Lansing, MI 48909

Dear Ms. Barondess:

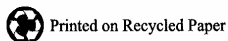
Enclosed are comments on the Draft Environmental Impact Statement for Proposed Widening and Reconstruction I-75 from M 102 to M 59 Oakland County, Michigan. We hope our comments will assist you. Thank you for giving the opportunity to review this document.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Kennedy".

Susan A. Kennedy  
Acting NEPA Coordinator

Enclosure



**Letter 2, continued**

MEMORANDUM FOR: Susan A. Kennedy  
Acting NEPA Coordinator

FROM: Charles W. Challstrom  
Director, National Geodetic Survey

SUBJECT: DEIS-0312-06 Proposed Widening and Reconstruction I-75 from  
M 102 to M 59 Oakland County, Michigan

The subject statement has been reviewed within the areas of the National Ocean Service (NOS) responsibility and expertise and in terms of the impact of the proposed actions on NOS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the National Geodetic Survey's home page at the following Internet World Wide Web address: <http://www.ngs.noaa.gov> After entering the this home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the National Geodetic Survey data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation(s) required.

2-1

For further information about geodetic control monuments, please contact Galen Scott; SSMC3 8620, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; Telephone: 301-713-3234 x139; Fax: 301-713-4175, Email: [Galen.Scott@noaa.gov](mailto:Galen.Scott@noaa.gov).

**6.4.2 US Department of Commerce, National Geodetic Survey – Letter 2**

**Response 2-1:** The 90-day advance notice has been added to the mitigation section, Section 5.15.





IN REPLY REFER TO:

## United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
Custom House, Room 244  
200 Chestnut Street  
Philadelphia, Pennsylvania 19106-2904

March 10, 2004

ER 04/37

Mr. James J. Steele, Division Administrator  
Federal Highway Administration – Michigan Division  
Federal Building, Room 207  
315 West Allegan Street  
Lansing, Michigan 48933-1528

Dear Mr. Steele:

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (EIS) for the Proposed Improvements to I-75 between M-102 and M-59, Oakland County, Michigan. The Department offers the following comments for your consideration.

### GENERAL COMMENTS

The document provides an analysis of potential impacts to federally listed species, water quality, and wetland resources. The analysis suggests the project will have limited impacts to natural resources, as little fish and wildlife habitat occurs within the project limits.

The DEIS describes three practical alternatives: No Build, addition of a 4<sup>th</sup> general-purpose lane under the General Purpose (GP) Alternative, or addition of a 4<sup>th</sup> lane as a high occupancy vehicle lane under the HOV Alternative. The No Build and GP Alternative would have no impacts on wetlands, whereas the HOV Alternative would impact an estimated 0.41 acres of wetlands.

### SPECIFIC COMMENTS

#### Fish and Wildlife Resources

Section 4.9, Threatened and Endangered Species, pages 4-48 and 4-49: Based on input from the U.S. Fish and Wildlife Service (FWS), the DEIS concludes that no federally listed threatened or endangered species or species proposed for listing are found in the I-75 corridor where construction is proposed.

If new information about the project becomes available that indicates listed or proposed species may be present and/or affected or should other species occurring in the project area become federally listed or proposed, a reevaluation of project impacts should be conducted. Because data on threatened and endangered species are updated continually, we recommend that the Michigan Department of Transportation request from the FWS an updated list of federally

3-1

endangered, threatened, or proposed species that may occur in the project vicinity, if project initiation extends beyond six months of this letter.

2

3-1

### Water Quality and Wetland Resources

Section 4.10 Surface Water Features/Water Quality/Floodplains, pages 4-49 to 4-55: The DEIS indicates that the project may cross several surface water features, including a number of named and unnamed drains, as well as the River Rouge. The DEIS concludes that “most waterways, drains, and ditches will not be affected by construction associated with the build alternatives because construction of the additional lane will be in the median and most of the culverts extend, uninterrupted, beneath the roadbed with no break at the median.” Mitigation measures for potential impacts on biological communities where the I-75 project crosses the River Rouge (between Coolidge Highway and Crooks Road and at Squirrel Road) include avoidance of work in the channels of the River Rouge or other water courses during the periods of seasonally high water, except as necessary to prevent erosion (Mitigation measure #1, Section 5.3 Soil Erosion and Sedimentation Control, pages 5-2 and 5-3). We recommend that any work in the channels of Rouge River be avoided at all times, regardless of flow level, except as necessary to prevent erosion.

3-2

Section 4.11 Wetlands, pages 4-55 to 4-58: Forty-one wetlands were identified within the proposed highway right-of-way. The DEIS indicates that impacts to wetlands would only occur with the HOV Alternative. The GP Alternative would not affect any wetlands. Under the HOV Alternative, two wetlands, W39 and W41 would be impacted. Both wetlands are a mix of scrub-shrub and emergent (PSS/PEM). Wetland W39 is rated priority 2, and wetland 41 is rated priority 3. If the HOV Alternative is chosen, a total of 0.41 ac (0.25 ac of W39 and 0.16 ac of W41) would be impacted. The DEIS concludes that these areas would be subject to mitigation, with a mitigation need of approximately 0.61 acres.

Section 5.14 Wetland Mitigation, pages 5-8 to 5-10: The DEIS identifies one mitigation potential site. However, a recent letter from the Michigan Department of Environmental Quality (MDEQ, dated February 14, 2004) indicates the agency has not agreed to the use of the proposed site for mitigation of the 0.41 ac of wetland that would be impacted. Should the HOV Alternative be chosen, we concur with MDEQ that further evaluation of the proposed mitigation site is needed.

3-3

We recommend that the proposed mitigation and monitoring plan, which should be included in the Final EIS, include the following additional items:

3-4

- A commitment to restore or create replacement wetland habitat before highway construction begins;
- A commitment to monitor the success of the replacement wetland habitat following its construction for a minimum period of 5 years, including a specific timetable for monitoring that includes timing and frequency of sampling;
- Identification of performance criteria for measuring the success of wetland habitat restoration or creation;

- A commitment to correct or improve the biological productivity of restored or created wetland habitat based on the results of monitoring;
- Site plans that include a 100-foot perimeter buffer zone adjacent to the wetland mitigation site;
- Submittal of annual monitoring reports; and
- Establishment of protection and management plans, to remain in force in perpetuity, for the wetland mitigation area.

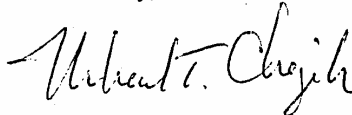
Section 4.18, Indirect and Cumulative Effects, pages 4-63 to 4-67: The DEIS discusses potential indirect and cumulative effects of the project on natural resources, particularly parks and wetlands. The DEIS states that indirect effects of the project may include impacts to 0.6 acres of wetland near Clinton River and one park. In consideration of cumulative impacts, the DEIS states that 8 acres of wetland could be affected and 7 parks would be subject to review for impacts as a future effect of widening I-75. These are considered separate actions which would require additional permits from MDEQ.

#### FISH AND WILDLIFE COORDINATION ACT COMMENTS

The Department's comments do not preclude separate evaluation and comments by the FWS, pursuant to the Fish and Wildlife Coordination Act, regarding any permits required from the MDEQ and/or the Army Corps of Engineers for work in wetlands and other waterbodies. In the review of any required permit application(s), the FWS may concur (with or without stipulations) or object to permit issuance, depending upon whether specific project-related actions may impact public trust fish and wildlife resources. The FWS advises that it would likely not oppose issuance of required permits provided that the project design and other measures described in the EIS to avoid impacts are incorporated into the final project plans and that the final plans also include adequate measures (including those described above) to offset unavoidable wetland impacts. Please continue to coordinate with the FWS during the refinement of the wetland mitigation plans.

We appreciate the opportunity to provide these comments.

Sincerely,



Michael T. Chezik  
Regional Environmental Officer

### **6.4.3 US Department of Interior – Letter 3**

**Response 3-1:** Many six-month periods will pass prior to project initiation. MDOT keeps up-to-date on endangered species listings and will have updated lists to refer to when the project commences.

**Response 3-2:** The south crossing of the River Rouge between Coolidge Highway and Crooks Road (Sprague Drain) is contained in twin 9 x 8.5-foot box culverts that stretch from ditch to ditch. Design will determine the best way to outfall I-75 storm drainage in this area and whether disruption of the existing culverts is necessary. Likewise the north crossing of the River Rouge at Squirrel Road (Sprague Branch) is enclosed in a 72 x 113 inch helical elliptical pipe. The lifespan of this pipe and the need to disrupt its ditch-to-ditch reach will be determined during design.

**Response 3-3:** MDEQ has agreed to the mitigation site in Macomb County in a letter dated December 21, 2004 (see Letter 6c).

**Response 3-4:** This information is included in the MDEQ letter (see Letter 6c).



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

FEB 23 2004

REPLY TO THE ATTENTION OF:

B-19J

Mr. Abdelmoez A. Abdalla  
Environmental Program Manager  
Federal Highway Administration - Michigan Division  
315 West Allegan St., Room 207  
Lansing, Michigan 48933

Re: Comments on the Draft Environmental Impact Statement for the Proposed Widening and Reconstruction of I-75 from M-102 to M-59, Oakland County, MI, EIS No. 030592

Dear Mr. Abdalla:

The U.S. Environmental Protection Agency Region 5 (U.S. EPA) has reviewed the Draft Environmental Impact Statement (EIS) for the Proposed Widening and Reconstruction of I-75 from M-102 to M-59. Our comments in this letter are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The Michigan Department of Transportation (MDOT) and the Federal Highway Administration (FHWA) have determined that I-75, the main north-south roadway through Oakland County, is currently experiencing congestion in the peak periods. This problem will worsen in the future to even more unacceptable levels of service. A study to address this corridor was completed in November 2000. The study recommended that I-75 be widened to four through travel lanes in each direction throughout Oakland County. U.S. EPA has previously concurred with the project's purpose and need.

4-1

The Draft EIS evaluated two alternatives in addition to the No Action alternative: (1) a general purpose lane from M-102 to M-59 and (2) a High Occupancy Vehicle lane from M-102 to M-59. The Draft EIS summarizes studies conducted to evaluate the possibility that rapid transit system could meet the project's purpose and need. The Draft EIS provides information as to why a rapid transit alternative does not eliminate the need to improvements on I-75.

Based on our review of the Draft EIS and conversations with MDOT staff, the U.S. EPA has rated the Draft EIS as an "EC-2" or "Environmental Concerns - Insufficient Information." This rating will be published in the Federal Register. While we have not identified environmental impacts that should be avoided or mitigation options that should be employed, we recommend that FHWA and MDOT clarify the following topics in the Final EIS: (1) the use of native vegetation in the project, (2) the analysis that was conducted for the indirect and cumulative impacts, and (3) the evaluation of the two build alternatives.

4-2

We commend MDOT for the selection of a two-cell detention pond to filter large and finer sediment particles from stormwater runoff, reducing the possibility of roadway contaminants affecting waterbodies. In addition to the two-cell approach, we recommend the use of native vegetation as part of the project's stormwater management plan. Native vegetation should also be considered for use along the right-of-way limits at depressed and at-grade elevations. Native vegetation would be particularly beneficial to enhance the quality of habitat and biological integrity of 13 Mile Drain where common urban wildlife species are located. Natives also help to discourage the advance of exotics and increase roadway aesthetics through the use of species with different blooming times.

4-3

We reviewed the indirect and cumulative impact analysis in the Draft EIS and in a separate Technical Memorandum. We recommend more detailed information be included in the Final EIS that summarizes and explains the work that was done in the Indirect and Cumulative Impact Analysis Technical Report for this project. It appears that some key elements of the analysis were not appropriately summarized in the Draft EIS. In particular, we recommend that Chapter 5 (Analysis Process) and Chapter 6 (Conclusions) be summarized more completely in the Final EIS. It may be helpful to provide more detail in the Final EIS regarding how the congestion analysis was conducted and what results were yielded. MDOT and FHWA may want to consider including some of the figures from the technical report. Likewise, the connection between the conclusion that some roadway segments will have to be widened and the resulting resource impacts should be more completely summarized in the Final EIS.

4-4

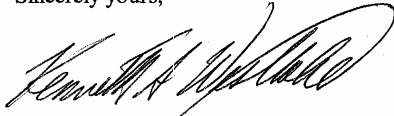
Although High Occupancy Vehicle (HOV) lanes are included as an alternative for this proposal, the EIS does not fully discuss the development of this alternative. If the Final EIS is a tool to enable a decision maker to discern the differences between a HOV lane and a general purpose lane, we believe more information should be included in the Final EIS as to the benefits and impacts of both alternatives. Since HOV lanes have not been routinely evaluated in Michigan or in the region, we recommend that additional information be included in the Final EIS concerning the viability of an HOV lane alternative for this project. It would be useful to include information as to why this corridor has some viability, what operational benefits an HOV lane would have, and how an HOV lane could fit into the overall network. We understand that some businesses have expressed an interest in HOV lanes and carpooling. We recommend that the Final EIS include information on carpooling and the possible relationship with HOV lanes.

4-5

**Letter 4            continued**

Thank you for the opportunity to review and comment on this Draft EIS. Please send a copy of the Final EIS to our office once it has been prepared. Should you have any questions, please do not hesitate to contact Sherry Kamke of my staff at (312) 353-5794 or Kathy Kowal at (312) 353-5206.

Sincerely yours,



Kenneth A. Westlake, Chief  
Environmental Planning and Evaluation Branch  
Office of Strategic Environmental Analysis

- cc:            ✓ Ms. Margaret Bardondess  
                  Environmental Section Manager  
                  Project Planning Division  
                  Michigan Department of Transportation  
                  P.O. Box 30050  
                  Lansing, Michigan 48909
- Ms. Sue Datta, AICP  
                  Project Manager  
                  Michigan Department of Transportation  
                  13101 West 9 Mile Road  
                  Southfield, Michigan 48175

**6.4.4    US Environmental Protection Agency – Letter 4**

**Response 4-1:** EPA notes it had previously concurred with the project purpose and need. This is a reference to the streamlining process. The streamline process, which calls for concurrence at a number of milestones in project development, was discontinued midway through the DEIS stage, as impacts to wetlands have proved to be relatively minor.

**Response 4-2:** Comments acknowledged. These items have been addressed below and throughout this FEIS.

**Response 4-3:** Language has been added to mitigation Sections 5.6, Existing Vegetation, and Section 5.9, Surface Water Quality to provide for native vegetation, where appropriate.

**Response 4-4:** These changes have been made, and Section 4.18 has been revised. It includes more data and figures from the technical report. Congestion analysis was performed using the SEMCOG model. Details of the analysis are included in Section 4 of this FEIS and Section 6 of the revised technical report.<sup>88</sup>

**Response 4-5:** Additional text has been added in Section 3.9, Preferred Alternative. The Preferred Alternative is the HOV Alternative, Option C, as identified in Section 3.8. This

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<sup>88</sup> *Indirect and Cumulative Impact Analysis Technical Report*, The Corradino Group, January 2005.

recommendation is consistent with the findings of an MDOT study conducted in 1999 to identify potential HOV lane development locations in Southeast Michigan.<sup>89</sup> The determination to dedicate the lane addition to HOV is based on the success of similar designations elsewhere that have increased corridor capacity. More persons can be moved per lane with HOV. There are few alternatives to I-75 for mid- to long-range trips. Transit analysis has found that, even with a rapid transit system on Woodward Avenue (the corridor designated through other planning studies as the priority corridor for high-type transit), little relief is provided to I-75. HOV is the best way to get the maximum use out of I-75. HOV lanes support bus transit development, vanpooling, and conventional carpooling. The potential exists to substantially increase people movement in these higher density modes. Oakland County, Automation Alley, and the county's business roundtable have all indicated their support for the HOV lane and their commitment to promoting carpooling/vanpooling in the county.

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<sup>89</sup> *Southeast Michigan High-Occupancy Vehicle (HOV) Feasibility Study, Final Report*, Parsons Brinckerhoff Michigan, Inc. for the Michigan Department of Transportation, May 7, 1999.



Letter 5      January 20, 2004, Michigan Department of Agriculture



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF AGRICULTURE  
LANSING

DAN WYANT  
DIRECTOR

January 20, 2004

Ms. Margaret M. Barondess  
Environmental Section Manager  
Michigan Department of Transportation  
P.O. Box 30050  
Lansing, MI 48909

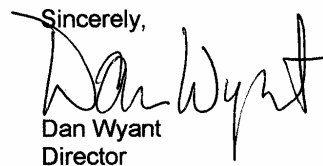
Dear Ms. Barondess:

I received your request for review and comment on the draft Environmental Impact Statement (DEIS) for the proposed reconstruction of I-75, from M-102 to M-59 and have reviewed the plans with Michigan Department of Agriculture staff.

This area of I-75 is a highly developed corridor and most of this reconstruction will be conducted within the existing right of way. We note no major impacts to agriculture as a result of this project. Our main concern, then, would be with the impact on established county, and particularly intercounty drains. At least 16 established drains are discussed to varying degrees in the DEIS. It remains important that this project continue to work with the office of John McCullough, Oakland County Drain Commissioner, to coordinate with his on-going maintenance work and minimize impact on these systems as a result of construction. We agree with and highly encourage the use of detention and surface runoff mitigation (absorbent drainage structures) to partially alleviate the impact of increasing impervious surface, and resulting runoff, due to additional lane construction. Beyond this, to the best of our knowledge, we do not have any additional concerns regarding the issues identified in the DEIS as it currently stands.

5-1

We appreciate being included in this DEIS review process. Please feel free to contact Abigail Eaton, Resource Specialist at 517/241-3933 if we can be of further assistance on this project.

Sincerely,  
  
Dan Wyant  
Director

#### 6.4.5 Michigan Department of Agriculture – Letter 5

**Response 5-1:** Comment acknowledged. The Drain Commission has been contacted and coordinated with and will continue to be involved through the next phase of the project.



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

February 17, 2004

Ms. Margaret M. Barondess, Manager  
Environmental Section  
Project Planning Division  
Michigan Department of Transportation  
P.O. Box 30050  
Lansing, Michigan 48909

Dear Ms. Barondess:

**SUBJECT: I-75 Widening and Reconstruction between M-102 (8 mile road) and M-59  
in Oakland County, Draft Environmental Impact Statement**

The Michigan Department of Environmental Quality (MDEQ), Geological and Land Management Division (GLMD), has completed review of the Draft Environmental Impact Statement (DEIS) for the I-75 widening and reconstruction project between M-102 (8 mile) and M-59 in Oakland County, Michigan.

The purpose and need of the proposed project is to increase the capacity of the transportation infrastructure in this corridor to meet travel demand for personal mobility and the movement of goods. There has been rapid growth in the mid and north areas of Oakland County since the roadway was built in the 1960's. The DEIS indicates that the roadway will need major reconstruction by the time this project ready for construction.

The following alternatives were considered:

- 1) No build
- 2) Mass Transit
- 3) Transportation Systems Management
- 4) Transportation Demand Management
- 5) Intelligent Transportation Systems
- 6) The addition of a 4<sup>th</sup> lane in each direction for general purpose use by all vehicles
- 7) The addition of a 4<sup>th</sup> lane in each direction for restricted use of high occupancy vehicles (two or more persons) in peak travel hours (HOV).

Alternatives 1, 6 and 7 were determined to be the practical alternatives to carry forward. Portions of alternative 3, 4 and 5 would be incorporated into the practical alternatives. Alternatives 6 and 7 would include improvements to the 12 mile and 14 mile interchanges, the north ramp of I-696, reconstruction of pedestrian bridges, construction

Ms. Margaret Barondess

2

February 17, 2004

of a new storm water system in the south part of the corridor and new storm water retention in the north section of the corridor.

Without any road improvements the majority of this stretch of road is expected to operate at a level of service E or F by 2025. With the build alternatives the majority of the traffic is expected to operate at a level of service D or better in 2025. The DEIS estimates that 0.41 acres of direct wetland impact will occur with the HOV alternative.

**Under the National Environmental Policy Act (NEPA) and Section 404 regulatory process for transportation projects, we agree on the second concurrence point as to the selection of the alternatives to carry forward.**

6-1

We have the following comments:

- 1) Section 1.5 Permits, 5<sup>th</sup> bullet, page 1-16. The second sentence should read, "The Part 303 permit is reviewed and issued as a single permit that also includes Part 301 and Part 31.
- 2) Section 4.10.2 Water Quality and Groundwater, 1<sup>st</sup> paragraph, page 4-54. We agree that the use of detention/retention ponds is needed to control the increased volume of runoff created by the additional imperviousness.
- 3) 5.14 Wetland Mitigation, 1<sup>st</sup> paragraph, page 5-10. The MDEQ has not agreed to the use of this proposed site as mitigation to offset the 0.41 acres of wetland impacts associated with this project. Additional discussion is needed.

6-2

The following comments were provided by MDEQ's Air Quality Division.

- 4) Section 5.13 Control of Air Pollution during Construction, page 5-8. The third sentence in the third paragraph should read, " This permit should be applied for a minimum of 45 calendar days for plants with an active MDEQ permit (or 75 calendar days for plants not previously permitted in Michigan) prior to the plant being installed. The last sentence of this paragraph should be deleted as these are now handled by the Air Quality Division.
- 5) Section 4.7 EPA's guidance presumes that the PM 2.5 non-attainment area for southeast Michigan will include Oakland County, therefore, it would be prudent to include a PM 2.5 air quality impact analysis in the final EIS.
- 6) The discussion of air toxics on p. 4-30 is not written as clearly as desirable. Also, there is not adequate "transparency" in the discussion leading to the apparent decision to exclude air toxics emissions and impact analysis, and risk characterization. The MDEQ supports a quantitative assessment of emissions and impacts, with risk characterization, for select air toxics (formaldehyde, benzene, 1,3-butadiene, acetaldehyde and acrolein) associated with this project. The discussion on p. 4-30 lacks a clear and accurate discussion of this issue. There is much emphasis on concerns for inadequacies and unreliability or such modeling efforts. On the contrary, there are well established emissions, dispersion, and risk assessment tools enabling a risk characterization for these substances. These tools are recommended by the US Environmental Protection Agency and the MDEQ. The toxicity of these substances has been adequately

6-3

6-4

Ms. Margaret Barondess

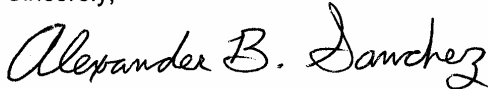
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February 17, 2004

demonstrated, and should not be ignored. We stand ready to work with the Michigan Department of Transportation to share our experiences in using these tools and toxicity benchmarks which can be utilized to characterize risks. The results should be appropriately caveated as estimates, but are nevertheless based on standard modeling and risk assessment tools.

If you have any questions, please contact me or Mr. Alex Sanchez at 517-335-3473.

Sincerely,

  
for Gerald W. Fulcher, Jr., P.E., Chief  
Transportation and Flood Hazard Unit  
Geological and Land Management Division  
517-335-3172

cc: Mr. Abdel Abdella, U.S. Federal Highway Administration  
Ms. Sherry Kamke, U.S. Environmental Protection Agency  
Mr. Craig Czarnecki, U.S. Fish and Wildlife Service  
Mr. Gary Mannesto, U.S. Army Corps of Engineers  
Ms. Mary Vanderlaan, MDEQ  
Mr. Bob Rusch, MDEQ  
Mr. Alex Sanchez, MDEQ

#### 6.4.6 Michigan Department of Environmental Quality – Letters 6a, 6b, and 6c

**Response 6-1:** MDEQ agrees on the 2nd concurrence point, Practical Alternatives. The streamline process, which requires concurrence at a number of milestones in project development, was discontinued midway through the DEIS stage, as impacts to wetlands have proved to be relatively minor.

**Response 6-2:** Comments acknowledged. The changes in sections 1.5, 5.13 and 5.14 have been made. Additional coordination has occurred and a letter dated December 21, 2004, confirms the proposed wetland mitigation site in Macomb County (see Letter 6c).

**Response 6-3:** The PM<sub>2.5</sub> analysis is presented in Section 4.7.

**Response 6-4:** The air quality analysis conducted for this study meets all US EPA requirements. Section 4.7 has been updated to reflect EPA's announcement in May 2004 of more stringent emission requirements for non-road diesel engines and reduced sulfur in fuel. These requirements will be in force by the time construction occurs. Quantitative assessment of emissions and impacts with risk characterization for select air toxics (formaldehyde, benzene, 1,3-butadiene, acetaldehyde and acrolein) is not required and continues to be the subject of scientific debate.

Letter 6b

February 27, 2004, Michigan Department of Environmental Quality



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

February 27, 2004

Ms. Margaret M. Barondess, Manager  
Environmental Section  
Project Planning Division  
Michigan Department of Transportation  
P.O. Box 30050  
Lansing, Michigan 48909

Dear Ms. Barondess:

SUBJECT: I-75 Widening and Reconstruction between M-102 (8 mile road) and M-59  
in Oakland County, Draft Environmental Impact Statement

Please include the attached memo dated February 23, 2004, from Cheryl Wilson as an  
addendum to our February 17, 2004, response letter regarding the Draft Environmental  
Impact Statement for the above project.

6-5

If you have any questions, please contact me or Mr. Alex Sanchez at 517-335-3473.

Sincerely,

Gerald W. Fulcher, Jr., P.E., Chief  
Transportation and Flood Hazard Unit  
Geological and Land Management Division  
517-335-3172

cc: Mr. Abdel Abdella, U.S. Federal Highway Administration  
Ms. Sherry Kamke, U.S. Environmental Protection Agency  
Mr. Craig Czarnecki, U.S. Fish and Wildlife Service  
Mr. Gary Mannesto, U.S. Army Corps of Engineers  
Ms. Cheryl Wilson, MDEQ, SE Michigan District  
Ms. Mary Vanderlaan, MDEQ, SE Michigan District  
Mr. Alex Sanchez, MDEQ, Lansing

Letter 6b, continued

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

February 23, 2004

RECEIVED

FEB 24 2004

ENVIRONMENTAL QUALITY  
GEOLOGICAL & LAND MANAGEMENT

TO: Jerry Fulcher, Geological and Land Management Division  
Transportation and Flood Hazard Unit

FROM: Cheryl Wilson, Remediation and Redevelopment Division  
Southeast Michigan District Office

SUBJECT: Draft Environmental Impact Statement (DEIS)  
I-75 from M-102 to M-59, Oakland County, Michigan

This office is in receipt of the Department of Transportation December 2003 DEIS. This is to inform you that we have files on the following properties listed in the statement:

6-5  
Cont.

Name	Address	City	RRD Program
Auburn Court Assoc.	2740 Auburn Court	Auburn Hills	Part 201
Advanced Friction	1435 Wanda	Ferndale	Part 201
Biomagenic Reson	30781 Stephenson	Madison Heights	Part 213
Borden Dairy	30550 Stephenson	Madison Heights	213
City of Hazel Park	22600 North Chrysler	Hazel Park	201
Clark #2136	601 West 12 Mile	Madison Heights	213
DDR Station	510 West 14 Mile	Troy	213
DME Co.	29215 Stephenson	Madison Heights	213
Fuel Zone	31015 Stephenson	Madison Heights	213
G&W Gas	24309 John R	Hazel Park	213
Goddard Coatings	2280 Auburn	Auburn Hills	201
Humbolt Investment	1846-80 Austin	Troy	213
Jefferson Screw Prdts	1201 East 8 Mile	Hazel Park	213
John R Station former	23201 John R	Hazel Park	213
Kamax-G B Dupont	500 West Long Lake	Troy	213
KC Jones Plating	321 West 10 Mile	Hazel Park	201 & 213
Knight Construction	1931 Austin	Troy	213
Maschmeyer Concr.	32401 Mally	Madison Heights	213
NE LF & Sand Co	2715 Churchill	Pontiac	201
Saltarelli LF	Auburn & Opdyke-SE	Pontiac	201
SOCRRA	29740 John R	Madison Heights	201
Saturn Corp	434 West 12 Mile	Madison Heights	213
Sparks Tune-Up	1716 N Stephenson	Royal Oak	213
Sunoco #0001-4738	1490 East Maple	Troy	213
United #6199	23990 John	Hazel Park	213
Valenite Div	1100 West 13 Mile	Madison Heights	213
11 Mile & I-75 Food Mart	2419 East 11 Mile	Royal Oak	213

If you have any questions, please feel free to contact me at 734-953-1473.

cc: Oladipo Oyinsan, RRD

Response 6-5: Comments acknowledged.



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

December 21, 2004

Ms. Lori Noblet  
Michigan Department of Transportation  
Project Planning Division  
Environmental Section  
P.O. Box 30050  
Lansing, Michigan 48909

Dear Ms. Noblet:

**SUBJECT:** Proposed Wetland Mitigation Site on 33 Mile Road  
T5N, R13E, Section 25, Armada Township, Macomb County

This letter responds to your request for approval of the proposed wetland mitigation site at the above mentioned location between North Avenue and Omo Road. The parcel is intended to provide mitigation for wetland impacts incurred by the M-53 Romeo Bypass project in Macomb County, and the I-75 project from M-102 (Eight Mile Road) to M-59 in Oakland County.

Wetland impacts incurred by the M-53 Romeo Bypass project was authorized by Michigan Department of Environmental Quality (MDEQ) permit number 02-50-0164-P. The permit required 24.26 acres of wetland mitigation for this project, and another 7.6 acres to replace a failing wetland for a past M-53 project, for a total of 31.86 acres. Partial mitigation of 13.02 acres for the recent M-53 Romeo Bypass project will occur on the east side of the new roadway in Section 26 of Bruce Township, while the remaining 18.84 acres will be mitigated at the parcel on 33 Mile Road.

Currently 42 incremental wetland takes are expected to be incurred by the I-75 corridor project, for a total impact of 0.4 acres. Proposed mitigation of 0.6 acres for this project is planned to be included in the overall wetland creation at the 33 Mile Road site.

Wetland impacts associated with the I-75 at Crooks/Long Lake Roads improvement project total 2.0 acres. These wetlands will be compensated by creating 3.3 acres of wetlands at the 33 Mile Road mitigation site.

According to information supplied by your office, approximately 30 acres of wetlands are expected to be created. The site will be designed as surface water depressional wetland. The soils consist of Sloan Parkhill and Ensley Parkhill, which are poorly drained, and have perched water tables near or at the surface. The mitigation as designed will capture surface water runoff from the upper watershed of approximately 100 acres. The design plan will incorporate minor grading, and construction of low head berms, along with water control structures. Additionally, the M-53 Romeo Bypass and I-75 projects and mitigation site are within the Clinton River Watershed.

CONSTITUTION HALL • 525 WEST ALLEGAN STREET • P.O. BOX 30458 • LANSING, MICHIGAN 48909-7958  
www.michigan.gov • (517) 241-1515

**Letter 6c, continued**

Ms. Lori Noblet

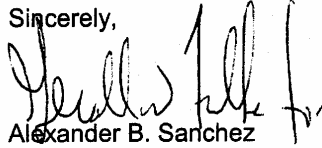
2

December 21, 2004

Based on the wetland mitigation concept described above, and review of water budget data, this office approves of proposed mitigation design on the parcel location mentioned above. Final approval is contingent on receipt and satisfactory review of water budget data updates and final wetland design plans.

Should you have any questions in this regard, please feel free to contact me.

Sincerely,



Alexander B. Sanchez  
Transportation and Flood Hazard Unit  
Land and Water Management Division  
517-335-3473

cc: Mr. Robert Owens, MDOT  
Mr. Michael Pennington, MDOT  
Mr. Gerald Fulcher, MDEQ



Letter 6c, continued



**Response 6-6:** Comments acknowledged. The design plan description has been included in Section 5.14, Wetland Mitigation.

Letter 7 February 20, 2004, Michigan Department of State, State Historic Preservation Office



JENNIFER GRANHOLM GOVERNOR STATE OF MICHIGAN DEPARTMENT OF HISTORY, ARTS AND LIBRARIES LANSING DR. WILLIAM ANDERSON DIRECTOR

February 20, 2004

MARGARET BARONDESS MICHIGAN DEPARTMENT OF TRANSPORTATION 425 WEST OTTAWA PO BOX 30050

RE: ER-02-293 Draft Environmental Impact Statement, I-75 Freeway Improvement, Oakland County (FHWA)

Dear Ms. Barondess:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed and accept the draft Environmental Impact Statement (EIS) for the above-cited undertaking at the location noted above.

7-1

The State Historic Preservation Office (SHPO) is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Martha MacFarlane Faes, Environmental Review Coordinator, at (517) 335-2721 or by email at ER@michigan.gov. Please reference our project number in all communication with this office regarding this undertaking. Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Handwritten signature of Martha MacFarlane Faes

Martha MacFarlane Faes Environmental Review Coordinator

for Brian D. Conway State Historic Preservation Officer

MMF:DLA:ROC:bgg

copy: Abdelmoez Abdalla, FHWA

STATE HISTORIC PRESERVATION OFFICE, MICHIGAN HISTORICAL CENTER 702 WEST KALAMAZOO STREET • P.O. BOX 30740 • LANSING, MICHIGAN 48909-8240 (517) 373-1630 www.michigan.gov/hal

6.4.7 State Historic Preservation Office – Letter 7

Response 7-1: Comment acknowledged.



# City of Madison Heights

City Hall Municipal Offices  
300 W. Thirteen Mile Road  
Madison Heights, MI 48071

Department of Public Services  
801 Ajax Drive  
Madison Heights, MI 48071

Fire Department  
340 W. Thirteen Mile Road  
Madison Heights, MI 48071

Police Department  
280 W. Thirteen Mile Road  
Madison Heights, MI 48071

March 9, 2004



Sue Datta, AICP  
Project Manager  
Michigan Department of Transportation  
18101 W. Nine Mile Road  
Southfield, MI 48075

**RE: I-75 Draft Environmental Impact Statement**

Dear Ms. Datta:

Thank you for the opportunity to comment on the I-75 Draft Environmental Impact Statement (DEIS). Attached is a copy of a City Council resolution regarding the I-75 DEIS. Please include this resolution in your considerations regarding the final Environmental Impact Statement.

We look forward to continued involvement and comment as this project progresses.

If you have any questions, please don't hesitate to contact me.

Sincerely,

**THE CITY OF MADISON HEIGHTS**

*Jon R. Austin*  
Jon R. Austin  
City Manager

*Area Code (248)*

City Assessor .....	583-0820	Fire Department .....	588-3605	Personnel .....	583-0826
City Clerk .....	583-0826	43rd District Court .....	583-1800	Police Department .....	585-2100
City Manager .....	583-0829	Housing Commission .....	583-0843	Purchasing .....	837-2602
Community Development .....	583-0831	Library .....	588-7763	Recreation .....	589-2294
Department of Public Services .....	589-2294	Branch Library .....	541-7880	Senior Citizen Activity Center .....	545-3464
Finance .....	583-0846	Mayor & City Council .....	583-0829	Water & Treasurer .....	583-0845

The following is an excerpt from the minutes of a Regular Meeting of the Madison Heights City Council of the City of Madison Heights, Oakland County, Michigan held on Monday, March 8, 2004 at 7:30 p.m. Eastern Standard Time in the Municipal Building in said City.

Present: Mayor Pro Tem Clark, Councilmen Corbett and McGillivray,  
Councilwomen Scott and Shad.

Absent: Mayor Swanson and Councilwoman Russell (both excused).

**77. Michigan Department of Transportation - I-75 Draft Environmental Impact Statement Resolution.**

---

Motion by Councilman Corbett,  
Supported by Councilwoman Shad,

WHEREAS, the Michigan Department of Transportation (MDOT) has prepared a Draft Environmental Impact Statement (DEIS) for the proposed widening and reconstruction of I-75 from M-102 to M-59; and,

WHEREAS, MDOT has asked for review and comment from the City of Madison Heights as well as from members of the public; and

WHEREAS, the City has reviewed the DEIS and offers the attached "Summary of Comments - I-75 Draft Environmental Impact Statement"; and

WHEREAS, the City generally supports improving the I-75 Corridor, including lane expansion as well as consideration of mass transit alternative components, and appreciates the opportunity to comment on this DEIS.

NOW THEREFORE BE IT RESOLVED, The City of Madison Heights recommends that MDOT incorporate the attached "Summary of Comments - I-75 Draft Environmental Impact Statement" into the Final Environmental Impact Statement.

**Summary of Comments – I-75 Draft Environmental Impact Statement  
The City of Madison Heights**

**General**

- The City of Madison Heights supports the proposed I-75 improvements as a component of the measures needed to address the congestion issues within the I-75 Corridor.
- The City supports consideration of mass transit alternatives, in addition to the proposed I-75 improvements, as appropriate and supplemental methods of addressing current and future congestion within the I-75 corridor.
- The City is not committing to enforcement of any High Occupancy Vehicle (HOV) lane alternative. Should the proposed project ultimately include HOV lanes, enforcement should be the responsibility of the State Police.

8-1

**Project Design/Improvements**

- The proposed design maintains 10' wide interior shoulders, a noted safety concern. Are there alternative cross-section designs that can eliminate this issue within existing rights-of-way?
- The City supports MDOT's efforts to provide separated storm water management through this project. However, the DEIS does not provide detail as to the impact of this system on the on the City's residents, businesses and the George W. Kuhn (GWK) Drain District.
- The City recommends including extension of a westbound right turn lane on 12 Mile Road, past existing Home Depot driveway, within the project scope.
- Provide clarification of the traffic patterns and design resulting from the proposed EB/WB I-696 to NB I-75 braiding ramp. How high will the ramp be in relation to the adjacent residential area? How will EB/WB I-696 traffic get to Eleven Mile? Madison Heights opposes any design that doesn't provide I-696 traffic direct access to Eleven Mile Road.
- The City plans to install a sidewalk this summer on the south side of 14 Mile from Concord to Stephenson Hwy. The City would like this expense, within the I-75 project area, credited toward any local contribution that may be required relative to the I-75 project.

8-2

8-3

8-4

8-5

8-6

- The City plans to provide maintenance overlays for portions of the service drive at and near the I-75 project area (I-696 / I-75 area). The City would like this expense, within the I-75 project area, credited toward any local contribution that may be required relative to the I-75 project. 8-7

**Non-Motorized Access**

- The City recommends providing designated pedestrian and bicycle access across all proposed bridges and underpasses and if these non-motorized connections are approved, evaluate the need for the Bellaire Pedestrian Bridge and/or its relocation. 8-8
- The Project includes new sidewalk adjacent to service drive on the east side. The City supports this concept and recommends continuing this non-motorized path throughout the project area (north to 14 Mile) with a design to accommodate bicycle traffic.
- The project includes removal of the I-75/Red Run Bridge. This will eliminate or minimize the potential for any future GWK, pedestrian/bicycle access across I-75 via the existing bridge system. Alternatives must be considered to ensure future access in this regard. 8-9

**Local Road Impacts**

- The DEIS generally references the extensive impact the proposed improvements will have on the adjacent road network (56 miles +), but does not address specific adjacent street improvement costs and impacts or the funding mechanisms necessary to mitigate those impacts. The DEIS must identify both the specific impacts as well as the funding mechanism to address those impacts. 8-10
- The DEIS generally references the extensive impact on adjacent streets and communities during actual construction, but does not address mitigation of these impacts, including costs or the funding mechanisms to mitigate those impacts. 8-11

**Neighborhood Impacts**

- The DEIS identifies the taking of eight (8) single-family homes and portions of other parcels in Madison Heights. Alternative solutions to the I-696 to NB I-75 ramp and service drive design should be sought to avoid or minimize the impact on the adjacent residential areas. 8-12

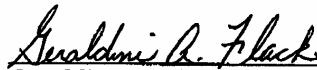
- The DEIS does not identify the specific homes generally noted in the DEIS as being impacted by noise. These impacted properties should be located on an aerial photograph to assist in evaluating the impact on City residents. 8-13
- The City recommends additional evaluation of the existing and proposed sound to be generated in the area from I-696 to 11 Mile. The DEIS needs to clarify the design, materials, cost(s), maintenance and jurisdiction of the sound walls. The City does not support transferring responsibility for maintenance and reconstruction from MDOT to the City. 8-14
- Local access and diverted through-traffic during construction will be maintained via service drives. The DEIS does not adequately address safeguards to protect adjacent neighborhoods from this impact, including analysis of closing / restricting access to side streets during construction as well as on a permanent basis. 8-11 Cont.

**Interchange Impacts**

- The City supports use of land area freed up by new interchanges for private economic development, where appropriate based on adjacent land uses and parcel configurations. The proceeds from the sale of property should be credited toward any local contribution that may be required relative to the I-75 project. 8-15
- Provide additional clarification of alternatives being considered for the 14 Mile interchange, in light of the consultant's finding that the single point design will not function. 8-16

Yeas: Mayor Pro Tem Clark, Councilmen Corbett and McGillivray,  
Councilwomen Scott and Shad.  
Nays: None  
Absent: Mayor Swanson and Councilwoman Russell (both excused).

I, the duly authorized City Clerk of the City of Madison Heights do hereby certify that the foregoing is a true and correct copy of a resolution adopted by the Madison Heights City Council on Monday, March 8, 2004.

  
Geraldine A. Flack  
City Clerk

#### **6.4.8 City of Madison Heights – Letter 8**

**Response 8-1:** The implementation of HOV is a number of years away, offering the opportunity for addressing the terms of enforcement. Responsibilities for enforcement of traffic laws are now shared by the Michigan State Police and local jurisdictions. Additionally, funding sources will be explored for enforcement activities that may help alleviate the burden for local jurisdictions. However, it should be noted that in some locations, local jurisdictions are allowed to retain proceeds from tickets issued by their police officers for HOV violations. Details will be coordinated through the next phases of the project.

**Response 8-2:** The ten-foot median shoulders meet current design standards. Construction of a wider shoulder of 12 feet was studied. It was determined that such shoulders would result in increased impacts in the form of acquisitions/relocations (Section 3.7.3), the cost of which could exceed an additional \$100 million. It was not considered a practical alternative

**Response 8-3:** I-75 storm water now flows into a combined sewer system (meaning storm water mixes with sewage in one set of pipes) that flows to the Detroit treatment plant via the Twelve Towns Combined Sewer Overflow system. The Preferred Alternative will separate these flows, thus reducing the potential for overflow of sewage into the Red Run Drain during storm events. The storm water would be redirected to the Red Run drain downstream of the Twelve Towns Combined Sewer Overflow system. During normal flow periods, the Red Run drain can accommodate this flow. During storm events, I-75 storm water would continue to go to Red Run drain as it does today, but it would not mix with sewage that flows to Red Run Drain today under overflow conditions via the Twelve Towns Combined Sewer Overflow system. The preliminary cost estimate for the changes to the storm water system is \$11 million and is included in overall project costs. Details of the effects on the Twelve Towns system and the Detroit Treatment facility will be determined during the design phase.

**Response 8-4:** This request is in conflict with FHWA policy that calls for a easy-to-understand point of divergence to the lane that becomes the ramp. Otherwise a motorist turning right out of Home Depot could become “trapped” and inadvertently be forced onto northbound I-75. This is not recommended as a part of the improvements.

**Response 8-5:** The modified braid design maintains the existing access to 11 Mile Road from I-696. The ramp braid connecting I-696 to northbound I-75 would be at ground level. The off ramp from northbound I-75 to the service drive would pass underneath, below ground level.

**Response 8-6:** 14 Mile Road sidewalks will be reconstructed as necessary, when the project is implemented. There is no mechanism available for crediting construction in 2004 to the required local share.

**Response 8-7:** It is now anticipated that the northbound I-75 service drive in Madison Heights would be totally reconstructed to accommodate the proposed separated storm sewer that would carry storm water from I-75. That reconstruction is included in the overall project cost. Again, there is no mechanism available for crediting near-term costs to the project.

**Response 8-8:** Pedestrian access is maintained or improved at all existing pedestrian locations in Madison Heights. The Bellaire bridge was evaluated and will be replaced at its existing location, as it serves the St. Dennis Parish Elementary School.



**Response 8-9:** A non-motorized path may be considered when a countywide non-motorized plan is developed and adopted. Oakland County is currently in the process of developing such a plan. Completion is expected in 2005. No modification to the Red Run Drain overpass will preclude a future non-motorized link under I-75, if such a recommendation is part of the adopted non-motorized plan for the county.

**Response 8-10:** This FEIS covers the impact and mitigation on the freeway component. Local improvements will be cleared environmentally by the responsible local agency, including mitigation plans. Impacts to the adjacent road network are included in Tables 4-22 and 4-23 of the indirect and cumulative effects analysis. Funding for each of the independent projects will be determined through the long-range planning process by the responsible agency.

**Response 8-11:** Discussion of the maintenance of traffic during construction is included in Section 5.10. The maintenance of traffic program will be developed through local coordination during the design phase in order to minimize impacts to the greatest extent possible. Costs and mitigation will then be refined.

**Response 8-12:** Additional analysis was conducted for the ramp braid in order to minimize traffic and access impacts. The modified braid design was developed in coordination with local municipalities to minimize impacts (ROW and access). The modified braid will offer substantial safety and congestion benefits. However, 23 houses in Madison Heights will be impacted. The design will be further refined in subsequent phase of the project.

**Response 8-13:** This information has been provided to the city of Madison Heights on October 22, 2004.

**Response 8-14:** Eighteen noise walls totaling 4.9 miles in length are proposed. These are listed in Table 4-12 and explanatory text is found in Section 4.8.5. Locational information on individual structures is available in Appendix C of the *Noise Study Report*, January 2005. The State Transportation Commission's Policy on Noise Abatement states that local authorities must agree to provide: 1) a share of the state and local funding based on population (per State of Michigan Act 51); 2) aesthetic maintenance on the residential side of the structure, or on both sides when the structure is on the residential side of a service road; and, 3) structural maintenance after five years when the structure is on the residential side of a service road. Failure to meet all of the above requirements will make the noise abatement project "unreasonable" for purposes of the noise policy, meaning it will not be built. Noise wall design, costs, and materials will be coordinated in the design phase of the project with local input.

**Response 8-15:** Any excess land will continue to be MDOT property.

**Response 8-16:** The SPUI was found to have operational limits and is not recommended at 14 Mile Road. A SPUI design operates best when opposing turn movements are relatively balanced, using the full capacity of the intersection. Travel demand in the area is unbalanced due to the presence of Oakland Mall and other numerous commercial developments to the east of I-75. Capacity analysis found that at the central traffic signal serving the SPUI intersection, the level of service (LOS) would be F during the afternoon traffic peak due to the imbalance of traffic on 14 Mile Road resulting from commercial development/access. A more conventional reconstruction of the interchange offers a better solution at this interchange, with all movements at a LOS of D or better.



MEMBER MICHIGAN MUNICIPAL LEAGUE

March 2, 2004

Ms. Sue Datta, ACIP
Project Manager
Michigan Department of Transportation
18101 W. Nine Mile Road
Southfield, Michigan 48075

Subject: I-75 Draft Environmental Impact Statement City of Royal Oak "Comments"

Dear Ms. Datta:

The City of Royal Oak thanks the Michigan Department of Transportation for the opportunity to provide comments on the proposed I-75 Widening Project from M-102 (8 Mile) to M-59. Royal Oak has no objections to the proposed I-75 widening because the improvement is needed to increase the freeway capacity and the project is good for the region.

The City of Royal Oak comments, concerns, and objections related to the proposed I-75 Project are addressed in the following attached documents: (1) I-75 Draft Environmental Impact Statement Comment Form; (2) Proposed I-75 Widening from 8 Mile to M-59 Environmental Impact on Royal Oak Report; and (3) City of Royal Oak City Commission Resolution.

If you have any additional concerns, please call me at 248.246.3260.

Yours truly,

[Handwritten signature of Dick Cole]


Dick Cole, P.E.
City Engineer

DC/sm

cc: Joseph Corradino, The Corradino Group, First Centre, Ste. 300 N. 200 S. 5th St.,
Louisville, KY 40202
I-75 Widening E.I.S.

211 Williams Street • P.O. Box 64 • Royal Oak, MI 48068-0064 • Phone Area Code (248)

Table with 3 columns listing departments and phone numbers: Assessor, Building Insp., Cable TV (W/ROK), City Attorney, City Clerk, City Manager, Code Enforcement, Engineering, FAX, Finance, Fire Dept. (Bus.), General Info, Housing Assistance, Human Resources, Ice Arena, Info Systems, Motor Pool, Planning & Zoning, Police Dept. (Bus.), Public Service Dept., Purchasing, Recreation, Rental Assistance, Senior/Community Ctr, TDD, Treasurer, Water Bills.

<p><b>I-75 DRAFT ENVIRONMENTAL IMPACT STATEMENT</b></p> <p><b>COMMENT FORM</b></p>	
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The Michigan Department of Transportation (MDOT) has performed an environmental and early preliminary engineering analysis for I-75 between M-102 (8 Mile Road) and M-59 in southeastern Michigan. Two practical alternatives have been identified. The first alternative would reconstruct and add a lane to I-75 from three to four travel lanes in each direction. The second alternative would also reconstruct and add the lane in each direction, but the lane would be limited to High Occupancy Vehicles (HOV) during morning and afternoon peak travel periods, approximately four (4) hours a day. This is your opportunity to comment on the Draft Environmental Impact Statement (DEIS), which provides background on the project and presents the impacts of these two alternatives.

**GET INVOLVED!**

Your comments are important and will become a matter of public record. A Final Environmental Impact Statement will be prepared after the close of the comment period, which will occur 45 days after the Public Hearing, or March 12, 2004. The Final Environmental Impact Statement will summarize all comments received on the DEIS and respond to them.

\* \* \* PLEASE PRINT CLEARLY \* \* \*

Name Dick Cole, City Engineer  
Address City Hall, 211 Williams Street  
City / Zip Royal Oak, MI 48067  
Email richardc@ci.royal-oak.mi.us

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**TELL US WHAT YOU THINK.**

We want to know what you think. Is there an issue we did not address? Everything you say about this project is important. Please use the space below and on the back. Turn your comment form in to available staff at the Public Hearing, or give your comments orally to the court recorder available in the room. If you wish, you may mail your comments or email them (see back of this sheet for more information).

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 The City of Royal Oak comments, concerns, and objections related to the proposed I-75 Widening Project are addressed in the following attached documents: (1) Proposed I-75 Widening from 8 Mile to M-59 Environmental Impact on Royal Oak Report; and (2) City of Royal Oak City Commission Resolution. 

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COMMISSION LETTER # 045  
COMMISSION MEETING OF: 3/1/04  
SUBJECT: Proposed I-75 Widening from  
8 Mile to M-59 Environmental  
Impact on Royal Oak

8

February 25, 2004

MEMO TO: Lawrence M. Doyle, City Manager

FROM: Dick Cole, City Engineer

SUBJECT: Proposed I-75 Widening from 8 Mile to M-59 Environmental Impact  
on Royal Oak

This report describes the impacts of the Proposed I-75 Widening Project on Royal Oak and provides recommended comments to the Draft Environmental Impact Statement for the project. General information about the project was addressed in Commission Memo of 1/30/04 which included the "Draft Environmental Impact Statement - Summary". This report also includes answers to Commissioner Tom Hallock's questions given in his e-mail letter of 2/3/04, see Exhibit A.

**Proposed I-75 Widening Project Impacts on Royal Oak**

**I. Traffic Impacts**

The estimated traffic impacts on Royal Oak from the proposed I-75 Widening Project are as follows:

**A. Elimination of I-696 traffic Access to the I-75 off ramp at 11 Mile**

The project includes braiding two northbound freeway ramps at the I-696/I-75 interchange to reduce the frequency of northbound I-75 traffic back-ups. The I-75 back-ups are caused by eastbound and westbound I-696 traffic exiting northbound to I-75. The MDOT proposal is to have the northbound I-75 off-ramp to 11 Mile Road pass under the northbound I-75 on-ramps from I-696 to prevent merge/diverge conflicts. This is called "braiding" the ramps (see Exhibit B). The I-75/I-696 intersection ramp modification causes the following traffic impacts in Royal Oak:

9-1

• **Removal of Dallas Bridge over I-75**

The Dallas bridge over I-75 will be removed for the ramp braiding construction. MDOT is proposing that a westbound quick turnaround bridge be installed on the south side of the Lincoln Bridge to service the westbound Dallas Bridge traffic. The estimated average daily westbound Dallas bridge traffic is 2,720 vehicles per day. It is estimated that this traffic will be going southbound on Stephenson and westbound on the I-696 Service Drive to its destination. This traffic increase will impact homes along Stephenson south of Lincoln and parents and busses going to and from Oakland School on Brockton.

9-2

Eastbound Dallas traffic was not studied as part of this report but will need to be addressed by MDOT in their final report.

- **Removal of east/west I-696 traffic exit to 11 Mile Rd. from I-75**  
As part of I-696/I-75 interchange northbound ramp braiding, the east/west I-696 traffic exit to 11 Mile from I-75 is eliminated. This impacts Royal Oak by increasing traffic at other exits from I-696 and I-75 that service the City, see attached report, Exhibit C. As shown on Exhibit C, the estimated traffic increase to City roadways due to this change is as follows:

Westbound 12 Mile Rd. west of I-75	+92 vehicles/day
Westbound 11 Mile Rd. west of Ryan	+92 vehicles/day
Northbound Mohawk exit north of I-696	+1,192 vehicles/day
Northbound Campbell Rd. north of I-696	+458 vehicles/day

9-1  
Cont.

**B. Removal of Fourth Street Access to Southbound I-75 Ramp**

The project includes relocating the southbound I-75 on-ramp at Fourth about 220 feet north of its current location. The estimated current eastbound Fourth Street traffic that enters southbound I-75 at this location is 1,840 vehicles/day. It is estimated that these vehicles will continue to use Fourth to access I-75, see Exhibit D and they will increase northbound traffic on Helene, Minerva, and Edgeworth to access the freeway from 11 Mile. The estimated northbound traffic increase on these residential streets is as follows:

Helene north of Fourth Street	+920 vehicles/day
Minerva north of Fourth Street	+460 vehicles/day
Edgeworth north of Fourth Street	+460 vehicles/day

9-3

**C. Relocation of the Northbound I-75 Exit Ramp to S. of Lincoln**

As part of the proposed northbound I-75/I-696 ramp braiding improvement, the northbound I-75 exit ramp will be relocated south of Lincoln, see Exhibit B. This ramp relocation is estimated to increase traffic on Lincoln by 399 vehicles/day.

9-4

**D. Decrease in Westbound 11 Mile Rd. Traffic West of I-75**

The proposed northbound I-75/I-696 ramp braiding improvement will reduce westbound 11 Mile Rd. traffic into Royal Oak from the I-696 freeway. This proposed ramp braiding is estimated to reduce westbound 11 Mile Rd. traffic west of the I-75 freeway by 1,660 vehicles/day.

**RECOMMENDATIONS:** IT IS RECOMMENDED that the proposed I-75 Widening Project not remove the east/west I-696 exit to Eleven Mile Road at I-75 because of increased traffic and/or safety concerns in Royal Oak on Mohawk area residential streets north of I-696, on southbound Stephenson Highway south of Lincoln, and on westbound Lincoln west of I-75 caused by the proposed freeway changes.

9-1  
Cont.

IT IS FURTHER RECOMMENDED that the proposed I-75 Widening Project not remove the east/west I-696 exit to Eleven Mile Road at I-75 because of detrimental economic impacts to Royal Oak Eleven Mile Road business.

**IT IS FURTHER RECOMMENDED** that the proposed I-75 Widening Project not remove the eastbound Fourth Street access to southbound I-75 because of increased traffic and safety concerns on the following Royal Oak Residential streets; Helene north of Fourth; Minerva north of Fourth; and Edgeworth north of Fourth caused by the freeway change.

9-3  
Cont.

**II. City Commissioner Comments**

The attached e-mail from Commissioner Marie Donigan addresses the need for a more in-depth study of the impacts of Mass Transit in the "Draft Environmental Impact Statement for the Proposed I-75 Widening Project from 8 Mile to M-59". The need for mass transit between Detroit and Pontiac in the Woodward Corridor would have many benefits such as: Getting cars off the road, supporting job growth in Oakland and Wayne Counties, reducing pressure on the road system in general, and reducing air pollution. The I-75 Widening Project Environmental Impact Statement should include a serious and committed debate on an alternative transit system.

9-5

**III. Public Safety and Public Service Comments**

**A. Fire Department**

The City Fire Department has reviewed the M.D.O.T. proposed I-75 Widening design and has determined three problems with the proposed design, see attached memo from Chief Richard Strehlke. The Fire Department problems are as follows:

- The Dallas Bridge should not be removed as it is needed as a lookout point to locate life safety problems in the I-75/I-696 interchange. The lookout point is used to direct emergency vehicles to the life safety problem location.
- The southbound I-75 on-ramp at Fourth Street should not be moved north of Fourth Street as this relocation will increase emergency vehicle response time to freeway life safety problems.
- The northbound I-696 exit to 11 Mile Rd. at I-75 should not be eliminated because removing this exit could increase emergency vehicle response time to freeway life safety problems.

9-2  
Cont.

9-3  
Cont

9-1  
Cont

In addition, the Fire Department wants to review and have input into the proposed I-75 widening construction traffic detour routes for public safety.

9-6

**B. Police Department**

The Police Department has reviewed the M.D.O.T. proposed I-75 Widening design and has determined five problems with the proposed design, see attached memo from Sgt. Christopher M. Jahnke. The Police Department problems are as follows:

Lawrence M. Doyle  
I-75 Widening from 8 Mile to M-59 Environmental Impact

February 25, 2004  
Page 4 of 8

- The northbound I-696 exit to 11 Mile should not be eliminated because removing this exit will reintroduce higher traffic volumes on Mohawk north of I-696. The City has recently (2002/2003) spent significant time and money to mitigate the Mohawk cut-through traffic problems caused by the I-696 freeway. The proposed M.D.O.T. I-75 Widening design is estimated to raise Mohawk traffic volumes significantly above the (2002/2003) problem levels. The increased Mohawk area traffic will require increased police enforcement and will generate new neighborhood problems.
- The southbound I-75 entrance ramp at Fourth Street should not be moved north because moving this entrance ramp north of Fourth Street is estimated to increase traffic on Helene, Minerva, and Edgeworth and this traffic increase will require increased police enforcement and will generate new neighborhood problems.
- The I-75 off-ramp at 11 Mile should not be relocated south of Lincoln because relocating the off-ramp south of Lincoln will increase traffic on Lincoln causing increased police enforcement and neighborhood problems.
- The Dallas Bridge should not be removed because the removal of the Dallas Bridge over I-75 will increase South End police response times between Royal Oak and Madison Heights Police Departments.
- The above proposed I-75 changes should not be made part of the I-75 Widening Project because the additional traffic problems generated by the above changes may increase Royal Oak Police staff levels in the Traffic Safety Division

9-1  
Cont.

9-3  
Cont.

9-4  
Cont

9-2  
Cont

9-1  
Cont.

**C. Department of Public Service**

The Department of Public Services has reviewed the M.D.O.T. Proposed I-75 Widening design and has determined the design will not affect service provided by the Department, see attached memo from Greg Rassel, Public Works Superintendent.

**IV. I-696 Freeway Soundwall Problems North of Westbound 10 Mile**

The I-696 sound walls north of westbound 10 Mile Road adjacent to Royal Oak should be repaired as part of the current "Preserve first" M.D.O.T. Road Improvement Program.

The collapsing and deteriorating I-696 sound walls north of westbound 10 Mile in Royal Oak caused by a defective expansion joint design has been known by M.D.O.T. from at least 8/28/90.

M.D.O.T. has not corrected this significant sound wall safety problem in Royal Oak caused by the freeway design flaw. Numerous letters have been written to M.D.O.T. and state elected officials to correct this problem but to date funding to correct the problem has not been scheduled.



V. Property Taken for Right-of-Way

There are no houses or institutional or commercial properties in Royal Oak on southbound Stephenson that will need to be taken in whole by the project. There are no building removals required in Royal Oak as part of the proposed project.

There are three locations in Royal Oak where small pieces of property are being considered for purchase by MDOT for the Proposed Project to allow for proper sidewalks and greenbelts if southbound Stephenson is slightly realigned for the work. The location of each proposed right-of-way purchase is shown on Exhibits E, F, and G. The City Assessor has determined the estimated total loss in Royal Oak tax revenue for these three small right-of-way purchases is \$58.00/yr., see Exhibit H.

In addition to the three (3) small Right-of-Way purchases, MDOT will need a grading permit to grade a portion of the east edge of Maddock Park to match the new proposed adjacent sidewalk elevation along Stephenson for the proposed new Stephenson Highway alignment. The new proposed southbound Stephenson Highway alignment is shown on Exhibit E, F, and G.

VI. Noise

Increased noise caused by the proposed I-75 Widening Project is estimated at 1 decibel in Royal Oak. Mr. Ted Stone, Vice President of the Corradino Group that prepared the Draft Environmental Impact Statement for the I-75 project, stated that a 1 decibel change in volume is unperceptible to the human ear. It takes a 3 decibel increase in volume for a person to determine a change in volume has occurred.

No sound walls will be relocated on the west side of I-75 in Royal Oak for the project. Some sound wall relocation will occur north of I-696 adjacent to Madison Heights for the proposed interchange ramp braiding improvement.

VII. Schedule

If the outcome of the Public Hearing for this project is to reconstruct I-75, design and construction will await available funding. A number of capacity improvement projects statewide have been deferred, as MDOT is dedicated to a "preserve first" philosophy.

This philosophy is to improve the existing infrastructure, and the goal is to restore 95 percent of Michigan's freeways and 85 percent of its non-freeways to a "good" condition by 2007. Deferred projects will be added to the Five-Year Program on a priority basis, based on available funding, when MDOT can meet and sustain the condition goal and when additional revenues are available.

The Environment Impact Statement Public Input process on Federal Highway Projects requires that Public Comments be sent to MDOT within 45 days of the Public Hearing for the proposed improvement. The Public Hearing for the Proposed I-75 Widening Project was held on 1/27/04 and Public Comments on the Project must be sent to MDOT by March 12, 2004.

Lawrence M. Doyle  
I-75 Widening from 8 Mile to M-59 Environmental Impact

February 25, 2004  
Page 6 of 8

If the City Commission is in agreement, the following resolution is offered for the City of Royal Oak Comments on the Draft Environmental Impact Statement for the Proposed I-75 MDOT Widening Project from M-109 (8 Mile Rd.) to M-59:

**CITY COMMISSION RESOLUTION:**

**BE IT RESOLVED** that the City of Royal Oak requests that before the proposed M.D.O.T. I-75 Widening Project between 8 Mile Road and M-59 is started, the collapsing and badly deteriorated sound walls caused by a defective sound wall expansion joint design on the north side of westbound 10 Mile Road adjacent to Royal Oak be properly repaired under the current "Preserve first" M.D.O.T. Road Improvement Program.

**BE IT FURTHER RESOLVED** that the "Draft Environmental Impact Statement for the Proposed I-75 Widening Project" include a more in-depth study of the impacts of Mass Transit in the Woodward Corridor between Detroit and Pontiac including the reduction of vehicles on area roadways, reduction in air pollution in the metropolitan area, and increased job growth in Oakland and Wayne Counties.

**BE IT FURTHER RESOLVED** that the proposed I-75 Widening Project not remove the east/west I-696 exit to Eleven Mile Road at I-75 because of increased traffic and public safety concerns in Royal Oak on Mohawk area residential streets north of I-696, on southbound Stephenson Highway south of Lincoln, and on westbound Lincoln west of I-75 caused by the proposed freeway changes.

**BE IT FURTHER RESOLVED** that the proposed I-75 Widening Project not remove the 11 Mile Rd. exit from northbound I-696 because this exit could increase emergency vehicle response time to southbound I-75 life safety problems.

**BE IT FURTHER RESOLVED** that the proposed I-75 Widening Project not remove the 11 Mile Rd. exit from northbound I-696 because of detrimental economic impacts on Royal Oak Eleven Mile Road business.

9-5  
Cont.

9-1  
Cont

Lawrence M. Doyle  
I-75 Widening from 8 Mile to M-59 Environmental Impact

February 25, 2004  
Page 7 of 8

**BE IT FURTHER RESOLVED** that the proposed I-75 Widening Project not relocate the eastbound Fourth Street entrance ramp to southbound I-75 because of increased traffic and public safety concerns on the following Royal Oak residential streets; Helene north of Fourth; Minerva north of Fourth; and Edgeworth north of Fourth caused by the freeway change.

9-3  
Cont

**BE IT FURTHER RESOLVED** that the eastbound Fourth Street entrance ramp to southbound I-75 not be relocated north because of increasing emergency vehicle response times to life safety problems on the freeway.

**BE IT FURTHER RESOLVED** that the Dallas Bridge over I-75 not be removed as it will increase Police Department and Fire Department emergency vehicle response times between Royal Oak and Madison Heights and to I-696/I-75 interchange life safety problems.


9-2  
Cont

**BE IT FURTHER RESOLVED** that the proposed I-75 Widening improvement problems addressed in this resolution be eliminated to mitigate additional Royal Oak Police Department costs created by the proposed freeway changes.

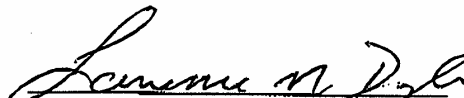
9-1  
Cont.

**BE IT FURTHER RESOLVED** that the City of Royal Oak be allowed to provide meaningful input into the construction detours selected for the proposed I-75 Widening Project to reduce the impact of detour traffic on Royal Oak residents and provide for proper public safety.

9-6  
Cont.

  
Dick Cole, P.E.  
City Engineer

APPROVED:

  
Lawrence M. Doyle  
City Manager

DC/sm

**Letter 9a, continued**

Lawrence M. Doyle  
I-75 Widening from 8 Mile to M-59 Environmental Impact

February 25, 2004  
Page 8 of 8

- cc: Joseph Corradino, The Corradino Group, First Centre, Ste. 300 N. 200 S. 5<sup>th</sup> St., Louisville, KY 40201  
Sue Datta, ACIP, Proj. Manager, MDOT, 18101 W. 9 Mi. Southfield, MI 48075  
Bob DeCorte, Traffic Improvement Association, 2709 S. Telegraph Rd., Bloomfield Hills, MI  
Liz Tillander, Exec. Dir., R.O. Chamber of Commerce, 200 S. Washington Ave., Royal Oak, MI 48067  
Charles Semchena, City Attorney  
Ted Quisenberry, Police Chief  
Richard Strehlke, Fire Chief  
James Giereman, City Assessor  
Tim Thwing, City Planner  
Tom Trice, Director of Recreation and Public Services  
Gregory Rassel Superintendent of Public Works  
Rick Lang, Superintendent of Sewer and Water  
Elden Danielson, Civil Engineer III

At a Regular Meeting of the Royal Oak City Commission held on Monday, March 1, 2004, in City Hall, 211 Williams Street, the following Resolution was adopted:

BE IT RESOLVED that the City of Royal Oak requests that before the proposed M.D.O.T. I-75 Widening Project between 8 Mile Road and M-59 is started, the collapsing and badly deteriorated sound walls caused by a defective sound wall expansion joint design on the north side of westbound 10 Mile Road adjacent to Royal Oak be properly repaired under the current "Preserve First" M.D.O.T. Road Improvement Program.

BE IT FURTHER RESOLVED that the "Draft Environmental Impact Statement for the Proposed I-75 Widening Project" include a more in-depth study of the impacts of Mass Transit in the Woodward Corridor between Detroit and Pontiac including the reduction in air pollution in the metropolitan area, and increased job growth in Oakland and Wayne Counties.

BE IT FURTHER RESOLVED that the proposed I-75 Widening Project not remove the east/west I-696 exit to Eleven Mile Road at I-75 because of increased traffic and public safety concerns in Royal Oak on Mohawk area residential streets north of I-696, on southbound Stephenson Highway south of Lincoln, and on westbound Lincoln west of I-75 caused by the proposed freeway changes.

BE IT FURTHER RESOLVED that the proposed I-75 Widening Project not remove the 11 Mile Rd. exit from northbound I-696 because this exit could increase emergency vehicle response time to southbound I-75 life safety problems.

BE IT FURTHER RESOLVED that the proposed I-75 Widening Project not remove the 11 Mile Rd. exit from northbound I-696 because of detrimental economic impacts on Royal Oak Eleven Mile business.

BE IT FURTHER RESOLVED that the proposed I-75 Widening Project not relocate the eastbound Fourth Street entrance ramp to southbound I-75 because of increased traffic and public safety concerns on the following Royal Oak residential streets; Helene north of Fourth; Minerva north of Fourth; and Edgeworth north of Fourth caused by the freeway change.

BE IT FURTHER RESOLVED that the eastbound Fourth Street entrance ramp to southbound I-75 not be relocated north because of increasing emergency vehicle response times to life safety problems on the freeway.

BE IT FURTHER RESOLVED that the Dallas Bridge over I-75 not be removed as it will increase Police Department and Fire Department emergency vehicle response times between Royal Oak and Madison Heights and to I-696/I-75 interchange life safety problems.

BE IT FURTHER RESOLVED that the proposed I-75 Widening improvement problems addressed in this resolution be eliminated to mitigate additional Royal Oak Police Department costs created by the proposed freeway changes.

BE IT FURTHER RESOLVED that the City of Royal Oak be allowed to provide meaningful input into the construction detours selected for the proposed I-75 Widening Project to reduce the impact of detour traffic on Royal Oak residents and provide for proper public safety.

I hereby certify that the foregoing is a true and correct copy of a Resolution adopted by the Royal Oak City Commission at a meeting held on March 1, 2004.

*Mary Ellen Hoover*

City Clerk

At a Regular Meeting of the Royal Oak City Commission held on Monday, March 7, 2005, in City Hall, 211 Williams Street, the following Resolution was adopted:

WHEREAS, the City of Royal Oak has been reviewing and commenting upon the proposed plan for widening I-75; and

WHEREAS, the City of Royal Oak has previously expressed several concerns about the proposed widening plan on the residents of the City; and

WHEREAS, the MDOT has made revisions to the proposed I-75 widening plan that successfully address some of the concerns of the residents as previously transmitted to the MDOT; and

WHEREAS, the City of Royal Oak has an appreciation for the effort involved by the MDOT to reconfigure the proposed I-75 widening plan; and

WHEREAS, the City of Royal Oak as a matter of policy extends its appreciation to those agencies that are responsive in a positive manner to the City's concerns about matters of public concern.

BE IT HEREBY RESOLVED that the City of Royal Oak expresses its thanks to the MDOT for its efforts in reconfiguring the proposed I-696/I-75/Eleven Mile Road intersection to accommodate traffic exiting I-696 onto Eleven Mile Road; and

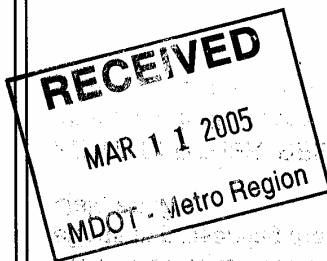
BE IT FURTHER RESOLVED the City of Royal Oak expresses its thanks to the MDOT for its efforts in preserving the existing entrance onto I-75 southbound at 4th Street in the City of Royal Oak; and

BE IT FURTHER RESOLVED the City of Royal Oak respectfully requests that the MDOT attempt to further reconfigure the proposed I-75 northbound exit onto Eleven Mile Road that will have the least negative effect on the surrounding neighborhoods in the City of Royal Oak.

I hereby certify that the foregoing is a true and correct copy of a Resolution adopted by the Royal Oak City Commission at a meeting held on March 7, 2005.

*Mary Ellen Weaver*

City Clerk



#### **6.4.9 City of Royal Oak – Letter 9 and Resolutions 9b and 9c**

**Response 9-1:** Through continued coordination and analysis with local municipalities, including emergency services, the I-696 access to 11 Mile Road will be maintained by the modified braid presented in this FEIS. Access to 11 Mile is maintained. The opportunity will also exist to turn west on Lincoln Avenue, as the shifted off ramp will connect to the service drive south of Lincoln Avenue.

**Response 9-2:** The Dallas Avenue bridge will need to be removed. However, the lookout point can be maintained by leaving a portion of the bridge approach on the west side of I-75 intact. In addition, in discussions with the city of Royal Oak and Madison Heights, MDOT indicated ITS approaches may be possible, such as siting cameras at the interchange to allow determination of crash locations and the best routes to them. MDOT will continue to consult with local jurisdictions to identify improved communications to facilitate response times. These discussions will continue through the design phase to ensure that, if modifications are needed, they are coordinated properly. There may be minor shifts in traffic, but these can easily be accommodated by the local road system. A new crossover bridge serving movements from east-to-west will be added with the project south of Lincoln.

**Response 9-3:** After additional coordination with Royal Oak and Madison Heights and consideration of comments, additional analysis determined that access to the 4<sup>th</sup> Street ramp will be maintained.

**Response 9-4:** Any increase of traffic on Lincoln would be local traffic by Royal Oak residents. Local traffic will have the choice of using Lincoln or 11 Mile Road. The shift of the northbound off ramp from I-75 to the northbound service drive several blocks south is necessary as part of the braid configuration that maintains access from I-696 to 11 Mile Road.

**Response 9-5:** The EIS did do an in depth study of mass transit. Two technical reports have been produced (Technical Memorandum 1, *Analysis of Transit and HOV Concepts* and Technical Memorandum 2, *Refined Analysis of Transit and HOV Concepts*). Analysis shows that a rapid transit system will not alleviate the need for an additional lane on I-75. However, the analysis found that mass transit is viable in the Woodward Corridor (Section 3.6). But rapid transit cannot meet the project purpose and need. The Preferred Alternative of a new lane dedicated to use by HOV in peak period hours supports mobility and encourages transit and ridesharing.

**Response 9-6:** The maintenance of traffic program, including detour routes, will be developed through local coordination with appropriate representatives of Royal Oak and Madison Heights as a part of the design phase of the project.

**Response 9-7:** MDOT is committed to continue to coordinate with the city of Royal Oak in an effort to minimize negative impacts to the surrounding communities through the design and construction phases of this project.



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Area code (248)

Assessing  
524-3311

Bldg. Inspections  
524-3344

Bldg. Operations  
524-3368

City Clerk  
524-3316

City Manager  
524-3330

Community Affairs  
524-1147

Engineering  
524-3383

Finance  
524-3411

Fire-Administration  
524-3419

Human Resources  
524-3339

Information Technology  
619-7279

Law  
524-3320

Library  
524-3545

Parks & Recreation  
524-3484

Planning  
524-3364

Police-Administration  
524-3443

Public Works  
524-3370

Purchasing  
524-3338

Real Estate & Development  
524-3498

Treasurer  
524-3334

General Information  
524-3300

CITY OF TROY  
OAKLAND COUNTY, MICHIGAN

RESOLUTION

Environment Impact Statement for Widening and Reconstruction of I-75 from M-102 to M-59

At a Regular meeting of the Troy City Council held on Monday, March 1, 2004, the following Resolution was passed:

Resolution #2004-03-120  
Moved by Beltramini  
Seconded by Lambert

WHEREAS, Improvements to the I-75 Corridor such as additional lanes on I-75, interchange improvements and local roadway improvements are overdue, and are recommended by the I-75 corridor study; and

WHEREAS, The lack of these improvements continues to exacerbate traffic congestion concerns in the City and the region.

NOW, THEREFORE, BE IT RESOLVED, That the City Council of the City of Troy **RECOMMENDS** that the Draft Environmental Impact Statement for the I-75 Corridor Study be approved by the Federal Highway Administration and **ENCOURAGES** communities along I-75 to support the DEIS, for the timely approval of federal funds for the completion of the recommended improvements.

Yes: All-6  
No: None  
Absent: Broomfield

I, Barbara A. Holmes, duly appointed Deputy Clerk of the City of Troy, do hereby certify that the foregoing constitutes a true and complete copy of a resolution adopted by the Troy City Council at a Regular Meeting duly called and held on Monday, the Twelfth day of May, 2003.

Barbara A. Holmes, CMC  
Deputy City Clerk

10-1

6.4.10 City of Troy – Letter 10

Response 10-1: Comment acknowledged.





January 30, 2004

Ms. Margaret M. Barondess, Manager  
 Environmental Section  
 Project Planning Division  
 Murray D. Van Wagoner Building  
 P.O. Box 30050  
 Lansing, MI 48909

Reference: Multiple Drain Involvements; Widening and Reconstruction of I-75 from M-102 to M-59; Oakland County, Michigan

Dear Ms. Barondess:

The Oakland County Drain Commissioner's Office has reviewed a draft of the Environmental Impact Statement (EIS) for the proposed widening and reconstruction of I-75 from M-102 to M-59. This office recognizes that there will be several drain involvements throughout the span of the project.

Detailed plans for all drain involvements need to be submitted to this office prior to the start of any construction affecting a County Drain. All plans should be submitted with calculations and drainage break-up sheets as required. Any proposed watercourse isolations from the construction project also need to be submitted prior to construction. A permit for the work will be required.

If there are any questions regarding this matter, please contact Chuck Lawhorn (248-452-8681) of this office.

Very truly yours,

OAKLAND COUNTY DRAIN COMMISSIONER

By: Steven A. Korth  
 Steven A. Korth, P.E.  
 Assistant Chief Engineer

One Public Works Drive  
 Building 95 West  
 Waterford, MI 48328-1907  
 www.co.oakland.mi.us/drain  
 P 248.858.0958  
 F 248.858.1066

11-1

6.4.11 Oakland County Drain Commission – Letter 11

Response 11-1: Comment acknowledged.



January 15, 2004

Board of Road Commissioners

Richard G. Skarritt  
Chairman

Rudy D. Lozano  
Vice-Chairman

Larry P. Crake  
Commissioner

Brent O. Bair  
Managing Director

Gerald M. Holmberg  
Deputy Managing Director  
County Highway Engineer

Planning &  
Development Department

31001 Lahser Road  
Beverly Hills, MI  
48025

248-645-2000

FAX  
248-645-1349

TDD  
248-645-9923

www.rcocweb.org

Ms. Margaret M. Barondess, Manager  
Michigan Department of Transportation  
Environmental Section  
Project Planning Division  
Post Office Box 30050  
Lansing, Michigan 48909

RE: I-75 Draft EIS

Dear Ms. Barondess:

The Road Commission supports the desired outcome of adding one lane in each direction to the I-75 freeway through Oakland County. The increase of 33 1/3% capacity is urgently needed to support existing employment centers and accommodate the mobility desires of our residents. Mobility, safety, the economy and job growth of Oakland County are all heavily dependent on the efficient functionality of I-75 in the future, thus making this widening a critical project.

There are many benefits to such an action. First, given the existing highway and its public right of way, a significant increase in system capacity and mobility can be achieved with practically no acquisition of right of way and few impacts to the natural or social environment. Nearly all effects on the environment, and all issues of Environmental Justice, occurred in the 1960's and 1970's when the roadway was initially constructed. In addition, by increasing capacity we can reduce freeway congestion and thus, increase air quality in the corridor.

Second, this widening is the best way to improve the north-south flow between Detroit and Flint because the exiting corridor traverses the county on a diagonal, cutting across the underlying grid pattern of local roads. Thus, it would be impossible to generate the same capacity increase using the local road network without an enormous impact to the Oakland County environment. This is becoming more critical as both jobs and residential development continue to move north and northwest within Oakland County putting a strain on the road network in those directions.

12-1



Ms. Barondess  
January 15, 2004  
Page 2

A significant benefit to our residents of additional freeway capacity on I-75 will be the reduced congestion on, and greater longevity of, the numerous city, county, and state roads in the adjacent I-75 corridor. Those roads in the corridor which need to be widened to make I-75 function better have been identified in the current study and steps are in progress to improve those roads.

Obvious benefits to I-75 travelers include better separation of cars and heavy trucks; providing two lanes for each should greatly reduce conflicts and accidents. The extra lane also will provide better access and higher speeds for express bus services between suburbs and center city. The added lanes will provide smoother ingress and egress at all interchanges with fewer adverse effects on through traffic. Similarly, traffic will be less effected by accidents and breakdowns on the shoulder with an extra lane to move around the problem. These issues are critical to providing greater safety on I-75 as well as adjacent surface streets, especially as volumes grow and urban densities increase.

While we do not support HOV lanes at the loss of through lanes, we strongly believe new Single-Point (SPUI) designs should be installed at both Twelve Mile Road and Fourteen Mile Road to replace the existing interchanges for better flow on the local roads.

12-2

In summary, we at the Road Commission find the benefits to be many, while the required right-of-way and adverse impacts are few due to use of the existing I-75 right-of-way. This project is greatly needed for both safety and convenience and we encourage MDOT to move toward construction as quickly as possible.

Sincerely,

Brent O. Bair  
Managing Director

BB:amj

Cc: Joe Corradino, Corradino Associates  
Sue Datta, MDOT - Region  
Gerald Holmberg, RCOG

January 27, 2004



Board of Road Commissioners

Richard G. Skarritt  
Chairman

Rudy D. Lozano  
Vice-Chairman

Larry P. Crake  
Commissioner

Brent O. Bair  
Managing Director

Tim Holmberg  
County Highway Engineer

31001 Lahser Road  
Beverly Hills, MI  
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248-645-1349

TDD  
18-645-9923

www.rcocweb.org

Ms. Margaret M. Barondess, Manager  
Michigan Department of Transportation  
Environmental Section  
Project Planning Division  
P. O. Box 30050  
Lansing, Michigan 48909

RE: I-75 DRAFT EIS

Dear Ms. Barondess:

It has been brought to my attention that a paragraph in my January 15, 2004 letter on this subject contains vague, if not confusing language about the Road Commission for Oakland County's position on HOV lanes. This letter is an attempt to clarify our position.

The Road Commission is not opposed to HOV lanes in principle. In fact, we believe HOV, or HOT lanes, in the right place and under appropriate circumstances, are valuable and useful components to a well-rounded transportation network.

In this circumstance, we prefer the new lanes be for general-purpose use. However, that should not rule out HOV/HOT lanes for further study and evaluation to see if they might function well as additions to the I-75 corridor in Oakland County. It may be possible that HOV lanes with rules modified to suit our unique conditions will work well in this corridor. If further evaluation can convince us of that fact, we may support them as part of this project.

I trust this clarifies my earlier letter and indicates our willingness to work with all parties to complete this I-75 EPE project.

Sincerely,

Brent O. Bair  
Managing Director

/lb

12-3

#### **6.4.12 Road Commission for Oakland County – Letters 12a and 12b**

**Response 12-1:** Comments acknowledged.

**Response 12-2:** See Section 3.7.3 of this FEIS. The SPUI design cannot provide an acceptable level of service at 14 Mile Road due to unbalanced traffic, as a result of the traffic generators in the area. A reconstruction with the same basic configuration is proposed and will provide an acceptable level of service. This is also true for 12 Mile Road. However, during the design and value engineering process, the SPUI interchange design will be reexamined. The Preferred Alternative is a blend of a general purpose lane and an HOV lane during the peak hours to maximize the lane's usage. It is estimated that about four hours a day, the lane will operate as an HOV lane. The remaining 20 hours a day, the lane will operate as a general purpose lane.

**Response 12-3:** HOT lanes are high occupancy toll lanes. HOT lanes offer the option to the public of using the HOV lane for a fee. It should be recognized that in practice, HOT lanes are generally implemented when HOV lanes are barrier-separated from general traffic flow and are only established after the rate of use of an HOV lane is known from actual experience. HOT lanes also require a substantial capital investment and an oversight agency with tolling authority. MDOT will study HOT lanes in the future, should it be required.



**SEMCOG**  
**MEMO**

Southeast Michigan Council of Governments  
535 Griswold Street, Suite 300  
Detroit, Michigan 48226  
(313) 961-4266  
Fax (313) 961-4869  
[www.semcog.org](http://www.semcog.org)

February 11, 2004

TO: Richard W. Pfaff Jr., Regional Review Coordinator

FROM: Jeffrey J. Tumidanski, Transportation Planner  
William B. Parkus, Environmental Planner

SUBJECT: Draft Environmental Impact Statement For the Widening and Reconstruction of I-75, from M-102 to M-59 in Oakland County TR 040001

Staff has reviewed the above draft environmental impact statement (DEIS) for consistency with the Regional Transportation Plan (RTP), Transportation Improvement Program (TIP), the Transit Plan, environmental justice (EJ), water quality impacts, and air quality conformity. General comments are also provided.

**General Comments**

It is difficult to ascertain which alternative is preferred. The document leads one to assume that the Option C of the HOV lane alternative is the preferred one.

13-1

The DEIS grew out of a study that reviewed I-75, and the streets that feed it, or act as alternative routes. The document indicates that many trips are internal to Oakland County. A discussion of how improvement to county and city roads would impact I-75 traffic volumes should also be included.

13-2

**Transit**

Section 1.2.5 and 3.6 indicate that development of a rapid transit system has significant potential in the Woodward Corridor, especially south of 9 Mile Road, but, if implemented, would not eliminate the need to add a lane on I-75. While we concur with this analysis, SEMCOG's analysis indicates that development of a high-level rapid transit system for Southeast Michigan, consistent with the adopted SEMCOG Transit Plan, will have benefits and provide an option to using I-75. Providing high-level transit service, along with promoting ridesharing, and other demand management strategies will provide real travel options and allow I-75, when widened, to operate at even better levels of service and enhance mobility throughout the entire corridor.

13-3

**Consistency with TIP and RTP**

The project is currently not in either the Regional Transportation Improvement Program (TIP) or the 2025 Regional Transportation Plan (RTP) for construction. It has appeared in previous TIPs and RTPs as a study. This project is proposed for inclusion in the 2030 RTP for construction in

13-4

**Letter 13, continued**

SUBJECT: Draft Environmental Impact Statement For the Widening and Reconstruction of I-75, from M-102 to M-59 in Oakland County

the 2011-2015 time period for \$533 million in construction costs. Section 6.3 of the DEIS should indicate the above.

13-4

**Environmental Justice**

Section 4.3 indicates that the proposed improvements to I-75 will not cause disproportionately high and adverse human health or environmental effects on minority or low-income populations. The analysis provided to support this statement should be enhanced to reflect improved access to jobs, work sites, and other critical areas for these populations as a result of the proposed improvement.

13-5

In addition, the DEIS should indicate any special outreach efforts used to notify and involve these populations throughout the planning process.

**Water Quality Impacts**

Storm water removal

In the depressed section of I-75 between Eight Mile and 12 Mile Roads, the DEIS states that planning was underway to separate the storm water system from the combined sewer system for the purpose of reducing combined sewer overflows (CSOs). While CSOs are permitted under the federal Clean Water Act of 1977, any activity to reduce them will be beneficial to water quality.

The selected method for removing and disposing of the storm water in that four-mile stretch of the I-75 roadway has not yet been identified. There is little or no discussion of what options might be considered.

13-6

In other areas of the I-75 roadway, detention of runoff is planned. According to the DEIS about seven acres of additional road ROW is planned for storm water detention. All storm water facilities and discharges must meet Phase II Storm Water requirements.

13-7

Contaminated sites

The DEIS identifies 49 contaminated sites within the project area. Most of these were USTs (underground storage tanks). The major concern to the project from these nearby sites is the potential for migration of contamination beneath the I-75 ROW. Provisions should be developed now for the removal, treatment (if needed), and disposal of contaminated sediment, if encountered during construction.

13-8

Wetlands protection

The DEIS identifies only the HOV alternative as impacting any wetlands (0.41 acres), the general purpose lane alternative would not. Forty-one individual wetlands, ranging from high to low value, are identified in the project area. These wetlands should not be disturbed either by sedimentation pollution or physical encroachment. Thus, permits under Part 303 (Wetland Protection) and Part 91 (Soil Erosion and Sedimentation Control) of P.A. 451 of 1994, the Natural Resources and Environmental Protection Act, may be required.

13-9



**Letter 13, continued**

SUBJECT: Draft Environmental Impact Statement For the Widening and Reconstruction of I-75, from M-102 to M-59 in Oakland County

**Air Quality Conformity and Congestion**

Sections 1.3.6 and 4.7 state that air quality along I-75 will be improved to the extent there will be less idling and smoother traffic flow. While this is inherently true, there is no data provided to support this statement. In fact, the CO analysis indicates that CO readings will actually be higher in the build rather than the no-build situation in 2025. It is, however, true that the standards for CO would likely not be violated under either build or no-build conditions. The DEIS should be revised or data included that supports the statement.

13-10

In addition, a statement is made in Section 4.7, that there is no method approved by EPA to calculate air toxics produced by vehicles. We believe that EPA considers the MOBILE6.2 toxics calculator as an approved method. However, as the EIS correctly points out, there is no standard to compare these calculations. The DEIS should be revised to reflect the above comment.

13-11

Finally, we suggest that reference to MOBILE6.2 be made earlier in the analysis, as it was used to estimate CO concentrations.

13-12

**Letter 13, continued**

**From:** "Thomas Barwin" <TBarwin@Ameritech.net>  
**To:** <pfaff@semcog.org>  
**Date:** 2/17/04 9:44AM  
**Subject:** I-75 DEIS Comments

Richard,

Enclosed are Ferndale's preliminary comments regarding the I-75 DEIS. I am also very concerned that the study overly narrows environmental and economic justice considerations, which I hope to find the time to provide further comments on. Please confirm that you have received the attachment, which was originally presented to the study team at the recent public hearing in Troy on January 27, 2004.

Tom Barwin

City Manager - Ferndale

## DRAFT

### CITY OF FERNDALE

#### INTERDEPARTMENTAL COMMUNICATION

**DATE:** January 26, 2004  
**TO:** Mayor and Council  
**FROM:** Thomas W. Barwin, City Manager  
**RE:** Oakland County I-75 Expansion, Draft Environmental Impact Statement (DEIS)

#### BACKGROUND

As Council is aware, the Michigan Department of Transportation (MDOT) is moving through the study and regulatory process necessary to authorize and pursue federal funding participation to undertake the widening of I-75 in Oakland County from Eight Mile (M102) to M-59. As currently being discussed, this specific segment is part of a larger plan to expand I-75 throughout Oakland County. The project would add one lane in each direction for the 18-mile stretch between Eight Mile and M-59. Once completed, the expanded I-75 will save 90 seconds off a commute time each day.

The MDOT I-75 Corridor Feasibility Study in Oakland County was completed in November 2002 and recommended providing four through lanes in each direction throughout Oakland County. The expansion may be necessary because I-75 is experiencing congestion in the peak periods which will get more severe if current development trends continue as projected by SEMCOG. Although the feasibility study recommends expanding I-75 throughout all of Oakland County, the Eight Mile to M-59 has been broken off as a separate and free standing project because, according to MDOT consultants, it has "independent utility" and can stand alone.

The DEIS follows from the I-75 feasibility study and is listed in SEMCOG's 2025 Regional Transportation Plan, in SEMCOG's Transportation Improvement Program (TIP) and in the MDOT Five-Year Road and Bridge Program (2003-2007) for the Metro Region. Upon approval of the DEIS and Final EIS (FEIS) by MDOT, it will be forwarded to the Federal Highway Administration (FHWA) with a recommendation that a Record of Decision (ROD) be issued. A ROD will act as the Location/Design Approval document allowing the project to move forward to the design and funding stage. Once funding is secured the construction phases will begin.

#### PURPOSE OF DEIS

Federal regulations in place since 1969 requires that the social, economic and natural environmental impacts of any proposed action of the federal government be analyzed for decision-making and public information purposes. The executive summary report of the I-75 DEIS has been included in Council's agenda packet with a full copy delivered to my Office and the Ferndale Public Library for public review.

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**CITY OF FERNDALE AND PUBLIC COMMENT REVIEW PERIODS**

SEMCOG serves as the Regional Review Office for transportation projects of this magnitude for the metro region. SEMCOG has requested any input our City may wish to provide on the study by February 11, 2004.

An MDOT public hearing on the DEIS is planned to be held on Tuesday, January 27, 2004, beginning at 4:00 p.m. until 8:00 p.m. at the Marriott Hotel, on Big Beaver Road in Troy. MDOT will consider public input on the DEIS for approximately 45 days.

**DIRECT COSTS OF THE I-75 EXPANSION PLANS IN OAKLAND COUNTY**

The direct costs to expand I-75 from Eight Mile to M-59 as a stand alone project is estimated to be \$530 million in 2004 dollars. A major weakness of the I-75 DEIS and a basic problem with how SEMCOG, MDOT and their consultants approach transportation decisions in Southeast Michigan can be uncovered by a careful reading of the full DEIS which ignores or fudges over other road improvement costs which will become necessary as a result of expanding I-75.

**NEEDS AND COSTS TO EXPAND SURFACE STREETS FEEDING I-75 IGNORED IN DEIS REPORT**

While the executive summaries and public pronouncements by MDOT claim the I-75 stand alone project will cost \$530 million the fact is that the traffic which will be drawn or induced to an expanded I-75 (increasing capacity by 33%) will necessitate the need to expand 56 miles of arterial or surface streets that take vehicular traffic to and from an enlarged I-75.

This fact as reported in the small print of the expanded DEIS leads staff to our first finding; which is that the Eight Mile to M-59 expansion of I-75 is not, nor should it be, considered a stand alone project. It appears that the forces behind the push to expand I-75 in Oakland County have chosen not to be forthright with taxpayers and our sister communities and/or are willing to have the expansion of I-75 move forward and leave local governments, businesses and communities adversely impacted by an expanded I-75 to fend for themselves by creating localized gridlock and unfunded local infrastructure liability.

13-13

The costs to complete the expansion of the 56 miles of streets necessary to service a larger I-75 has not been reported in the DEIS but certainly should be. If the streets serving an expanded I-75 are not modified as the previous studies have documented will be necessary, the purpose of expanding I-75, to relieve traffic congestion and commuting time within Oakland County, will have been negated. Although the current I-75 DEIS does not mention the costs of expanding the 56 miles of feeder roads, the earlier and broader I-75 feasibility study effort estimated the full project (I-75 and its arterial service roads) to be approximately \$1 billion.

13-14

Other costs not mentioned in the study related to I-75 in Oakland County include reconstructing the I-75 and M-59 interchange as well as expanding I-75 north of Joslyn Road. Based upon my participation on the I-75 Local Advisory Committee and past road building experience, the true costs to taxpayers of expanding I-75 in Oakland County as conceived in the original I-75 feasibility and confirmed in the DEIS study will conservatively

be much closer to \$1.5 billion than to the \$530 million reported in the DEIS.

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**IMPACTS OF SEGMENTING PROJECTS AND UNFUNDED MANDATES, AGGRAVATED GRIDLOCK FOR MANY YEARS TO COME**

The I-75 project described in the feasibility study and DEIS is clearly being planned to accommodate the projected urban sprawl patterns in place for many decades and will clearly accelerate them. It appears however that due to the enormity and costs of the project, MDOT, and advocates of the project, has decided to segment various components of the project and undertake it in stages over a number of years, with a series of stand alone projects.

An analysis of the secondary road expansion needs caused by the "stand alone" I-75 project which is the subject of the DEIS, leads to a second finding, i.e. that congestion in the Oakland County I-75 corridor will not be alleviated by the Eight Mile to M-59 project alone, and will be aggravated for years to come as a result of the expansion of I-75 due to congestion which will be induced to the feeder streets which serve I-75, and lack of funding to make those associated improvements in advance of the I-75 expansion.

13-15

**SOCIAL - ECONOMIC COSTS**

Although one of the main purposes of the DEIS is to analyze the possible social and economic costs of major federal projects like the \$1.5 billion expansion of I-75, the DEIS before us makes little attempt to do so and repeatedly dismisses the opportunity to place the expansion of I-75, or other alternatives, into the context of the very serious social and economic problems which have plagued the region for years.

Surely MDOT and their consultants should be aware that metro Detroit remains one of if not the most racially and economically segregated regions in the country and that one of the regions most obvious social and economic problems in the disconnect between getting the unemployed and underemployed people of the region from their homes in Detroit and many of the older suburbs to new jobs in the exurbs. The DEIS fails to address this issue.

13-16

For example, in the section of the DEIS which discusses the project's possible impacts on the economy (pg 4-67) the study reports:

*"Widening I-75 will have an effect on wealth distribution, but it is just one of many public policy decisions and market driven actions that are at work. Failure to widen I-75 is not a substitute for the need for fundamental changes, nor will it protect the wealth and quality of life of all commuters in Oakland County and Southeast Michigan. Such change is embodied in the recommendations Governor Granholm's Michigan Land Use Leadership Council."*

In short, the good news is the study does seem to recognize that continuing the trend to build bigger roads out into green fields will continue to sprawl the economy out away from those who most need to be near jobs (as 25% of Detroiters do not have cars). The bad news is the DEIS dismisses the critical importance the transportation system has on these patterns and punts on the subject by saying other factors can be addressed to work on the deep and troubling social and economic problems we are all aware of. While the right transportation solutions could help contribute to the solving of multiple social, transportation and economic objectives (for example, the growing senior citizen population shies away from the use of busy freeways but have few other options) the DEIS and its consultants make no effort to bring any fresh thinking to the table during these most

**Letter 13, continued**

challenging times and simply ask us all to continue to do business as usual with little questioning and absolutely no regional strategic planning at a huge cost.

**-4-**

While most people who attended the public meetings on the I-75 asked and documented the need for multi-modal alternatives to expanding I-75 before expanding I-75, the project consultant told one crowd at a meeting in a heated meeting in the Troy Council Chambers, "there is no political will here to consider alternatives" and the report is clearly written that way despite the mounting volumes of data that continue to build which document the region's need to practice smart growth by coordinating future infrastructure expansions, diversifying our transportation system and metro economy. It appears the DEIS study has not been undertaken with a full and open mind with the will to solve multiple objectives at once wherein all transportation options would seriously be considered, but written based on the consultants reading of the regions "political will."

Therefore finding #3 is that the DEIS fails to give adequate consideration to the social and economic costs and ramifications of the expansion of I-75 and the multiple societal social and economic problems which could begin to be solved by recommending alternatives as priorities to the expansion of I-75 for the short and mid range future.

13-17

**TRAFFIC AND SAFETY**

Traffic and safety concerns remain a vital priority on the I-75 corridor and the studies have enumerated several which should be pursued, like improving the I-696 and I-75 interchanges and perhaps the Twelve Mile and Fourteen Mile interchanges.

Unfortunately the DEIS concludes that two of the most dangerous traffic safety concerns on I-75 will remain and perhaps be aggravated by the improvements.

Safe freeway shoulders should be a minimum of 12 feet in width. A good portion of the inside shoulders of I-75 are currently a very tight 10 feet which is a very dangerous and frightening situation for any motorist experiencing a breakdown on the inside lanes. Because of space limitations due to MDOT's desire to complete the expansion of I-75 within the current right-of-way, the inside shoulders of I-75 will remain 10 feet, as the traffic on I-75 will be increased by 33% with speeds also likely to increase due to more maneuvering lanes available to motorists. MDOT and its consultants have prioritized capacity and speed over safety on this important aspect of the project.

13-18

A second safety issue is the dangerous S curve on I-75 in Hazel Park. The DEIS study accurately identifies the S curve as a major safety problem but recommends that it not be addressed as so doing would require the costly taking of over 100 homes in Hazel Park. As mentioned above, an expanded I-75 with additional capacity and higher traffic speeds will likely result in a greater number of serious accidents in the S curve.

13-19

A review of the traffic and safety components of the study leads to staff finding #4, which is that the DEIS recommends an expanded I-75 retain 10 foot wide inside shoulders and the dangerous S curve in Hazel Park, contrary to basic safety requirements for new high capacity high speed roadways, creating more dangerous conditions on I-75 and additional liability issues for Michigan residents.

**AIR QUALITY**

## Letter 13, continued

Southeast Michigan has recently been identified as a non-attainment area in terms of adhering to minimum air quality standards. As of this writing, it has not been determined how the region is going to come into compliance. While the DEIS suggests that an expanded I-75 will relieve traffic congestions and therefore minimize air pollution problems, this analysis falls short of the depth of analysis required in this day and age.

-5-

First, adding capacity to I-75 will bring considerably more particulate matter air pollution to the communities located along the I-75 corridor from vehicular exhaust. This fine particulate matter has recently been identified by the American Cancer Institute and University studies as being a contributor to heart attacks. A more detailed analysis of fine particulate matter must be done to assure the residents of the I-75 corridor that their health will not be put in greater danger from the air pollution increases and particulate matter increases which will follow from an expanded I-75.

Several participants in the I-75 meetings also noted that southeast Michigan has one of the highest asthma rates of any region in the country. The impacts of expanding I-75 to current asthma sufferers of those susceptible to asthma should be considered in more detail.

13-20

During the study, I requested that some attempt be made to see if the Michigan Health Department, the Centers for Disease Control, or area hospitals had ever attempted a pin point map to determine if citizens who live near freeways for an extended period suffer from cancer, heart attacks, or respiratory problems to a higher degree than others. Some greater effort should be made to examine the data and research on health and proximity to freeways. State of the art standards for new freeway development call for 1,000 foot set backs between freeways and residential areas.

## LAND USE

The DEIS discussion of the impacts of the I-75 project on future land use is so short and shallow as to be comical. While acknowledging that "rapid growth in mid and north Oakland County puts continued pressure on I-75," the study makes no effort to attempt to comment on how an expanded I-75 will further accelerate sprawl and bring even more development pressures and costs to Oakland County's northern tier communities as southern tier communities continue to lose population, jobs and the fiscal capacity necessary to maintain older, established communities.

13-21

The study does admit the region should strive to centralize jobs but ignores the impact expanding I-75 will have on further decentralizing jobs and further contributing to educational, employment, economic and housing segregation. As we typically do in the SEMCOG region, the Land Use Section of the DEIS acknowledges the many problems the region has which have resulted in the fiscal and crisis so many of our communities face, than the study proceeds to ignore how freeway expansions worsen those very problems.

For example, rather than acknowledge that an expanded I-75 will create new conditions which will create incentives for farm fields to be converted to new strip malls and/or low density, sub-divisions zoned for high income individuals, the DEIS simply says, "The cumulative impact found that some farmland conversion occurs because the land is uneconomic for farm purposes." Apparently the study authors have not noted the growing new trend toward organic farming and the need to have organic farms located near urban centers.

-6-

**NOISE**

Regarding this component of the study, I would suggest that an independent noise consultant review this section of the report due to so many of the other sections of the report being so dubious. Living two blocks from I-696, I can speak first hand of the constant noise which comes from a freeway. When the expansion of the 56 miles of roads are considered in conjunction with the expansion of I-75, significant noise impacts will occur to approximately 500 homes requiring special attention. To date, MDOT has not installed noise walls in many areas that have warranted them, nor adequately maintained them in Ferndale off of I-696, more evidence of MDOT overextending their fiscal commitment. Should this project ever go forward, aesthetically pleasing noise walls must be included along the entire route along with treatment to individual homes negatively impacted by noise elevations attributed to the expansion and not protected by noise walls.

13-22

**ALTERNATIVES TO EXPANDING I-75**

This section of the report is woefully incomplete and prematurely ended. Although the DEIS states unequivocally that light rail on Woodward is a viable alternative to the expansion of I-75, they then add, but only to Nine Mile. The brief analysis becomes confusing and is obviously incomplete as is the entire discussion of alternatives to the expansion of I-75.

The DEIS shirks factoring in how a blend of alternatives to expanding I-75 could help our state, area and region begin to make progress on a whole host of important public policy priorities. The DEIS simply concludes, with no in-depth analysis, that even if we implement the other alternatives to the expansion of I-75, I-75 should still be expanded because the other alternatives may not meet MDOT's expectations for moving cars under the current unbalanced development patterns projected by SEMCOG.

13-23

This thinking and shallow analysis is a good example of why southeast Michigan is in the situation it is in. Rather than examining and documenting how implementing alternatives to expanding I-75 could work, and reviewing how only expanding I-75 as a last step could save money, help create jobs, help revitalize our core communities, cut down on air, water and noise pollution, help diversify the economy, help connect those who are in need of good jobs to get good jobs, help improve public health and help stabilize our established communities while introducing new transportation modes into the region to serve our youth through senior citizens, and those who lose their licenses and jobs, the I-75 DEIS is obviously and simply an uninspired attempt to keep repeating the past.

**TRAFFIC CONGESTION MITIGATION EFFORTS DURING MULTI YEAR I-75 AND ARTERIAL ROAD EXPANSIONS**

Should the expansion of I-75 be implemented, the project would take several years to complete causing multiple years of traffic congestion on I-75 and all roads which feed I-75 or serve as an alternative to I-75. This would likely be true as well in various areas on the corridor as construction projects are required to expand the streets which serve I-75. This occurrence will have enormous negative impacts on the residents and businesses

13-24



**Letter 13, continued**

along Woodward as MDOT has made it very clear of their intention to divert I-75 detours onto Woodward, as we have learned in our discussions with MDOT regarding the fate of the M-1 Bridge over Woodward.

13-24

Therefore a major omission of the DEIS is the lack of any plan as to how the region is going to handle the traffic congestion, pollution and general inconvenience and disruptions during the multiple years the I-75 expansion project will be underway.

-7-

Because this will clearly be a nightmare, Finding #5 is that a light rail line should be installed on Woodward between Downtown Detroit and Downtown Pontiac as the first priority to moving people on the I-75 corridor. The predicted congestion on I-75 will serve to allow choice riders to have an alternative to traffic congestion on I-75 while creating an investment in our older communities and creating an incentive for new businesses to locate on the light rail corridor. Consultants have often been wrong in their predictions, and the new light rail line may minimize the need to dramatically expand traffic capacity on I-75 in favor of interchange improvements and safety enhancements.

13-23  
Cont.

If the expansion of I-75 remains necessary after opening the M-1 light rail line, then it should go forward, but most importantly the corridor would have a clean transportation alternative in place to mitigate congestion and pollution during the multiple number of years the I-75 construction project is underway. This would be a logical and prudent compromise to the many forces involved in transportation planning in the region and provide an economic and quality of life boost to the area. It would also provide the opportunity to begin to see our federal transit dollars returned to the area to put people to work and to begin to seriously diversify the region's economy.

Should the consultants be correct and I-75 remain in need of expansion after light rail on M-1 opens, this will provide even more work for the construction industry while minimizing road rage and traffic congestion in Oakland County. It is time new modes of transit be introduced in the region, and for once an expanded freeway come after a clean mass transit, and only if absolutely necessary. Michigan population is and has been in a slow growth mode of approximately 1% per year.

**CONCLUSION**

The I-75 DEIS was not an objective study and makes little to no attempt to utilize the future spending of federal and state transportation dollars as an opportunity to solve multiple public policy goals and objectives. The true social, economic and environmental costs of the expansion of I-75 are not reported in the study nor are the potential benefits of alternatives factored in. The alternatives to the expansion of I-75 were prematurely and unwisely dismissed in favor of the biases of the past.

**RECOMMENDATION**

Moved by \_\_\_\_\_, seconded by \_\_\_\_\_, that MDOT's I-75, Oakland County DEIS study be rejected by SEMOG, the Federal Highway Administration, and I-75 corridor communities for the many reasons highlighted in Ferndale's review of the I-75 DEIS, including but not limited to: a) Incomplete, requiring greater documentation on fine particle pollutants and their potential impacts on public health in the corridor; b) Unaffordable for the foreseeable future, built roads already billions short of being able to be maintained; c) Will further aggravate urban sprawl placing financial pressures on new Greenfield communities, with no plans in place to maintain established south Oakland County Communities; d) Incomplete study of the combined benefits of the alternatives to the expansion of I-75 e) No traffic congestion and pollution mitigation plan recommended to be

**Letter 13, continued**

in place during the multiple years of construction; f) No funding identified to cover the costs of expanding 56 miles of local streets taking motorists to and from I-75; g) No effort made to analyze or discuss how transportation solutions could help solve, rather than further deepen, multiple public policy objectives related to poverty, employment, the environment, dependence on mid-east oil, land consumption at 12 times the rate of population growth, etc.; and h) As planned in the DEIS, I-75 expansion continues dangerous 10 feet inside shoulders and the S curve in Hazel Park

**6.4.13 SEMCOG –The Southeast Michigan Council of Governments – Letter 13**

**Response 13-1:** A preferred alternative was not identified prior to the public hearing in the DEIS. Identification of a preferred alternative after the public hearing is consistent with NEPA and FHWA and MDOT guidance. The Preferred Alternative is the HOV lane for the peak hours.

**Response 13-2:** The SEMCOG existing plus committed roadway network was used, including only those projects expected to be under construction in the next five years. Improvements to the local road system will only enhance the capacity and operation of the entire transportation network.

**Response 13-3:** Comment acknowledged. Additional language has been added to Sections 1.2.5 and 3.6.

**Response 13-4:** Language has been added to this FEIS indicating that the project is included in the *2030 Regional Transportation Plan* for construction in the 2011 to 2015 period.

**Response 13-5:** These positive effects on access and ridesharing opportunities for low-income and minority populations are now included in the text of this FEIS, in Section 4.3.

**Response 13-6:** Section 4.10 has been updated, reflecting the results of the completed drainage study. This information is now included. Two options were considered: routing storm water to the I-696 storm water system and routing it to the Red Run Drain. The latter was chosen as the available capacity of the I-696 system is not known. Therefore, the recommendation is to collect the storm water in a new system, constructed as part of the Preferred Alternative under the service drive on the east side of I-75, convey it to a detention area in the 12 Mile Road interchange, then allow it outflow by pipe along the alignment of the Red Run Drain to Red Run east of Dequindre Road.

**Response 13-7:** Comment acknowledged.

**Response 13-8:** Provisions are in place. The *Project Area Contamination Survey* identified one site for a Preliminary Site Investigation, prior to right-of-way acquisition. Any areas of contamination found by that PSI will be marked on design plans. Additional standard mitigation measures that could apply include:

- Testing/treatment of water from any dewatering operations before pumping to storm drains or surface water discharge points.

- Testing of river bottom sediments to determine proper disposal methods.
- Preparation of underground utility plans to ensure no deep utility cuts will impact any contaminated areas. Any utility cuts in contaminated areas will be reviewed to ensure proper excavation and backfill methods.
- Preparation of a Risk Assessment Plan, which includes a Worker Health and Safety Plan, to reduce dermal exposure and address direct contact issues, if contaminated materials are encountered.
- Closing and abandoning any monitoring wells properly.

**Response 13-9:** Comment acknowledged. Permits are anticipated as noted in Section 5.5.

**Response 13-10:** There is little available data on this subject. The US EPA Transportation Control Measure Program Information Directory (website) states the following:

“HOV impacts on travel are fairly well studied. Different types of HOV facilities achieve different amounts of time savings. The San Francisco Bay Area HOV Lanes Master Plan study estimated a range of time savings from 1 minute to nearly 20 minutes. HOV impacts on air quality are more complex and less studied . . . Assessments of the effectiveness of HOV lane facilities in reducing system-wide emissions have generally found reductions amounting to less than one percent. (Source: *Transportation Control Measure Information Documents*, Cambridge Systematics, Inc., U.S. Environmental Protection Agency, Washington, D.C. March 1992).”

CO values are higher with the project than without, because the vehicular volumes are greater and vehicles move at a higher speed with the project. For CO in the 45 to 65 miles per hour speed range, the emission factor in grams per mile increases with speed.

**Response 13-11:** There is a “PM Calculator” that is available for use to help states develop PM<sub>10</sub> and PM<sub>2.5</sub> emission inventories for point sources, but this would not be applicable to mobile sources.

**Response 13-12:** The reference has been moved up in the discussion, per SEMCOG’s request.

**Response 13-13:** The project’s independent utility is noted in Section 1.1. It connects four-lane sections of I-75 to the north and south. Local road improvements will enhance the entire transportation network. One improvement will not negate the other. Improvements to the entire area will help the whole area operate better and provide options to motorists.

**Response 13-14:** The local road improvement costs are reported in Tables 4-22 and 4-23 in the indirect and cumulative effects analysis. Approval of this FEIS only provides environmental clearance for the improvements to I-75. Local road improvements are subject to similar analysis by the locally responsible authority.

**Response 13-15:** The project clearly alleviates congestion on I-75 through the project length (Section 2.2.3). An expanded Section 4.18 covers indirect and cumulative project effects. Generally, traffic is reduced on competitive travel routes. Vehicles are attracted to the greater capacity of I-75. The HOV alternative also provides additional attraction for carpoolers and transit riders.

**Response 13-16:** Section 4.4.1 states that more workers travel from Wayne County to Oakland County than the reverse. HOV lanes will expand mobility for those who do not own a vehicle by encouraging ridesharing and transit opportunities.

**Response 13-17:** The DEIS gave adequate consideration to all alternatives and their impacts. Alternatives were developed in the context of a defined purpose and need (Sections 2.1 and 2.2). Alternatives included TSM, TDM, and Intelligent Transportation System techniques, and mass transit (Sections 3.3 through 3.5). An extensive analysis of mass transit was performed (Technical Memorandum 2, *Refined Analysis of Transit and HOV Concepts*). A number of build alternatives were considered, including three approaches to HOV development. An accurate analysis of impacts was conducted for the practical alternatives. Technical reports were produced covering the topics of air quality, contaminated materials, cultural resources, drainage, indirect and cumulative impacts, noise, traffic, and wetlands. These adequately consider the social and economic costs and ramifications of the expansion of I-75.

**Response 13-18:** The ten-foot median shoulders meet current design standards. Construction of a wider shoulder of 12 feet was studied. It was determined that such shoulders would result in increased impacts in the form of acquisitions/relocations (Section 3.7.3), the cost of which could exceed an additional \$100 million. It was not considered a practical alternative as the social, economic and environmental impacts were unacceptable.

**Response 13-19:** The study analyzed “straightening” the “S” curve in Hazel Park. To do this, 150 parcels, including 100 residential structures, 20 business structures, a church, and an elementary school (Section 3.7.2) would be impacted. The cost would again exceed \$100 million and cause innumerable social and economic impacts. These significant impacts made it an impractical design alternative.

**Response 13-20:** Unfortunately, sufficient reliable methods are not available to provide credible estimates/forecasts of vehicular particulate matter's impacts on human health. Epidemiological health studies are not required as a part of the NEPA process at this time.

**Response 13-21:** Sprawl is addressed in the *Indirect and Cumulative Impact Analysis Technical Report*, January 2005; in the section entitled "Regional Issues." Although transportation improvements provide greater access, responsible and compatible local land use planning should be considered by all adjacent communities in order to protect existing infrastructure investments.

**Response 13-22:** A series of criteria must be met for consideration of noise abatement (see Table 4-12, FHWA Noise Abatement Criteria). Typically, individual homes do not meet the adopted criteria. Determinations regarding the appearance of walls will result from future meetings with property owners in the sections eligible for such walls in the design phase of the project. Eighteen noise walls totaling 4.9 miles in length are proposed along the corridor.

**Response 13-23:** A new light rail line in the Woodward Avenue corridor, as defined by regional planning efforts, would not eliminate the need for a full lane addition on I-75 because it would not attract enough trips or divert enough trips. TSM and ITS solutions also cannot alone meet the purpose and need. As stated in Section 2.1, the purpose is "to increase the capacity of the transportation infrastructure in the I-75 corridor to meet travel demand for personal mobility and goods movement." As stated in Section 2.2, the need is "for increased corridor capacity" (emphasis added). TSM and ITS solutions are in place already and are under constant review. These, in conjunction with a new light rail line, fall short of substituting for the I-75 lane addition.

The HOV lane will promote carpooling, ridesharing and transit on the freeway. Additionally, mass transit on the Woodward corridor would operate well, independent of, but complementary to, the improvements to the freeway.

**Response 13-24:** An analysis of the traffic shifts to Woodward Avenue during construction of the I-75 project was conducted for the Environmental Assessment prepared for the M-1/M-102 Project. Analysis showed that Woodward Avenue would handle the traffic without significant congestion or safety issues. As the closest state trunkline to I-75, it is logical that Woodward Avenue be utilized as the likely detour route during construction. In the past, M-1 has consistently been utilized during I-75 construction activities by motorists. This has been the case when it was marked specifically as a detour route and also when it was not. The M-1/M-102 bridge has played an important role in moving traffic along the M-1 corridor in a safe and expeditious manner. The rehabilitation of this bridge is vital to the maintenance of traffic on I-75 during construction. However, it should be noted that specific detour routes have not yet been developed. They are very important and will be addressed in the next phase of the project, in conjunctions with local communities, with the goal of minimizing impacts to the greatest extent possible. It should be noted that the lane addition makes maintenance of traffic easier because another lane is available into which traffic can be diverted.

**Letter 14      January 27, 2004, Suburban Mobility Authority for Regional  
Transportation**

STATEMENT OF DAN G. DIRKS  
GENERAL MANAGER  
SUBURBAN MOBILITY AUTHORITY FOR REGIONAL TRANSPORTATION  
(SMART)  
January 27, 2004

---

SMART supports the efforts of the Michigan Department of Transportation (MDOT) in studying alternatives for the I-75 corridor in Oakland County. Our organization has been a part of the study team and was provided opportunities to comment on the plan most specifically as it relates to public transportation.

14-1

Southeastern Michigan is second only to the Napa Valley region in California as the most dispersed location of jobs in the country. Almost eighty percent of all jobs are more than ten miles or more away from the Detroit Central Business District. Thus, traditional factors that usually allow transit to be an attractive transportation alternative do not exist here as they do in many regions.

As part of the study process, SMART asked that an analysis be completed that would determine the percentage of trips with both an origin and destination within a mile of I-75. That number I believe was less than five percent.

If bus rapid transit, commuter rail or light rail were constructed along Woodward or the Grand Trunk Railroad right of way, it would have almost no effect on the traffic along I-75. Our CBD does not support the number of jobs that exist in areas where high ridership transit modes are needed.

We fully support the concept of an express lane for car/van poolers and public transportation that could be a part of an expanded I-75.

14-1

I appreciate the opportunity to comment on the process and the opportunity for SMART to be a part of the study team.

**6.4.14 SMART – Letter 14**

**Response 14-1:** Comments acknowledged.

#### **6.4.14 Next Steps - Schedule**

After this FEIS is approved and made available to the public, a Record of Decision (ROD) will be prepared that chronicles the decision-making process. When the Federal Highway Administration signs the ROD, the project can move forward to the design phase.

Design will commence when funding becomes available. SEMCOG has included the project in their 2030 *Regional Transportation Plan* for construction in the period 2011 to 2015. When design is complete, right-of-way acquisition begins. When right-of-way acquisition is completed, the project will proceed to construction. Construction will take several years and will be a function of available funding. At this time, no construction funding has been identified.





## SECTION 7

# LIST OF PREPARERS

### *Michigan Department of Transportation*

**Sue Datta, AICP, Project Manager, B.S.,** and M.S. in Urban Planning, Michigan State University and Wayne State University. Twelve years of experience in environmental, urban and regional planning.

**Andrew J. Zeigler, RLA, Metro Region Planning Manager, B.S.** in Landscape Architecture, Michigan State University. Thirty-four years of land use planning and environmental experience. Review of project development and documentation.

**Lori Noblet, Transportation Planning Specialist, B.S.** in Political Science, University of Wyoming; M.U.P. in Urban Planning, Michigan State University. Seventeen years of experience in preparing environmental assessments and impact statements. Environmental Review Coordinator.

**Imad Gedaoun, P.E., Traffic and Safety Supervisor, B.S.** in Civil Engineering. Seventeen years of experience in civil engineering. Traffic, safety and geometrics review for the project.

**James Schultz, P.E., MITSC Manager, M.S.** in Civil Engineering, Wayne State University. Thirty-three years of experience in civil engineering in the public and private sectors. Project development and ITS review.

**Larry Wiggins, P.E., Hydraulics/Hydrology Assistant Engineer, B.S.** in Civil Engineering, Michigan Technological University. Twenty-nine years of experience at MDOT. Drainage analysis and review.

**Christopher Potvin, P.E., Hydraulics/Hydrology Consultant Review Engineer, B.S.** in Civil Engineering, Michigan State University. Seven years of experience at the Michigan Department of Environmental Quality (MDEQ) and one year at MDOT. Drainage review.

**Brenda Peek, Metro Region Communications Representative, M.A.** in Urban Affairs, University of Detroit. Twenty-four years of experience in public information and communications. Communications and public relations.

**Robert Owens, Environmental Quality Specialist, B.S.** in Biology, University of Arkansas; graduate work in zoology, Ohio State University. Seventeen years with MDOT in wetland analysis and mitigation. Previously thirteen years with the U.S. Fish & Wildlife Service. Wetlands review and mitigation.

**Robert Parsons, Public Hearings Officer, B.S.** in Interpersonal and Public Communications, Central Michigan University. Fifteen years of experience in communications at MDOT. Coordination of public involvement.

***Other MDOT Personnel Assigned to this Project:***

Ron Katch, Traffic Review  
Tom Zurburg, Noise Analysis Review  
Frank Spica, Noise Analysis Review  
Eric Dhanak, Geometric and Crash Analysis Review  
Geraldyn Ayers, Environmental Supervisor  
Dave Ruggles, Archaeological Review  
Tom Hanf, Noise Analysis Review  
Dave Schuen, Threatened and Endangered Species Review  
Bill Swagler, Right of Way Estimate  
Kelly Ramirez, Conceptual Stage Relocation Plan  
Lloyd Baldwin, Cultural Resources Review  
Alex Sanchez, MDEQ Review  
Michael Anglebrandt, Project Area Contamination Survey Review  
Doug Proper, Mitigation Follow-up

***Consultant Team***

The consultants performing the analysis for this environmental document have no financial or other interest in the project or its outcome.

**Joseph C. Corradino, P.E., Project Manager**, The Corradino Group. B.C.E. Villanova University; M.S.C.E., Purdue University. Thirty-nine years of project management and environmental experience. Quality control on EIS.

**Ari Adler, Public Involvement**, The Corradino Group. B.A. Michigan State University. Fourteen years experience in public involvement and media relations. Coordination with MDOT public hearing officer and public involvement team.

**Jim Hartman, P.E., Traffic Projections and Analysis**, The Corradino Group. B.S.C.E., Michigan State University. Thirteen years of experience in civil engineering planning with emphasis on traffic analysis. Crash Analysis and Traffic Report.

**Ted Stone, Environmental Manager**, The Corradino Group. B.A. Northwestern University. Thirty-two years experience in preparation of environmental documentation. Principal author of the EIS, Noise Report, and Air Quality Technical Report.

**William Zipp, P.E, Lead Road Engineer**, Orchard, Hiltz & McCliment. B.S.C.E., Michigan Technological University. Twenty-five years of civil and roadway design experience. Engineering Report.

**Ken Wells, P.E., Road Engineer**, Rowe, Inc. B.S.C.E. Michigan State University. Fifteen years of civil, roadway, and drainage design experience. Engineering Report.

**C. Stephan Demeter, Senior Historical Archaeologist/Principal Investigator**, Commonwealth Cultural Resources Group. B.A. Anthropology and History Wayne State University; M.A. Anthropology, Wayne State University. Thirty-one years performing historic resource surveys. Phase I Archaeology Survey and Phase I Above-Ground Survey.

**John Freeland, Ph.D., PWS, Wetland Analysis,** Tilton and Associates, Inc. B.S. Grand Valley State University; M.S. University of New Hampshire; Ph.D. North Dakota State University. Fifteen years of wetland and integrated resource assessment. Wetlands Report.

**Deborah Schutt, Socioeconomic Analysis,** Schutt and Company; B.A. Valparaiso University; M.S. Urban Planning Wayne State University. Twenty-seven years of management and planning experience.

**Gnanadesikan Ramanujam, P.E. (Ram), Geotechnical Analysis,** SOMAT Engineering. M.S. in Civil Engineering, Vanderbilt University, Nashville, Tennessee. Fourteen years experience in geotechnical engineering. Manager of geotechnical analysis.



## **SECTION 8 DISTRIBUTION LIST**

The following is a list of agencies, organizations, and persons to whom the DEIS was sent:

### **Federal Agencies**

Environmental Protection Agency, Administrator, Washington, D.C.  
Environmental Protection Agency, Region V  
National Park Service  
Natural Resources Conservation Service  
U.S. Department of Agriculture, Natural Resource Conservation Service  
U.S. Department of Commerce, Environmental Affairs  
U.S. Department of Housing and Urban Development, Area Director  
U.S. Department of the Interior, Fish & Wildlife Service  
U.S. Department of Transportation, Federal Transit Administration  
U.S. Department of Energy, Washington Office  
U.S. Department of Health & Human Services, Center for Disease Control

### **State Agencies**

Michigan Department of Agriculture  
Michigan Department of Community Health  
Michigan Department of Environmental Quality  
Michigan Department of Natural Resources  
Michigan Department of State, State Historic Preservation Office

### **Local Jurisdictions, Agencies, Interested Groups, and Elected Officials**

Clean Water Action, Michigan  
Michigan Environmental Council  
Michigan United Conservation Clubs, Inc.  
Sierra Club  
Traffic Improvement Association of Oakland County  
Auburn Hills  
Bloomfield Township  
Detroit  
Ferndale  
Hazel Park  
Madison Heights  
Royal Oak  
Troy  
Oakland County  
Oakland County Conservation District  
Oakland County Drain Commission  
Oakland County Emergency Management  
Oakland County Health Department  
Oakland County Sheriff's Department  
Oakland County Soil Conservation District

Road Commission for Oakland County  
Southeast Michigan Council of Governments  
SMART  
Wayne County Department of Public Services  
State Senator Michael D. Bishop, District 12  
State Senator Shirley Johnson, District 13  
State Senator Gilda Z. Jacobs, District 14  
State Representative David T. Woodward, District 26  
State Representative Andy Meisner, District 27  
State Representative Clarence Phillips, District 29  
State Representative Shelly Goodman Taub, District 40  
State Representative John G. Pappageorge, District 41  
U.S. Senator Carl Levin  
U.S. Senator Debbie Stabenow  
U.S. Representative Joe Knollenberg  
U.S. Representative Sander Levin

All of the above will all receive a copy of the FEIS. In addition there were a number of groups and individuals who made substantive comments on the DEIS who will also receive copies of the FEIS.

Transit Riders United  
MichiVan Commuter Vanpools  
Royal Oak Association of Neighborhoods

**Appendix A**  
**Existing Bridge Information**





**I-75 Bridges with Clear Widths  
M-102 to South Boulevard**

Structure Number	Bridge Location	Year Constructed/ Repaired	Overall Bridge Rating	Vertical Clearance Rating	I-75 Over or Under	I-75 Clear Width NB	I-75 Clear Width SB
S22 of 63174	Meyers Avenue Bridge	1966	Fair	Fair	Under	72	72
S23 of 63174	One-Way Cross-Over for SB to NB Service Drive	1966	Poor	Fair	Under	72	72
S24 of 63174	John R. Bridge	1966	Fair	Fair	Under	72	71
S25 of 63174	One-Way Cross-Over for NB to SB Service Drive	1966	Fair	Good	Under	72	72
S26 of 63174	One-Way Cross-Over for SB to NB Service Drive	1966	Poor	Good	Under	72	72
S27 of 63174	9 Mile Road Bridge	1966	Fair	Fair	Under	72	72
S28 of 63174	Woodward Heights Boulevard Bridge	1971	Fair	Good	Under	79	79
S04 of 63103	Two-Way Cross-Over at W. Shelvin –	1971/1999/2001	Good	Good	Under	110	91
S05 of 63103	I-696 Bridge over I-75	1971	Fair	Poor	Under	67	67
S06-1 and S06-2 of 63103	Two-Way Cross-Over at Dallas Ave.-	1971	Fair	Good	Under	115	95
S30 of 63174	Lincoln Avenue (10 ½ Mile Road) Bridge	1971/1999	Good	Good	Under	79	79
S31 of 63174	11 Mile Road Bridge	1966/1999	Good	Good	Under	60	60
S01 of 63174	Gardenia Avenue Bridge	1963/1996	Good	Good	Under	60	60
S02 of 63174	NB Stevenson Bridge	1963/1999	Good	Good	Under	66	66
S03-1 and S03-2 of 63174	I-75 Bridge over 12 Mile Road	1963/2001	Good	Poor	Over	58	58
S04-1 and S04-2 of 63174	I-75 over 13 Mile Road	1963/1991	Good	Good	Over	54	54
S05-1 and S05-2 of 63174	I-75 over 14 Mile Road	1963/1970	Poor	Poor	Over	63	63
S21-1 and S21-2 of 63174	I-75 over 15 Mile Road (Maple Road)	1963	Fair	Good	Over	50	50
S06-1 and S06-2 of 63174	I-75 over M-150 (Rochester Road)	1964	Poor	Poor	Over	56	56
S08-1 and S08-2 of 63174	I-75 over Livernois Road	1964	Fair	Fair	Over	54	50
S09-1 and S09-2 of 63174	I-75 over Big Beaver Road	1964, 1983	Fair	Good	Over	56	52
S09-5 and S09-6 of 63174	I-75CD over Big Beaver Road	1964, 1983	Fair	Good	Over	47	46
S10 of 63174	Wattles Road (17 Mile) over I-75	1964 <sup>a</sup>	Fair	Poor	Under	70	70
S11-1 and S11-2 of 63174	I-75 over Long Lake Road	1964	Fair	Poor	Over	54	54
S14-1 and S14-2 of 63174	I-75 over Coolidge Road	1964	Fair	Good	Over	52	52
S15-1 and S15-2 of 63174	I-75 over Square Lake Road	1964/2001	Good	Poor	Over	55	55
S16-1 and S16-2 of 63174	I-75 over Adams Road	1964/2001	Good	Fair	Over	55	55
S17 of 63174	Squirrel Road over I-75	1964 <sup>a</sup>	Poor	Fair	Under	90	90
S18-0 and S18-5 of 63174	I-75 BL Ramp and SB O Ramp	1964,1964/1988	Poor	Good	Over	33	48
S19 of 63174	South Boulevard over I-75	2001	Fair	Fair	Under	115	110

Source: MDOT Bridge Ratings

<sup>a</sup>Field review indicates that the bridge has been reconstructed.

Note: Where I-75 is under, clear width is defined as the distance between the median pier and adjacent substructure unit (abutment or pier).

Where I-75 is over, clear width is defined as the distance from parapet to parapet.

### I-75 Bridge Information

Structure Number	Bridge Location	Year Constructed/ Reconstructed	Overall Bridge Rating	Vertical Clearance Rating	Utilities	Deficient Features	Recommended Action
P02 of 63174	Pedestrian Overpass at E. Bernhard	1966	fair	poor	NA	SPAN LENGTH	NEW BRIDGE
S22 of 63174	Meyers Ave. Bridge	1966	fair	fair	yes	SPAN LENGTH	NEW BRIDGE
P03 of 63174	Pedestrian Overpass at East Harry	1966	fair	poor	NA	SPAN LENGTH	NEW BRIDGE
P04 of 63174	Pedestrian Overpass at Highland Ave.	1966	fair	poor	NA	SPAN LENGTH	NEW BRIDGE
S24 of 63174	John R. Bridge	1966	fair	fair	yes	SPAN LENGTH	NEW BRIDGE
S25 of 63174	One-Way Cross-Over for NB to SB Service Dr.	1966	fair	fair	yes	SPAN LENGTH	NEW BRIDGE
S26 of 63174	One-Way Cross-Over for SB to NB Service Dr.	1966	poor	fair	yes	SPAN LENGTH	NEW BRIDGE
S27 of 63174	9 Mile Road Bridge	1966	fair	fair	yes	SPAN LENGTH	NEW BRIDGE
S23 of 63174	One-Way Cross-Over for SB to NB Service Dr.	1966	poor	fair	yes	SPAN LENGTH	NEW BRIDGE
P06 of 63174	Pedestrian Overpass at Orchard St.	1966	poor	poor	NA	SPAN LENGTH	NEW BRIDGE
S28 of 63174	Woodward Heights Blvd. Bridge	1971	fair	fair	yes	SPAN LENGTH	NEW BRIDGE
P05 of 63174	Pedestrian Over-Pass at W. Browning	1969	fair	poor	NA	SPAN LENGTH	NEW BRIDGE
S04 of 63103	Two-Way Cross-Over at W. Shelvin- NB to SB and SB to NB	1971/1999	good	fair	NA	SPAN LENGTH	NEW BRIDGE
S01 of 63103	Structures of I-75/696 Interchange	1982	fair	poor	NA	NONE	NONE
S02 of 63103	Structures of I-75/696 Interchange	1982	fair	good	NA	NONE	NONE
S03 of 63103	Structures of I-75/696 Interchange	1982	good	poor	NA	NONE	NONE
S05 of 63103	696 Bridge over I-75	1971	good	fair	NA	NONE	NONE
S07 of 63103	Structures of I-75/696 Interchange	1971	good	poor	NA	NONE	NONE
S08 of 63103	Structures of I-75/696 Interchange	1971	poor	poor	NA	NONE	NONE
S09 of 63103	Structures of I-75/696 Interchange	1971	fair	poor	NA	NONE	NONE
S06-1 and S06-2 of 63103	Two-Way Cross-Over at Dallas Ave.- NB to SB and SB to NB	1971	fair	good	NA	SPAN LENGTH	NEW BRIDGE
S30 of 63174	Lincoln Ave. (10 1/2 Mile Road) Bridge	1971/1999	good	good	yes	SPAN LENGTH	NEW BRIDGE

**I-75 Bridge Information (continued)**

Structure Number	Bridge Location	Year Constructed/ Reconstructed	Overall Bridge Rating	Vertical Clearance Rating	Utilities	Deficient Features	Recommended Action
S31 of 63174	I1 Mile Road Bridge	1966	good	good	yes	SPAN LENGTH	NEW BRIDGE
S01 of 63174	Gardenia Ave. Bridge	1963	poor	good	yes	SPAN LENGTH	NEW BRIDGE
S02 of 63174	NB Stevenson Bridge	1963/1999	poor	good	no	SPAN LENGTH	NEW BRIDGE
P01 of 63174	Pedestrian Over-Pass at Bellaire Ave.	1963	fair	poor	NA	SPAN LENGTH	NEW BRIDGE
S03-1 and S03-2 of 63174	I-75 Bridge over 12 Mile	1963/2001	poor	poor	NA	Under Capacity	NEW BRIDGE/INTERCHANGE
B02-1 and B02-2 of 63174	I-75 NB and SB over Red Run Drain in Madison Heights	1963/2001	fair	NA	NA	# of LANES	WIDEN to INSIDE
P07 of 63174	Wattles Rd Pedestrian over I-75	1983	good	good	NA	NONE	NONE
S04-1 and S04-2 of 63174	I-75 NB & SB over 13 Mile Rd	1963/1991	poor	poor	NA	# of LANES	WIDEN to INSIDE
S05-1 and S05-2 of 63174	I-75 NB & SB over 14 Mile Rd	1963/1970	fair	poor	NA	Under Capacity	NEW BRIDGE/INTERCHANGE
S06-1 and S06-2 of 63174	I-75 NB & SB over M-150	1964	fair	poor	NA	# of LANES	WIDEN to INSIDE
S08-1 and S08-2 of 63174	I-75 NB & SB over Livernois Rd	1964	poor	poor	NA	# of LANES	WIDEN to INSIDE
S09-5 and S09-6 of 63174	I-75 NB, SB, NB CD, & SB CD over Big Beaver Rd	1964, 1983	fair	poor	NA	# of LANES	WIDEN to INSIDE
S10 of 63174	Wattles Rd over I-75	1964	fair	poor	NA	NONE	NONE
S11-1 and S11-2 of 63174	I-75 NB & SB over East Long Lake Rd	1964	fair	poor	NA	NONE	NONE
S12 of 63174	Ramp Connector to Chrysler over I-75	1964	fair	good	NA	# of LANES	WIDEN to INSIDE
S13 of 63174	Crooks Rd over I-75	1990	good	good	NA	NONE	NONE
S32 of 63174	SB Crooks Rd over I-75	1990	good	good	NA	NONE	NONE
S14-1 and S14-2 of 63174	I-75 NB & SB over Coolidge Rd	1964	fair	poor	NA	NONE	NONE
S15-1 and S15-2 of 63174	I-75 NB & SB over Square Lake Rd	1964/2001	good	poor	NA	# of LANES	WIDEN to INSIDE
S16-1 and S16-2 of 63174	I-75 NB & SB over Adams Rd	1964/2001	good	poor	NA	# of LANES	WIDEN to INSIDE
S17 of 63174	Squirrel Rd over I-75	1964	poor	fair	NA	# of LANES	WIDEN to INSIDE
S18-0 and S18-5 of 63174	I-75 BL Ramp and SB O Ramp	1964, 1964/1988	fair	good	NA	# of LANES	WIDEN to INSIDE
S19 of 63174	South Blvd over I-75	1964/2001	fair	fair	NA	# of LANES	WIDEN to INSIDE
S20 of 63174	I-75 NB & SB over Auburn Rd	1964/1988	good	poor	NA	SPAN LENGTH	NEW BRIDGE
S21-1 and S21-2 of 63174	I-75 NB & SB over 15 Mile Rd (Maple Rd)	1963	fair	poor	NA	NONE	NONE
B04-1 and B04-2 of 63174	I-75 NB & SB over Clinton River 0.6 miles south of M-59	1964/2001	good	NA	NA	NONE	NONE
S01-1 and S01-2 of 63172	I-75 NB & SB over M-59	1963/1988	poor	poor	NA	N/A	N/A



**Appendix B**  
**Conceptual Stage Relocation Plan**



Michigan Department of Transportation  
Real Estate Support Area  
Conceptual Stage Relocation Plan - Revised  
I-75 EPE Corridor Study  
Control Section 63174, Job Number 55776

December 14, 2004

**The Conceptual Stage Relocation Plan for this Final EIS has been revised to reflect a modification of the braiding of ramps in the northeast quadrant of the interchange of I-75 with I-696 due to comments received from the cities of Royal Oak and Madison Heights.**

**GENERAL AREA AND PROJECT INFORMATION**

As with the original Conceptual Stage Relocation Plan, the proposed I-75 project extends eighteen miles along I-75 from 8 Mile Road to M-59 in Oakland County, Michigan. The purpose of the proposed project is to increase the capacity of the transportation infrastructure in the I-75 corridor to meet travel demand for personal mobility and goods movement. The proposed alternatives would add a through travel lane, so that four lanes are provided in each direction over the project length.

The general area of the proposed project consists of a mixture of residential, commercial and industrial land uses, with a small amount of vacant land.

**DISPLACEMENTS**

26 single family residential  
2 businesses  
1 non-profit organization (church)

**DISPLACEMENT EFFECTS AND ANALYSIS**

Property acquired for this project will be purchased in segments or phases, providing for the efficient and complete relocation of all eligible displaced residents, businesses and nonprofit organizations impacted by the project. Completing the project in phases will allow an adequate period of time for the relocation process and ensure the availability of a sufficient number of replacement properties in the local area for all eligible displacees.

**Residential:** The project may cause the displacement of approximately 26 single family residential units. A study of the housing market in the project area indicates a sufficient number of replacement homes and rentals will be available throughout the relocation

cc: Hudson  
Hand  
Project file

process. It is anticipated that the local residential real estate market will have the capacity to absorb the residential displacements impacted by this project.

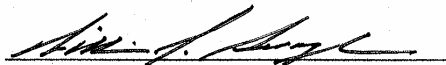
**Business:** The project may cause the displacement of approximately 2 businesses. A review of the local commercial real estate market indicates that there are a sufficient number of replacement sites available to relocate eligible displaced businesses. Displacement of these businesses is not expected to have a major economic or otherwise generally disruptive effect on the community by this project.

**Non-Profit Organizations:** The project may cause the displacement of approximately 1 non-profit organization. A review of the local commercial real estate market indicates that there is an adequate supply of properties available as replacement sites for eligible non-profit organizations.

### ASSURANCES

The acquiring agency will offer assistance to all eligible residents, businesses, farms and nonprofit organizations impacted by the project, including persons requiring special services and assistance. The agency's relocation program will provide such services in accordance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; Act 87, Michigan P.A. 1980, as amended, and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform act), as amended. The acquiring agency's relocation program is realistic and will provide for the orderly, timely and efficient relocation of all eligible persons in compliance with state and federal guidelines.

Prepared by:



Date: 12.19.2014



**Appendix C**  
**Scoping and Correspondence**

**Section 1**  
**Notice of Intent to Prepare an Environmental Impact**  
**Statement – June 14, 2002**

**Section 2**  
**List of Those Invited to Scoping Meetings**  
**August 29, 2002**

**Section 3**  
**Minutes of Scoping Meetings**

**Section 4**  
**Agency Correspondence in Response to Scoping**



## **Appendix C - Section 1**

**Notice of Intent to Prepare an Environmental Impact  
Statement – June 14, 2002**



[4910-22]

**1 DEPARTMENT OF TRANSPORTATION**

Federal Highway Administration

**2 ENVIRONMENTAL IMPACT STATEMENT: OAKLAND COUNTY, MICHIGAN**

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

**3 SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for the I-75 Oakland County Planning/Environmental Study.**

FOR FURTHER INFORMATION CONTACT: James A. Kirschensteiner, Assistant Division Administrator, Federal Highway Administration, 315 West Allegan Street, Room 207, Lansing, Michigan 48933, Telephone: (517) 702-1835, Fax: 377-1804, email [james.kirschensteiner@fhwa.dot.gov](mailto:james.kirschensteiner@fhwa.dot.gov)

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Michigan Department of Transportation, will prepare an environmental impact statement (EIS) on a proposal to add an additional through travel lane in each direction on I-75 between 8-Mile Road and M-59 to bring the total number of through travel lanes to four in each direction, together with other improvements. Improvements are considered necessary to provide for improved travel on I-75, which is already highly congested through much of the day. The EIS will include the evaluation of recommendations from the previous I-75 Corridor Feasibility Study (November 2000), including a thorough analysis of transit alternatives utilizing the Southeast Michigan Council of Governments (SEMCOG) Transit Vision and the 1999 Southeast Michigan High Occupancy Vehicle (HOV) Feasibility Study. The Feasibility Study recommended the addition of a fourth lane in those areas where it is needed to provide four through lanes, improving several interchanges, and implementing intelligent transportation systems (ITS) throughout the corridor. Alternatives under consideration include (1) taking no action; (2) providing mass transit; (3) implementing transportation system management and/or transportation demand management techniques; (4) developing the proposed lanes for use either all day or during a portion of the day by high occupancy vehicles (carpools, vanpool, and buses) only; and, (5) developing normal, unrestricted freeway travel lanes.

Letters describing the proposed action and soliciting comments will be sent to appropriate federal, state, and local agencies, and to private organizations and citizens who have previously expressed or are known to have an interest in this proposal. Five rounds of public meetings were held during the Feasibility Study phase during 1999 and 2000. Additional meetings and a public hearing are planned. Public notice will be given of the time and place of the hearing(s). The draft EIS will be available for public and agency review and comment prior to the public hearing. No formal scoping meeting is planned at this time.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above. (Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation of Federal programs and activities apply to this program.)

James J. Steele  
Division Administrator  
Lansing, Michigan

[FR Doc. 02-15085 Filed 6-13-02; 8:45 am]



## **Appendix C - Section 2**

### **List of Those Invited to Scoping Meetings August 29, 2002**

**The following federal, state, and local agencies and offices were sent scoping information packets for the proposed I-75 project from M-102 (8 Mile Road) to M-59 in Oakland County. Those who attended and those who responded to the scoping materials are noted in the list that follows.**





## FEDERAL AGENCIES

Mr. Lester Berman, Environmental Officer  
US Depart. of Housing and Urban Development

Craig Czarnecki, Field Supervisor - **Responded**  
United States Department of the Interior  
Fish and Wildlife Service

Mr. Joel Ettinger, Regional Administrator  
Federal Transit Administration

Mr. Gary Mannesto, Chief - **Responded**  
Regulatory Office  
Department of the Army  
Detroit District, Corps of Engineers

Mr. William Schenk, Regional Director  
National Park Service, Midwest Region

Mr. Kenneth A. Westlake, Chief – **Attended** (Sherry  
Kamke)  
Environmental Planning and Evaluation Branch  
Office of Strategic Environmental Analysis  
United States Environmental Protection Agency,  
Region 5

Mr. Ronald C. Williams,  
State Conservationist  
Natural Resources Conservation Service  
Michigan State Office

## STATE AGENCIES

Mr. George Burgoyne - **Responded**  
Resource Management Deputy  
Dept. of Natural Resources

Mr. Brian Conway – **Responded**  
State Historic Preservation Officer  
Michigan Dept. of History, Arts and Libraries

Mr. Gerald Fulcher - **Attended (Alex Sanchez)**  
Geological and Land Water Mgt. Division  
Dept. of Environmental Quality

Mr. G. Vincent Hellwig  
Division Chief  
Air Quality Division  
Dept. of Environmental Quality

Ms. Carol Isaacs, Director  
Health Legislation & Policy Development  
Michigan Department of Community Health

Ms. Teresa Seidel, District Supervisor  
Southeast Michigan District Office  
Dept. of Environmental Quality

Mr. Dan Wyant, Director - **Responded**  
Michigan Department of Agriculture

## LOCAL AGENCIES

Mr. Gary Ahol  
Oakland County Drain Commission

Mr. Brent Bair – **Attended** (Gerald Holmberg)  
**Responded**  
Road Commission of Oakland County

Ms. Claudia Berry  
Chamber of Commerce

Mr. Michael Brouchard, Sheriff  
Oakland Co. Sheriff Department

Hon. Ralph Castelli, Jr., Mayor  
City of Pleasant Ridge

Hon. Ben Colley, Mayor  
City of Hazel Park

Mr. Joseph Cozma – **Attended** (Eugene  
Snowden)  
Oakland Co. Drain Commission

Hon. John Davey, Mayor  
City of Bloomfield Hills

Mr. Dan Dirks – **Attended** (Ron Ristau)  
General Manager  
SMART

Hon. George Frisch, Mayor  
City of Lake Angelus

Hon. Ronald F. Gillham, Mayor  
City of Huntington Woods

Mr. Ron Grimes, Supervisor  
Environmental Health  
Oakland Co. Health Dept.

Hon. Mari Harvey-Edwards, Mayor  
City of Auburn Hills

Ms. Carolyn Henney  
Oakland Co. Soil Conservation District

Hon. Barbara L. Iseppi, Mayor  
City of Clawson

Hon. David Katulic, Mayor  
City of Rochester

Hon. Kwame Kilpatrick, Mayor – **Attended**  
(Sarah Lile)  
City of Detroit

Mr. Robert Long, Chairman  
Oakland Co. Conservation District

Hon. Dianne McKeon, Mayor  
City of Birmingham

Hon. John Mark Mooney, Mayor  
City of Berkley

Hon. Gerald E. Naftaly, Mayor  
City of Oak Park

Mr. Gail Novak, Chief  
Oakland Co. Emergency Management

Mr. Carmine Palombo, Director - **Attended**  
Transportation Programs, SEMCOG

Hon. Willie Payne, Mayor – **Attended** (Art  
Mitchell)  
City of Pontiac

Hon. Robert Porter, Mayor – **Attended** (Tom  
Barwin)  
City of Ferndale

Hon. Matt Pryor, Mayor - **Attended**  
City of Troy

Mr. Phil Sanzica  
Asst. Chief Engineer  
Oakland Co. Drain Commission, Construction

Hon. Patricia Somerville, Mayor – **Attended**  
(Paul Davis)  
City of Rochester Hills

Hon. Edward Swanson, Mayor – **Attended**  
City of Madison Heights

Mr. J. David Vanderveen - **Attended**  
Oakland County

Hon. Bill Urich, Mayor – **Attended** (Dick Cole)  
City of Royal Oak

## STATE AND U.S. SENATORS AND REPRESENTATIVES

Hon. Michael D. Bishop  
State Representative

Hon. Mike Kowall  
State Representative

Hon. Mat J. Dunaskiss  
State Senator

Hon. Carl Levin  
U.S. Senator

Hon. Patricia A.K. Godchaux  
State Representative

Hon. Sander Levin  
U.S. Representative

Hon. Robert Gosselin - **Attended**  
State Representative

Hon. John G. Pappageorge  
State Representative

Hon. Gilda Z. Jacobs  
State Representative

Hon. Gary Peters  
State Senator

Hon. Ruth A. Johnson  
State Representative

Hon. Clarence Phillips  
State Representative

Hon. Shirley Johnson  
State Senator

Hon. Debbie Stabenow  
U.S. Senator

Hon. Dale E. Kildee  
U.S. Representative

Hon. David T. Woodward  
State Representative

Hon. Joe Knollenberg  
U.S. Representative

## **OTHER AGENCIES**

Ms. Dusty Fancher  
Land Programs Director  
Michigan Environmental Council

Mr. James Goodheart  
Executive Director  
Michigan United Conservation Clubs, Inc.

Mr. Keith G. Harrison  
Executive Director  
Michigan Environmental Science Board

Ms. Allison Horton  
Director  
Sierra Club  
Mackinac Chapter

Ms. Bethany Renfer  
Program Coordinator  
Clean Water Action

**Appendix C - Section 3**  
**Minutes of Scoping Meetings**





**I-75 Oakland County Planning/Environmental Study  
Scoping Meeting  
August 29, 2002  
Troy Library – 9:30 a.m.**

**Background:** Scoping allows agencies to become familiar with a project and voice preliminary concerns about the purpose and need for a project, the alternatives to be considered, the likelihood and nature of impacts, and the methodologies to be used in the course of analysis.

**Purpose:** To solicit comment of regulatory agencies.

**Attendance:** See attached list.

**Discussion:**

Dave Wresinski chaired the meeting. First, those present were asked to introduce themselves. Several comments were made in the course of these introductions as those present indicated why they were there. For example, Tom Barwin of Ferndale emphasized the need to examine long-range land use planning for the region, noting the current lack of such a plan.

Following introductions, Jim Kirschensteiner reviewed the federal process that guides development of an Environmental Impact Statement (EIS). He noted the EIS process attempts to reach consensus but acknowledged that consensus was not always achieved. Then, Joe Corradino reviewed the project background and established the basis upon which further discussion could be undertaken, including the following:

- C. Tom Barwin asked that a survey be performed of people within a thousand feet of the interstate corridor to determine whether asthma was more prevalent in this corridor.
- R. Joe Corradino indicated while such a survey was not part of the project, zip-code based data could be gathered from the Michigan Department of Community Health on asthma conditions in Oakland County. Joe Corradino also noted air toxics would be covered as much as EPA has information on that subject. He also said that the indirect (secondary) and cumulative impact analysis would look at population shifts. Regarding land use, he noted that SEMCOG's data are a buildup of population and employment drawn from the constituent members of SEMCOG.
- C. Tom Barwin noted that housing at the north end of the corridor was in the high-end of the market and the result was an effective trapping of the poor in the inner suburbs.
- R. Jim Kirschensteiner noted that the environmental justice analysis would cover such socioeconomic issues.

- C. Dennis Toffolo of Oakland County Economic Development noted that trucks needed to be moving, not at idle, and they would be both more productive and less polluting when they were moving on an improved I-75.
- C. Tom Barwin stated that I-75 over the last 30 years had been a conduit for the inner suburbs to lose population.
- C. Mayor Matt Pryor of Troy said it was a waste of money to study HOV; that that decision could be made here and now. He suggested the best course was to study only those alternatives that could legitimately be implemented.
- R. Joe Corradino responded that to ensure the viability of the study, and the underlying NEPA process, it was necessary to do an adequate analysis of HOV. He noted that the next step in the HOV assessment should be concluded within a matter of six weeks. The HOV analysis would be performed by examining the modification of the interchanges at I-696 and M-59, plus other interchanges as well as the I-75 mainline.
- C. Karen Kendrick-Hands indicated some communities have no transit service, so, if the analysis relied on the transit system in its current configuration, ridership would be understated.
- R. Joe Corradino responded that today's condition was not what was being examined. Future conditions include an expanded bus transit network, as well as the rapid transit system along Woodward Avenue.
- C. Tom Barwin asked whether the transit analysis tested increased densities around rail stations to reflect the experience of other communities around the nation.
- R. Joe Corradino responded that was not done but indicated that the computer model likely over predicts ridership, because it assumes transit characteristics, like frequency of service and travel speeds that are very optimistic. This has the effect of counterbalancing the lack of increased density that would occur over time.
- C. Jim Schultz of the MITS Center noted that a massive signal retiming program was underway in Oakland County that would have benefits for I-75 and travel generally throughout the region.
- C. Ms. Hands made several additional points: 1) transit in a regional sense is never acknowledged in individual highway projects; 2) the major dollars involved in individual highway projects together had a cumulative cost that was very high and that transit might serve as an alternative at a much lower price; 3) transit had not been mentioned as a potential mitigating factor during construction of an improved I-75; 4) it was implicit in the I-75 EIS analysis that extensive improvements would need to be made to the alternative arterial grid system; 5) the environmental cost savings of transit should be compared to the highway construction cost; and, 6) the effects of the M-59 interchange should be incorporated into the I-75 project.
- R. Jim Kirschensteiner responded to the last point, indicating that the M-59 interchange had received environmental clearance in 1988 and that it had been reevaluated recently. Joe Corradino responded to the remark about transit use during construction, noting that it will be covered in the analysis, and that the effects on arterials would be covered under indirect (secondary) and cumulative

impacts, for those roads where there was a 10 percent change in traffic volumes due to improving I-75. Greg Johnson added that MDOT cannot stand by and watch its roads further deteriorate.

- C. Ms. Hands indicated that level-of-service shouldn't be the only measure of effectiveness used in the evaluation.
- C. Dave Vanderveen stated that, generally, "highway dollars" were used for highway projects and "transit dollars" for transit projects so that, to some degree, the issue of financing was unique to each mode. Ms. Hands indicated that there is some flexibility in shifting Surface Transportation Program funds.
- R. Joe Corradino indicated that such shifts rely on reaching a regional decision to do so.
- C. Robin Beltramini, Councilwoman from Troy, urged that the process should move forward.
- C. Carmine Palombo from SEMCOG noted misstatements with respect to the cost of some projects. He stated that there was about a \$17 billion shortfall with respect to projects in the adopted transportation plan. Further, there was a \$1.4 billion placeholder in Southeast Michigan for proposed I-94 improvements. About 24 to 26 studies are underway and SEMCOG was working with MDOT on priorities for these projects. I-75 is one of these. Transit and ITS need funding as well. He stressed that transit should be considered seriously as a mitigation measure during construction and noted that SEMCOG's ridesharing office would certainly be involved in efforts during construction.
- C. The Road Commission for Oakland County indicated that it was waiting to see the results of the study.
- C. The Drain Office of Oakland County indicated it would comment on engineering plans once work was further along.
- R. Joe Corradino noted that a special study would be performed to develop drainage strategies that would be reviewed at a later date by the Drain Office.
- C. Dennis Toffolo indicated his concern was that factual information be brought forward and studied.
- C. John Austin of Madison Heights indicated he would like to see a full analysis of economic impacts of the HOV lanes. He further commented that he didn't know where park-and-ride lots could be built.
- R. Joe Corradino responded that the economic impact analysis requested would be performed only if the HOV lanes were carried forward as a practical alternative.
- C. Sherry Kamke of EPA said that typically, in a meeting like this, one would look at the purpose and need and alternatives and that EPA's primary interest was on natural resources, air quality, water quality, and the like. EPA is concerned about the effects of diesel on special groups. Nevertheless, she noted that a causal relationship had not been established between diesel pollution and asthma. She further indicated she believed that the analysis to date of transit and HOV

appeared to be appropriate and that it was also appropriate to carry transit forward as part of the vision process. She noted further that, from the perspective of EPA, transit was a metro-wide issue.

- C. Carmine Palombo of SEMCOG indicated that it was likely that SEMCOG would work with the area's congressional delegation to seek federal dollars for an alternative analysis of rapid transit in the Woodward corridor.
- C. Alex Sanchez of the Michigan Department of Environmental Quality said his agency's concerns related to water and air quality and the effects on natural resources.
- C. Ron Ristau of SMART indicated that SMART generally agreed with the results of the model with respect to transit, but had some concerns about ridership in the 15-Mile Road area.
- R. Joe Corradino responded that The Corradino Group would take a second look in that area.
- C. Jim Kirschensteiner noted that as the I-75 project moves forward, it will have to be incorporated into a fiscally constrained long-range plan and that air quality conformity could not occur until that was accomplished. These two elements were necessary before a Record of Decision could be developed that is required to advance the project to the next step.
- C. A representative of Orion Township indicated he was concerned that I-75 improvements be extended north due to the poor level-of-service being experienced around M-24 and Baldwin Road.
- C. John Abraham of Troy stressed the desire of Troy for noise abatement in residential areas. He also noted that Troy was moving ahead on a number of arterial projects independent of the I-75 project.

The meeting concluded with a request for additional input as participants further studied the scoping document and other products of the I-75 EIS.

## Attendance

<b>Name</b>	<b>Representing</b>
Abdel Abdalla	Federal Highway Administration
John Abraham	Troy
Michael J. Allen	Madison Heights
Jon Austin	Madison Heights
Thomas Barwin	City of Ferndale
Robin Beltramini	Troy
Mary Ann Bernardi	Troy resident
Dick Cole	Royal Oak
Joe Corradino	The Corradino Group
Sue Datta	Michigan Department of Transportation
Brenda Peek	Michigan Department of Transportation
Paul Davis	Rochester Hills
Bob DeCorte	Traffic Improvement Association for Oakland County
Steve Demeter	Commonwealth Cultural Resources Group
Jerry Dywasek	Orion Township
Keisha Estwick	Orchard, Hiltz & McCliment
John Freeland	Tilton & Associates
Gerrad Godley	Rowe, Inc.
Bob Gosselin	State Representative
Steve Hinz	Federal Highway Administration
Gerald Holmberg	Road Commission for Oakland County
Linsay Jaiyesis	City of Detroit
Greg Johnson	Michigan Department of Transportation
Wayne Johnson	City of Berkley
Sherry Kamke	US EPA
Sean Kelsch	URS
Karen Kendrick-Hands	TRU
Jim Kirschensteiner	Federal Highway Administration
Sarah Lile	City of Detroit – Environmental Affairs
Art Mitchell	City of Pontiac
Carmine Palombo	SEMCOG
Jayn Page	Madison Heights
Matt Pryor	Mayor of Troy
Ron Ristau	SMART
Alex Sanchez	Michigan Department of Environmental Quality
Jim Schultz	Michigan Department of Transportation
Eugene Snowden	Oakland County Drain Office
Ted Stone	The Corradino Group
Ed Swanson	Madison Heights
Brian Tingley	Schutt & Company
Dennis Toffolo	Oakland County
J. David Vanderveen	Oakland County
Tara Weise	URS
Ken Wells	Rowe, Inc.
David Wresinski	Michigan Department of Transportation
Bill Zipp	Orchard, Hiltz & McCliment



## **Appendix C - Section 4**

### **Correspondence Received in Response to Scoping**

1. August 22, 2002 – Road Commission for Oakland County
2. September 16, 2002 - Michigan Department of Natural Resources, Wildlife Division
3. September 18, 2002 – Michigan Department of Agriculture
4. October 1, 2002 – Michigan Department of State, State Historic Preservation Office
5. October 17, 2002 – US Army Corps of Engineers
6. March 14, 2003 – Michigan Department of Environmental Quality
7. March 21, 2003 – US Department of the Interior, US Fish and Wildlife Service
8. May 14, 2003 – Michigan Department of State, State Historic Preservation Office
9. May 23, 2003 – US Environmental Protection Agency
10. July 2, 2003 – MDOT to Michigan Department of Environmental Quality
11. September 25, 2003 – FHWA to US Environmental Protection Agency
12. September 25, 2003 – FHWA to US Fish & Wildlife Service







August 22, 2002



Sue Datta, Project Manager  
MDOT Metro Region Office  
18101 W. Nine Mile Road  
Southfield, MI 48075

RE: I-75 EIS

Dear Ms. Datta:

The Road Commission for Oakland County (RCOC) would like to respond in writing to your request for official comments for the EIS being prepared on the I-75 widening project between Eight Mile Road and M-59 in Oakland County. Please include this letter in your Scoping Document for review by the Federal Highway Administration.

First, RCOC supports the effort to widen I-75 to four lanes in each direction through Oakland County. The demand is evident by the volumes on I-75 and the overflow traffic that clogs the local roads in the corridor.

Secondly, we believe the two new lanes should be general-purpose lanes and not high-occupancy-vehicle lanes. We do not believe the extra costs of construction and enforcement of HOV lanes can be justified by the expected use.

Thirdly, the reconstructed interchanges of I-75 at both Twelve Mile and Fourteen Mile roads should use the single point design. We believe that design is more efficient and will function best with our FAST-TRAC signal system.

Finally, there are freeway interchanges with several county roads: Twelve Mile Road, Fourteen Mile Road, Big Beaver Road, Long Lake Road, Crooks Road, and Adams Road. It is essential that design review and collaboration take place with our Engineering/Design staff. If additional right-of-way is required along any of the county roads, consultation is important to ensure the purchased parcels meet the guidelines of our master right-of-way plan, and ultimately end up in the proper hands. Please contact Tom Blust, director of Engineering, for coordination on both issues.

*Board of Road Commissioners*

*Larry P. Crake  
Chairman*

*Richard G. Skarriff  
Vice-Chairman*

*Rudy D. Lazano  
Commissioner*

*Brent O. Bair  
Managing Director*

*Gerald M. Holmberg  
Deputy Managing Director  
County Highway Engineer*

31001 Lahser Road  
Beverly Hills, MI  
48025

248-645-2000

FAX  
248-645-1349

TDD  
248-645-9923

www.rcocweb.org



QUALITY LIFE THROUGH GOOD ROADS  
ROAD COMMISSION FOR OAKLAND COUNTY  
"WE CARE"

Ms. Sue Datta  
August 22, 2002  
Page 2

Should interchange construction result in work along county roads and require a county permit, please contact Bill McEntee, director of Permits & Environmental Concerns for consultation and procedures.

Thank you for providing this opportunity to offer comments at an early stage on this important project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Brent O. Bair".

Brent O. Bair  
Managing Director

c: Gerald Holmberg  
Brian Blaesing  
Tom Blust  
Bill McEntee

/lb



STATE OF MICHIGAN  
 DEPARTMENT OF NATURAL RESOURCES  
 LANSING

JOHN ENGLER  
 GOVERNOR

September 16, 2002



Ms. Sue Datta  
 Michigan Department of Transportation  
 Metro Region Office  
 18101 West Nine Mile Rd  
 Southfield, MI 48075

**RE: I-75 Improvement Project**

Dear Ms. Datta:

The location of the proposed project was checked against known localities for natural features. Unique natural features are recorded in a statewide database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features at a site. The absence of records in the database for a particular site may mean that the site has not been surveyed. Records are not always up-to-date, and may require verification. In some cases, the only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, ...fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Department of Natural Resources, Wildlife Division. *Responsibility to protect endangered and threatened species is not limited to the list below. Other species may be present that have not been recorded in the database.*

The presence of threatened or endangered species does not preclude activities or development, but may require alterations in the project plan. Special concern species are not protected under endangered species legislation, but recommendations regarding their protection may be provided. Protection of special concern species will help prevent them from declining to the point of being listed as threatened or endangered in the future. If the project is located on or adjacent to wetlands, inland lakes, or streams, additional permits may be required. Contact the Michigan Department of Environmental Quality, Land and Water Management Division, P.O. Box 30473, Lansing, MI 48909 (517-373-1170).

The following is a summary of the results for the project in Oakland County, I-75 from T3N R10E Section 26 south to T1N R11E Section 36:

The project should have no impact on rare or unique natural features at the location specified above if it proceeds according to the plans provided. Please contact me for an evaluation if the project plans are changed.

Thank you for your advance coordination in addressing the protection of Michigan's natural resource heritage. Responses and correspondence can be sent to: Michigan Department of Natural Resources, Wildlife Division – Natural Heritage Program, PO Box 30180, Lansing, MI 48909. If you have further questions, please call me at 517-373-1263.

Sincerely,

Lori G. Sargent  
 Endangered Species Specialist  
 Wildlife Division

LGS:kpg

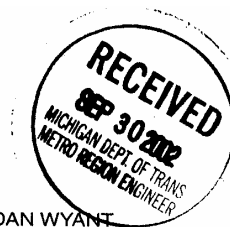
STEVENS T. MASON BUILDING • P.O. BOX 30028 • LANSING, MICHIGAN 48909-7528  
 www.michigan.gov • (517) 373-2329



STATE OF MICHIGAN  
DEPARTMENT OF AGRICULTURE  
LANSING

JOHN ENGLER  
GOVERNOR

DAN WYANT  
DIRECTOR



September 18, 2002

Sue Datta, Project Manager  
MDOT, Metro Region Office  
18101 West Nine Mile Road  
Southfield, Michigan 48075

Dear Ms. Datta:

Thank you for the opportunity to comment on this preliminary phase of the planning and environmental study for the proposed widening of an 18-mile section of I-75 between 8 Mile Road and M-59 in Oakland County.

Since the widening of I-75 is to be accomplished largely within the existing right-of-way in a highly developed traffic corridor, little or no adverse impacts to agriculture are anticipated. However, we ask that you contact Mr. John McCulloch, Oakland County Drain Commissioner (phone: 248-858-0958), as you undertake your "drainage study" in order to avoid adverse impacts to established county and inter-county drainage systems.

Again, thank you for the opportunity to comment.

Sincerely,

Dan Wyant  
Director



JOHN ENGLER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF HISTORY, ARTS AND LIBRARIES  
LANSING

DR. WILLIAM ANDERSON  
DIRECTOR

October 1, 2002

MARGARET BARONDESS  
MICHIGAN DEPARTMENT OF TRANSPORTATION  
425 WEST OTTAWA  
PO BOX 30050  
LANSING MI 48909

RE: ER-02-293 I-75 Improvements, 8 Mile road to M-59, Oakland County (FHWA)

Dear Ms. Barondeas:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed and approve the parameters determined by MDOT for the area of potential effects (APE) and inventory work for the above-cited project.

The State Historic Preservation Office (SHPO) is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Martha MacFarlane Fees, Environmental Review Coordinator, at (517) 335-2721. Please reference our project number in all communication with this office regarding this undertaking. Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

  
Brian D. Conway  
State Historic Preservation Officer

BDC: JRH:ROC:bgg

STATE HISTORIC PRESERVATION OFFICE, MICHIGAN HISTORICAL CENTER  
702 WEST KALAMAZOC STREET • P.O. BOX 30740 • LANSING, MICHIGAN 48909-8240  
(517) 378-1830  
www.michigan.gov/hal



DEPARTMENT OF THE ARMY  
DETROIT DISTRICT, CORPS OF ENGINEERS  
BOX 1027  
DETROIT, MICHIGAN 48231-1027



IN REPLY REFER TO:

**OCT 17 2002**

Planning Division  
Environmental Analysis Branch

Ms. Sue Datta, AICP  
Project Manager  
Michigan Department of Transportation  
Metro Region Office  
18101 West Nine Mile Road  
Southfield, Michigan 48075

Dear Ms. Datta:

We are writing in response to your August 20, 2002, correspondence on the proposed widening of I-75 between 8 Mile Road and M-59, Oakland County, Michigan. In accordance with our responsibilities, the following comments are provided under our civil works/floodplain management program and our regulatory program.

Our civil works program does not include any current or future plans to develop waterways in the vicinity of your project; however, we are currently involved in designing a segment of the Oakland County Drainage District's Twelve Town Drain Environmental Infrastructure Project. Further coordination would be necessary to determine if the proposed I-75 widening would impact this project. You can contact our project manager, Pat Kuhne, at 313-226-6767 for more information on the Twelve Town Drain project.

Our Floodplain Manager notes that the proposed I-75 widening would involve a number of communities that participate in the Regular Phase of the National Flood Insurance Program (NFIP). Flood elevations for waterways in the project vicinity are delineated on the applicable NFIP Flood Insurance Rate Maps. We recommend that you coordinate the proposed I-75 widening with local officials and with the Michigan Department of Environmental Quality, Land and Water Management Division, Hydraulic Studies Unit (517-335-3181) regarding the applicability of a floodplain permit prior to construction. This coordination would help insure full compliance with local and state floodplain management regulations and acts. If you obtain any information indicating that your project would be impacting a flood plain, you should consider other sites. This would be consistent with current Federal policy to formulate projects that, to the extent possible, avoid or minimize adverse impacts associated with the use of the flood plain.

Our Regulatory Office has reviewed your proposal for regulatory compliance pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. No

activities under the Corps of Engineers' regulatory jurisdiction may commence without prior Corps' authorization. The proposed widening of I-75 between 8 Mile Road and M-59 is outside of our regulatory jurisdiction and, as such, a Department of the Army permit is not required. Please contact the Michigan Department of Environmental Quality, Land and Water Management Division, Permit Consolidation Unit (517-373-9244) for a determination of any state permit requirements. Please note this is a preliminary review and does not represent a comprehensive public interest review such as would occur during a permit application evaluation process.

We appreciate the opportunity to comment upon your project proposal. Any questions regarding our civil works/floodplain management program can be directed to Mr. Charlie Uhlarik, Planning Branch, at 313-226-6753. Questions regarding our regulatory program should be directed to Mr. Robert Tucker, Chief, Enforcement Branch, Regulatory Office, at 313-226-6812 (Reference file 02-263-001-0). Other environmental review questions may be directed to Mr. Paul Allending at 313-226-7590.

Sincerely,



for

Les E. Weigum  
Chief, Environmental Analysis Branch



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

March 14, 2003

Ms. Margaret Barondess, Manager  
Environmental Section  
Project Planning Division  
Michigan Department of Transportation  
P.O. Box 30050  
Lansing, Michigan 48909

Dear Ms. Barondess:

SUBJECT: I-75 Planning Study in Oakland County- Purpose and Need

We have reviewed the Purpose and Need documentation that was provided in your March 3, 2003, correspondence. As described in the March 2003, Scoping Information Report, the proposed project includes transportation improvements on I-75 between 8 Mile Road and M-59 including the potential for a new fourth lane. It is our understanding that a Draft Environmental Impact Statement will be developed to evaluate the proposed alternatives for this project.

The document indicates that the purpose of the project is to:

- 1) Improve travel efficiency and roadway capacity in the I-75 corridor by upgrading, where feasible, road segments, interchanges, and bridges to modern standards and making other transportation improvements (including the use of Intelligent Transportation Systems) designed to accommodate projected year 2025 traffic volumes.
- 2) Improve the physical condition of existing bridges and road segments.
- 3) Improve motorist safety.

Under the National Environmental Policy Act and the Section 404 regulatory process we agree with the first concurrence point as to the purpose and need for the project investigation to continue. We have the following comment:

- Table 2-3 is called, "I-75 Roadway Features that Do Not Meet Modern Standards. Yet it lists three areas where there are no deficient features. Either the title needs to be changed or the three areas need to be dropped from the table.



We look forward to working with you in selecting the alternatives to carry forward. If you have any questions please contact me.

Sincerely,



Gerald W. Fulcher, Jr., P.E. Chief  
Transportation and Flood Hazard Unit  
Geological and Land Management Division  
517-335-3172

cc: Mr. Abdel Abdella, U.S. Federal Highway Administration  
Ms. Sherry Kamke, U.S. Environmental Protection Agency  
Mr. Craig Czarnecki, U.S. Fish and Wildlife Service  
Mr. Gary Mannesto, U.S. Army Corps of Engineers  
Ms. Mary Vanderlaan, MDEQ – S.E. Michigan District  
Mr. Alex Sanchez, MDEQ, Lansing Office



IN REPLY REFER TO:

## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
East Lansing Field Office (ES)  
2651 Coolidge Road, Suite 101  
East Lansing, Michigan 48823-6316

March 21, 2003

Kurt E. Stanley  
Tilton & Associates, Inc.  
501 Avis Drive, Suite 5C  
Ann Arbor, MI 48108

Re: Endangered Species List Request, Proposed I-75 Improvement Project, Madison Heights, Troy,  
Bloomfield Township, Pontiac Township, Oakland County, Michigan

Dear Dr. Stanley:

Thank you for your March 3, 2003 request for information on endangered, threatened, proposed, or candidate species and critical habitat which may be present within the proposed project areas. Your request and this response are made pursuant to Section 7 of the Endangered Species Act of 1973 (the Act), as amended, (87 Stat. 884, 16 U.S.C. 1531 *et seq.*).

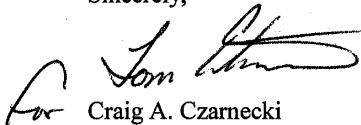
Based on information presently available, there are no endangered, threatened, proposed, or candidate species, or critical habitat occurring within the proposed project areas. This presently precludes the need for further action on this project as required under Section 7 of the Act.

We advise, however, that should a species become officially listed or proposed before completion of this project, the Federal action agency for the work would be required to reevaluate its responsibilities under the Act. Further, should new information become available that indicates listed or proposed species may be present and/or affected, consultation should be initiated with this office.

Since threatened and endangered species data is continually updated, new information pertaining to this project may become available which may modify these recommendations. Therefore, we recommend your agency annually request updates to this list.

We appreciate the opportunity to provide these comments. Please refer any questions directly to Tameka Dandridge of this office at (517) 351-8315 or the above address.

Sincerely,

  
for Craig A. Czarnecki  
Field Supervisor

cc: Michigan Department of Natural Resources, Wildlife Division, Lansing, MI  
(Attn: Lori Sargent)

MAR 25 2003



STATE OF MICHIGAN  
 DEPARTMENT OF HISTORY, ARTS AND LIBRARIES  
 LANSING

JENNIFER GRANHOLM  
 GOVERNOR

DR. WILLIAM ANDERSON  
 DIRECTOR

May 14, 2003

ABDELMOEZ ABDALLA  
 FEDERAL HIGHWAY ADMINISTRATION  
 315 W ALLEGAN STREET  
 ROOM 207  
 LANSING MI 48933

RE: ER02-293 Phase I Cultural Resources Survey, I-75 Freeway Improvement-Oakland County (FHWA)

Dear Mr. Abdalla:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the survey for the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that **no historic properties are affected** within the area of potential effects of this undertaking.

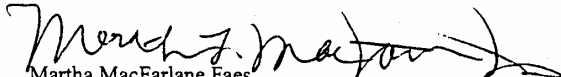
The views of the public are essential to informed decision making in the Section 106 process. Federal Agency Officials or their delegated authorities must plan to involve the public in a manner that reflects the nature and complexity of the undertaking, its effects on historic properties and other provisions per 36 CFR § 800.2(d). We remind you that Federal Agency Officials or their delegated authorities are required to consult with the appropriate Indian tribe and/or Tribal Historic Preservation Officer (THPO) when the undertaking may occur on or affect any historic properties on tribal lands. **In all cases**, whether the project occurs on tribal lands or not, Federal Agency Officials or their delegated authorities are also required to make a reasonable and good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties per 36 CFR § 800.2(c-f).

This letter evidences the Federal Highway Administration's compliance with 36 CFR § 800.4 "Identification of historic properties", and the fulfillment of the Federal Highway Administration's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected".

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Brian Conway, Environmental Review Specialist, at (517) 335-2721 or by email at ER@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

  
 Martha MacFarlane Faes  
 Environmental Review Coordinator

for Brian D. Conway  
 State Historic Preservation Officer

MMF:DLA:ROC:bgg

Copy: Lloyd Baldwin, MDOT

STATE HISTORIC PRESERVATION OFFICE, MICHIGAN HISTORICAL CENTER  
 702 WEST KALAMAZOO STREET • P.O. BOX 30740 • LANSING, MICHIGAN 48909-8240  
 (517) 373-1630  
 www.michigan.gov/hal



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

MAY 23 2003

REPLY TO THE ATTENTION OF:

B-19J

Mr. Abdelmoez A. Abdalla  
Environmental Program Manager  
Federal Highway Administration - Michigan Division  
315 W. Allegan St. Room 207  
Lansing, Michigan 48933

Re: Concurrence on Purpose & Need Information Provided in I-75 Oakland County  
Planning/Environmental Study, Scoping Information, March 2003

Dear Mr. Abdalla:

The U.S. Environmental Protection Agency (U.S. EPA) has reviewed your letter of April 9, 2003 and the enclosed I-75 Scoping Information. You requested that our agency provide comments and concurrence on Purpose and Need for this project.

We have reviewed the final scoping package with particular attention on the Planning Basis and Need for the Proposed Action chapter. Information regarding the existing level of service and future traffic projections for Oakland County in the I-75 corridor area demonstrate the need for some type of action in the future. We also note that the condition of the existing roadway and bridges also require some type of future action. We believe that this information shows that there are substantial issues or needs to be addressed.

The scoping package states the following:

Based on this background, the purpose of the project is to:

1. Improve travel efficiency and roadway capacity in the I-75 corridor by upgrading, where feasible, road segments, interchanges, and bridges to modern standards and making other transportation improvements (including the use of Intelligent Transportation Systems [ITS]) designed to accommodate projected year 2025 traffic volumes;
2. Improve the physical condition of existing bridges and road segments; and,
3. Improve motorist safety

Although we concur that the scoping package does explain much about needs in the project area, we believe that the project statement above may preclude alternatives that do not include increased travel lanes on I-75. We encourage the Federal Highway Administration (FHWA) and Michigan Department of Transportation (MDOT) to frame the purpose and need statement in broad enough terms so that other alternatives (i.e., High Occupancy Vehicle lanes and transit

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along Woodward Avenue) that could improve travel efficiency in the study area, other than capacity increases on I-75, could be considered.

We would be available to discuss this topic further. If you have questions, please contact Sherry Kamke at (312) 353-5794 or via email at [kamke.sherry@epa.gov](mailto:kamke.sherry@epa.gov).

Sincerely yours,

A handwritten signature in black ink, appearing to read "Kenneth A. Westlake". The signature is fluid and cursive, with a large loop at the end.

Kenneth A. Westlake, Chief  
Environmental Planning and Evaluation Branch  
Office of Strategic Environmental Analysis

cc: U.S. Fish and Wildlife Service  
East Lansing Field Office  
2651 Coolidge Road  
East Lansing, Michigan 48823  
Attention: Jack Dingeldine

U.S. Army Corps of Engineers  
Detroit District Office  
P.O. Box 1027  
Detroit, Michigan 48231-1027  
Attention: Gary Mannesto

Michigan Department of Environmental Quality  
Land & Water Management Division  
Transportation and Flood Hazard Management Unit  
P.O. Box 30458  
Lansing, Michigan 48909-7958  
Attention: Gerald W. Fulcher Jr., P.E.



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
LANSING

GLORIA J. JEFF  
DIRECTOR

July 2, 2003

Mr. Gerald Fulcher  
Transportation and Flood hazard Management Unit  
Geological and Land Water Management Division  
Michigan Department of Environmental Quality  
Constitution Hall - First Floor  
525 W. Allegan Street  
P.O. Box 30458  
Lansing, Michigan 48909

Dear Mr. Fulcher:

The Michigan Department of Transportation (MDOT) has recently completed the delineation of wetlands for the proposed widening of I-75 between 8 Mile Road and M-59 in Oakland County, Michigan. The results of the delineation indicate that approximately one acre of wetlands would be impacted by the proposed project. Previously, MDOT estimated that eight acres of wetlands would be impacted. However, after working closely with the Michigan Department of Environmental Quality (MDEQ), the wetland impacts were reduced from eight acres to one acre. The types of wetlands being impacted include: palustrine emergent and palustrine scrub/shrub. As a result of this change in wetland impacts, the 404 regulatory process will no longer be required for this project.

Your continued involvement and participation in the review and comment of this project is highly valued. MDOT will continue to involve your agency in the review of the Environmental Impact Statement (EIS).

Thank you for your cooperation and interest in this project.

Sincerely,

Margaret M. Barondess, Manager  
Environmental Section  
Project Planning Division

cc: J. J. Steele, FHWA  
File

MURRAY D. VAN WAGONER BUILDING • P.O. BOX 30050 • LANSING, MICHIGAN 48909  
www.michigan.gov • (517) 373-2090



U.S. Department  
of Transportation

Federal Highway  
Administration

Michigan Division

315 W. Allegan St., Room 207  
Lansing, Michigan 48833

September 25, 2003

Mr. Kenneth A. Westlake, Chief  
Environmental Planning and Evaluation Branch  
United States Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Westlake:

Proposed Widening of I-75 from M-102 (8 Mile Road) to M-59  
Oakland County, Michigan

The Michigan Department of Transportation (MDOT) has recently completed the delineation of wetlands for the proposed widening of I-75 between 8 Mile Road and M-59 in Oakland County, Michigan. Previously, the MDOT estimated that eight acres of wetlands would be impacted. Accordingly, the FHWA has requested your agency's comments and concurrence regarding the first NEPA/Section 404 merger process. The results of the delineation indicate that approximately only one acre of wetlands would be impacted by the proposed project. As a result of this change in wetland impacts, the NEPA/Section 404 merger process will no longer be required for this project.

Your continued involvement in reviewing and providing meaningful comments of this project is highly valued and appreciated. The FHWA and MDOT will continue to involve your agency in the review of the Environmental Impact Statement (EIS).

If you need more information, please do not hesitate to contact me by phone at (517) 702-1820 or via email at [abdelmoez.abdalla@fhwa.dot.gov](mailto:abdelmoez.abdalla@fhwa.dot.gov). Thank you for your cooperation and interest in this project.

Sincerely,

*a.a. abdalla*

Abdelmoez A. Abdalla  
Environmental Program Manager

For: James J. Steele  
Division Administrator

cc: Lori Noblet, MDOT, Environment





U.S. Department  
of Transportation

Federal Highway  
Administration

Michigan Division

315 W. Allegan St., Room 207  
Lansing, Michigan 48933

September 25, 2003

Mr. Craig A. Czarnecki, Field Supervisor  
U.S. Fish and Wildlife Service  
2651 Coolidge Road  
East Lansing, MI 48823

Dear Mr. Czarnecki:

Proposed Widening of I-75 from M-102 (8 Mile Road) to M-59  
Oakland County, Michigan

The Michigan Department of Transportation (MDOT) has recently completed the delineation of wetlands for the proposed widening of I-75 between 8 Mile Road and M-59 in Oakland County, Michigan. Previously, the MDOT estimated that eight acres of wetlands would be impacted. Accordingly, the FHWA has requested your agency's comments and concurrence regarding the first NEPA/Section 404 merger process. The results of the delineation indicate that approximately only one acre of wetlands would be impacted by the proposed project. As a result of this change in wetland impacts, the NEPA/Section 404 merger process will no longer be required for this project.

Your continued involvement in reviewing and providing meaningful comments of this project is highly valued and appreciated. The FHWA and MDOT will continue to involve your agency in the review of the Environmental Impact Statement (EIS).

If you need more information, please do not hesitate to contact me by phone at (517) 702-1820 or via email at [abdelmoez.abdalla@fhwa.dot.gov](mailto:abdelmoez.abdalla@fhwa.dot.gov). Thank you for your cooperation and interest in this project.

Sincerely,

*a. a. abdalla*

Abdelmoez A. Abdalla  
Environmental Program Manager

For: James J. Steele  
Division Administrator

cc: Lori Noblet, MDOT, Environment



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**I-75 Oakland County Planning / Environmental Study  
CS 63174, JN 55776  
Final Environmental Impact Statement  
Green Sheet: Project Mitigation Summary**

<i>Impact Category</i>	<i>Mitigation Measures</i>
<b>I. Social and Economic Environment</b>	
a. Noise	Analysis finds 18 individual reasonable and feasible noise walls, plus replacement noise walls in Madison Heights would total 4.9 miles in length (see Table 4-14).
b. Fire Hydrant Access	MDOT will consult with local fire departments during the design phase to ensure adequate placement of and access to fire hydrants in locations where noise walls are to be constructed.
c. Visual Effects	Noise wall construction and construction materials will be discussed with the affected public in the vicinity of potential construction.
<b>II. Natural Environment</b>	
a. Wetlands	0.4 acres of impacted wetlands in the Square Lake Road Interchange will be replaced by 0.6 acres of wetlands in Armada Township in Macomb County.  A permit will be obtained from the Michigan Department of Environmental Quality for this compensatory wetland mitigation. A preliminary Wetland Mitigation Plan has been approved by MDEQ.
b. Tree Removal/ Clearing/Landscaping	Mature trees will be preserved within MDOT right-of-way (principally at fence lines), where safety requirements are met. Property owners will be notified before any trees in front of their residences are removed and will be offered replacement trees. Native vegetation will be considered in plantings.
c. Water Quality	For highway runoff, storm water management facilities will include detention basins and grassed channels or swales to reduce the concentration of road contaminants reaching receiving bodies of water. Ditch check dams will be installed to control runoff velocities. Storm water management will be incorporated into final roadway design.  The project will include separation of MDOT storm water south of 12 Mile Road from the combined sewer system that now carries this storm water. Detention will be included in pump stations and possibly within the 12 Mile Road interchange allowing settling of debris and sediment. Oil/water separators will be included in the system.
<b>III. Hazardous / Contaminated Materials</b>	
a. Contaminated Sites	A <i>Project Area Contamination Survey</i> has been completed. One site has been identified for a Preliminary Site Investigation, prior to right-of-way acquisition. Any areas of contamination found by that PSI will be marked on design plans.

	<p>Additional standard mitigation measures that could apply include:</p> <ul style="list-style-type: none"> <li>• Testing/treatment of water from any dewatering operations before pumping to storm drains or surface water discharge points.</li> <li>• Testing of river bottom sediments to determine proper disposal methods.</li> <li>• Preparation of underground utility plans to ensure no deep utility cuts will impact any contaminated areas. Any utility cuts in contaminated areas will be reviewed to ensure proper excavation and backfill methods.</li> <li>• Preparation of a Risk Assessment Plan, which includes a Worker Health and Safety Plan, to reduce dermal exposure and address direct contact issues, if contaminated materials are encountered.</li> <li>• Closing and abandoning any monitoring wells properly.</li> </ul>
IV. Construction	
a. Maintenance of Traffic	Two lanes of traffic will be maintained in both directions at all times on I-75.
b. Vibration	Basement surveys will be offered in areas where vibration effects could occur. These areas will be identified during the design phase, where pavement and bridge removal will occur, or where piling and/or steel sheeting is planned. Impacts are not anticipated at this time.
c. Wetlands	Delineated wetlands are to be included on construction plans sheets, so they can be flagged for avoidance during construction.
d. Parks	Reconstruction of the service drive adjacent to Maddock Park may be necessary. No grading permit will be obtained for the park.