

# **DRAFT ENVIRONMENTAL IMPACT STATEMENT**

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



**Prepared by**

**Michigan Department of Transportation**

**In Cooperation with**

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

**December 2003**

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

**DRAFT 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**

*December 24 2003*

Date of Approval

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This Draft 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 to be used in determining the preferred alternative. Mitigation measures are also included. The estimated cost of the proposed project is approximately \$530 million (2003 dollars), depending on the type of interchange built at 12 Mile Road and whether a High Occupancy Vehicle (HOV) lane is built. Eleven residential and two business displacements are anticipated. The estimate of direct wetlands impacts is 0.4 acres (with the HOV Alternative only).

Comments on this Draft Environmental Impact Statement are due 45 days after the date of the public hearing and should be sent to Ms. Sue Datta at the above address.

## 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 or a Finding of No Significant Impact (FONSI).

This document is a Draft Environmental Impact Statement (DEIS) for the proposed widening of I-75 from M-102 (8 Mile Road) to M-59 in Oakland County, Michigan. It describes and analyzes proposed alternatives and the measures taken to minimize harm to the project area. It will be distributed to federal, state, and local agencies for review and comment. A public hearing on this document will then be held. Public and agency comments will be summarized in a Final EIS and responses will be provided. Any necessary changes resulting from the comments will be made. Once these changes and additions have been made, the FEIS 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, if approved and when funding is identified. After design is completed the right-of-way acquisition and construction phases will occur. However, at this time, no funding has been identified for activities beyond this environmental / planning stage.

This document was prepared by a consultant working with the Michigan Department of Transportation (MDOT), in cooperation with FHWA. Representatives from the following divisions 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 DEIS may be reviewed at:

- MDOT's Lansing office, 425 West Ottawa Street (third floor), Lansing, MI 48909
- MDOT's Metro Region office - 18101 W. Nine Mile Road, Southfield, MI 48075
- MDOT's 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 – 1000 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 referred to in this DEIS that support the decision-making process are available at the three MDOT offices listed above. Summaries of the DEIS and technical documents are available at all locations.

# Table of Contents

	<u>Page</u>
Preface .....	ii
<b>SECTION 1 – SUMMARY</b>	
1.1 Description of the Proposed Project .....	1-1
1.2 Alternatives.....	1-3
1.2.1 No Build Alternative .....	1-3
1.2.2 Transportation Systems Management (TSM) Techniques .....	1-3
1.2.3 Transportation Demand Management (TDM) Techniques .....	1-3
1.2.4 Intelligent Transportation Systems .....	1-3
1.2.5 Mass Transit .....	1-4
1.2.6 Build Alternatives.....	1-4
1.2.7 Additional Design Considerations.....	1-5
1.2.8 Practical Alternatives.....	1-7
1.3 Impacts .....	1-8
1.3.1 Traffic and Safety .....	1-8
1.3.2 Relocations and Community Cohesion .....	1-8
1.3.3 Land Use.....	1-10
1.3.4 Environmental Justice.....	1-11
1.3.5 Economics .....	1-11
1.3.6 Air Quality.....	1-12
1.3.7 Noise.....	1-12
1.3.8 Ecological Resources.....	1-12
1.3.9 Storm Water.....	1-13
1.3.10 Cultural Resources and Parkland.....	1-13
1.3.11 Visual Conditions .....	1-14
1.3.12 Hazardous Materials .....	1-14
1.3.13 Soils and Utilities.....	1-14
1.3.14 Indirect and Cumulative Effects .....	1-15
1.3.15 Energy.....	1-15
1.3.16 Cost.....	1-15
1.4 Areas of Controversy.....	1-16
1.5 Permits .....	1-16
1.6 Project Status .....	1-17
<b>SECTION 2 – PURPOSE AND NEED FOR ACTION</b>	
2.1 Purpose of the Proposed Action .....	2-1
2.1.1 Project Background .....	2-1
2.2 Need for the Proposed Action.....	2-2
2.2.1 Population and Employment Growth .....	2-2
2.2.2 Existing Traffic and Level of Service.....	2-4
2.2.3 Future Traffic and Level of Service.....	2-5
2.2.4 I-75 and Existing Design Standards .....	2-8
2.2.5 Physical Condition of I-75.....	2-12
2.2.6 Safety .....	2-13
2.2.7 Conclusion.....	2-17

### SECTION 3 – ALTERNATIVES

3.1	Alternatives Development .....	3-1
3.2	No Build Alternative.....	3-2
3.3	Transportation Systems Management (TSM) Techniques .....	3-2
3.4	Transportation Demand Management (TDM) Techniques.....	3-2
3.5	Intelligent Transportation Systems .....	3-3
3.6	Mass Transit .....	3-4
3.7	Build Alternatives.....	3-6
3.7.1	I-75 Lane Addition for General Purpose Use – GP Alternative .....	3-7
3.7.2	I-75 Lane Addition for HOV Use – HOV Alternative .....	3-12
3.7.3	Specific Design Issues .....	3-22
3.8	Practical Alternatives.....	3-30

### SECTION 4 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1	Relocations .....	4-1
4.2	Social Impacts/Community Cohesion .....	4-2
4.2.1	Community Facilities .....	4-3
4.2.2	Considerations Relating to Pedestrian Access and Bicycle Use.....	4-12
4.2.3	Considerations Relating to Mass Transit Service and Carpooling .....	4-16
4.2.4	Maintaining Local and Regional Access During Construction .....	4-17
4.2.5	Population and Employment Trends .....	4-17
4.2.6	Other Socioeconomic Characteristics.....	4-20
4.3	Environmental Justice.....	4-20
4.4	Economic Impacts and Tax Base Loss .....	4-23
4.4.1	Economic Background .....	4-23
4.4.2	Tax Base Loss.....	4-25
4.5	Land Use and Planning Consistency .....	4-26
4.6	Farmland/Michigan Act 451, Part 361 Lands/Forest Land .....	4-26
4.7	Air Quality Analysis .....	4-28
4.8	Noise Analysis.....	4-32
4.8.1	Background and Guiding Criteria.....	4-32
4.8.2	Existing Noise Conditions .....	4-33
4.8.3	Future Noise Conditions.....	4-34
4.8.4	Noise Mitigation Considerations .....	4-35
4.8.5	Noise Barrier Analysis.....	4-36
4.9	Threatened and Endangered Species .....	4-48
4.10	Surface Water Features/Water Quality/Floodplains .....	4-49
4.10.1	Waterways and Drains.....	4-49
4.10.2	Water Quality and Groundwater.....	4-54
4.10.3	Floodways and Floodplains .....	4-55
4.11	Wetlands .....	4-55
4.11.1	Methodology.....	4-55
4.11.2	Wetland Functions and Priorities.....	4-56
4.11.3	Delineation Summary .....	4-57
4.11.4	Impacts.....	4-57
4.12	Historic and Archaeological Resources – Section 106.....	4-58
4.13	Parkland – Section 4(f) and Section 6(f) Resources .....	4-59
4.14	Visual Conditions .....	4-59
4.15	Contaminated Sites .....	4-60
4.16	Soils and Utilities.....	4-63

4.17	Construction Permits .....	4-63
4.18	Indirect and Cumulative Impacts .....	4-63
	4.18.1 Indirect Impact Summary .....	4-64
	4.18.2 Cumulative Impact Summary .....	4-65
4.19	Energy .....	4-67
4.20	Cost .....	4-67
4.21	The Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity.....	4-67
4.22	Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action .....	4-68

**SECTION 5 – MITIGATION OF IMPACTS**

5.1	Right-of-Way Acquisition and Relocation Impacts.....	5-1
5.2	Noise Walls.....	5-2
5.3	Soil Erosion and Sedimentation Control .....	5-2
5.4	River, Stream and Drain Crossings .....	5-3
5.5	Environmental Permits .....	5-3
5.6	Existing Vegetation .....	5-4
5.7	Disposal of Surplus or Unsuitable Material.....	5-5
5.8	Groundwater Quality .....	5-5
5.9	Surface Water Quality .....	5-6
5.10	Maintaining Traffic During Construction.....	5-6
5.11	Continuance of Public Utility Service .....	5-7
5.12	Construction Noise and Vibration Impacts.....	5-7
5.13	Control of Air Pollution During Construction .....	5-8
5.14	Wetland Mitigation.....	5-8
5.15	National Geodetic Survey Monuments.....	5-10
5.16	Additional Mitigation or Modifications.....	5-10

**SECTION 6 – EARLY COORDINATION, PUBLIC MEETINGS, AND SCHEDULE**

6.1	Early Coordination.....	6-1
	6.1.1 Federal Agencies .....	6-1
	6.1.2 State Agencies .....	6-2
	6.1.3 Local Agencies .....	6-2
6.2	Public Meetings and Public Involvement .....	6-2
6.3	Next Steps - Schedule.....	6-4

**SECTION 7 – LIST OF PREPARERS .....** 7-1

**SECTION 8 – DISTRIBUTION LIST .....** 8-1

**APPENDICES**

Appendix A	Conceptual Stage Relocation Plan.....	A-1
Appendix B	Scoping and Correspondence .....	B-1

## LIST OF FIGURES

Figure 1-1	Existing Conditions and Proposed Project.....	1-2
Figure 2-1	2002 and 2025 Level of Service – Morning Peak.....	2-6
Figure 2-2	2002 and 2025 Level of Service – Morning Peak.....	2-7
Figure 3-1	Mass Transit Alternative.....	3-5
Figure 3-2	Lane Additions on I-75.....	3-8
Figure 3-3	Pedestrian Bridges Reconstruction .....	3-9
Figure 3-4a	Existing and Proposed Typical Sections Depressed Area .....	3-13
Figure 3-4b	Existing and Proposed Typical Sections Rural Area .....	3-14
Figure 3-5	9 Mile Curve Redesign Impacts .....	3-15
Figure 3-6	Basic HOV Example Facilities .....	3-17
Figure 3-7	Examples of Special HOV Access at 9 Mile Road and North of Big Beaver .....	3-18
Figure 3-8	HOV Lane – Northbound Through Square Lake Interchange.....	3-19
Figure 3-9	Travel Desire Analysis – Square Lake Road to M-59 .....	3-23
Figure 3-10	Left Exit/Entrance Switch to Right.....	3-24
Figure 3-11	Southbound Lane Use M-59 to Square Lake.....	3-25
Figure 3-12	I-696 Ramp Braiding .....	3-26
Figure 3-13a	12 Mile Road Single Point Urban Interchange.....	3-28
Figure 3-13b	12 Mile Road Interchange Reconstruction .....	3-29
Figure 3-14	14 Mile Road Interchange Reconstruction .....	3-31
Figure 4-1	Existing Community Facilities .....	4-4
Figure 4-2	Census Tracts Along I-75 .....	4-21
Figure 4-3	Oakland County 2002 Land Use.....	4-27
Figure 4-4	Emission Factor Trends – PM <sub>2.5</sub> .....	4-32
Figure 4-5	Environmental Information .....	4-39
Figure 5-1	Wetland Impact and Mitigation Sites .....	5-9

## LIST OF TABLES

Table 1-1	Summary of Impacts – General Purpose and HOV Lane Alternatives.....	1-9
Table 2-1	Oakland County I-75 Corridor – Population 1980 to 2030 .....	2-3
Table 2-2	Oakland County I-75 Corridor – Employment 1990 to 2030 .....	2-3
Table 2-3	Existing (2002) Peak Hour Traffic Volumes and LOS for I-75 .....	2-5
Table 2-4	2025 Peak Hour Traffic Volumes and LOS for I-75 – No Build Alternative.....	2-8
Table 2-5	2025 Peak Hour Traffic Volumes and LOS for I-75 – Build Alternatives .....	2-8
Table 2-6	I-75 Roadway Features in Relation to Modern Standards .....	2-10
Table 2-7	Existing I-75 Sufficiency Ratings.....	2-13
Table 2-8	Crash Data by Segment .....	2-14
Table 2-9	Summary of Crash Countermeasures .....	2-18
Table 3-1	Rapid Transit Station Activity.....	3-6
Table 3-2	Impacts of HOV Options.....	3-20
Table 3-3	HOV Tests – 2025 PM Peak Hour – Northbound – 20% Violation Rate.....	3-21
Table 3-4	HOV Tests – 2025 PM Peak Hour – Southbound – No Violators.....	3-21
Table 3-5	Level of Service – 12 and 14 Mile Road Interchange Options .....	3-27
Table 3-6	Build Alternatives Impact Summary.....	3-32
Table 4-1	Relocation Summary .....	4-2
Table 4-2	Sidewalk and Shoulder Conditions – Existing and With Project.....	4-15
Table 4-3	Average Daily MDOT Carpool Lot Use.....	4-16
Table 4-4	Population and Household Growth.....	4-18
Table 4-5	Socioeconomic Characteristics .....	4-19
Table 4-6	Minority and Low-Income Populations in Contiguous Census Tracts .....	4-22
Table 4-7	Commuting to and from Oakland County .....	4-24
Table 4-8	Changes in State Equalized Value.....	4-25
Table 4-9	Tax Base Loss (2002 dollars) .....	4-25
Table 4-10	National Ambient Air Quality Standards.....	4-28
Table 4-11	CO Concentrations .....	4-31
Table 4-12	Noise Abatement Criteria .....	4-33
Table 4-13	Existing and Future Noise Levels.....	4-34
Table 4-14	Noise Barrier Analysis.....	4-38
Table 4-15	Waterway Crossing Characteristics.....	4-50
Table 4-16	Summary of Wetland Characteristics – Impacted Wetlands .....	4-58
Table 4-17	Estimated Wetland Impacts and Potential Compensatory Mitigation .....	4-58
Table 4-18	Contamination Summary .....	4-61

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
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16  
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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 (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 Draft Environmental Impact Statement (DEIS) addresses the reconstruction of I-75 and its widening of I-75 from three to four through travel lanes in each direction between M-102 (8 Mile Road - exit 59) and M-59 (exit 77), a distance of 18 miles. The next six miles, north to Joslyn Road (exit 83) has already been widened to four through travel lanes. The Feasibility Study recommended that MDOT widen I-75 north of Joslyn Road. The proposed improvements between M-102 and M-59 have independent utility, i.e., they can stand alone and provide transportation benefits without relying upon the development of other projects. The proposed project will connect with the four-lane section north of Square Lake Road and south of M-102.

The proposed improvements include 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, as such, are not covered in this DEIS. The I-75/M-59 project extends south to about South Boulevard. Therefore, the environmental analysis of the proposed project covered in this DEIS extends north to South Boulevard from M-102. Other independent, but related MDOT projects in the area include a new pedestrian bridge over I-75 south of Auburn Road and noise mitigation in the Square Lake Road area.

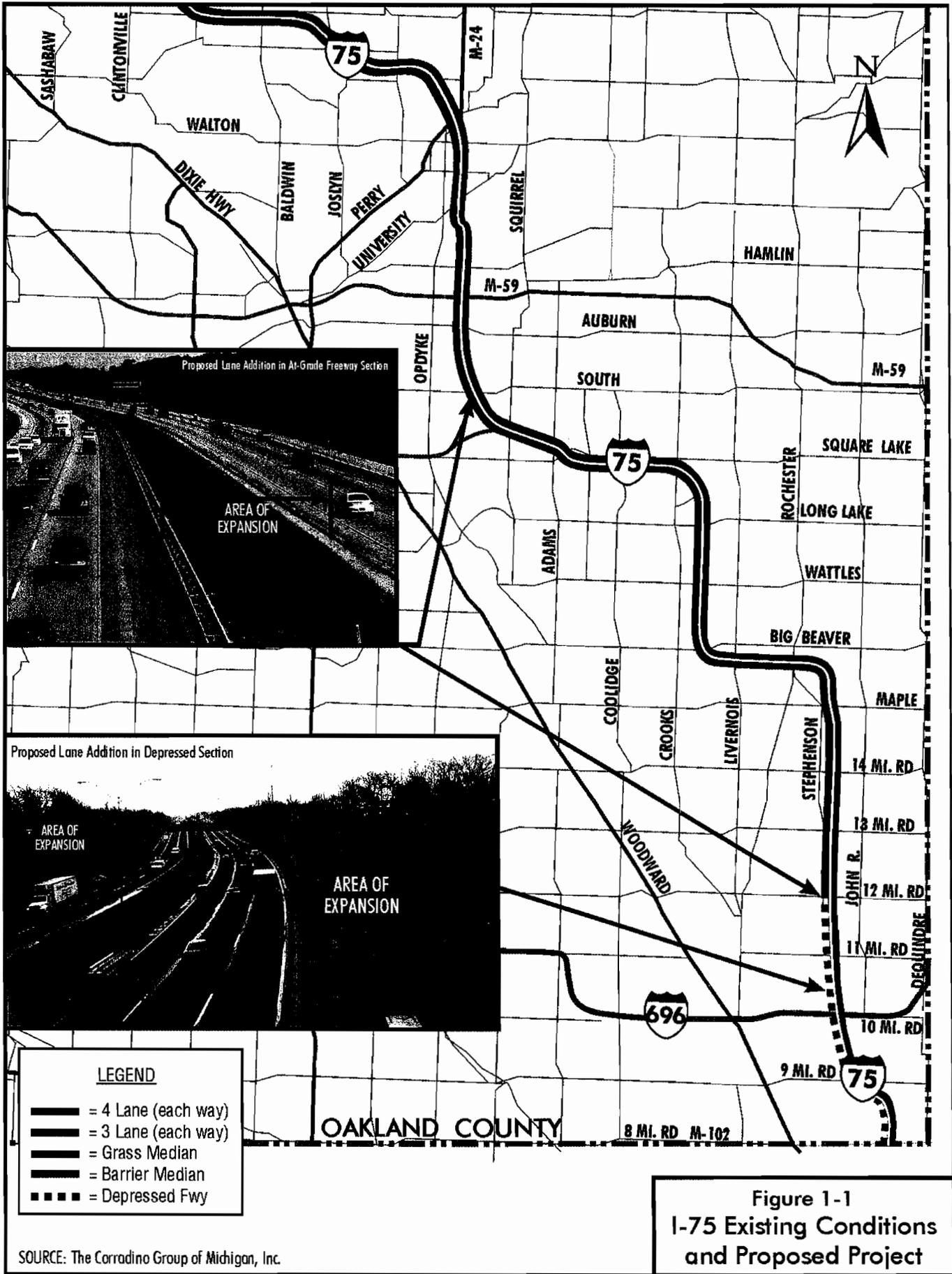
This DEIS is a product of the I-75 Oakland County Planning/Environmental Study, which is listed in the Southeast Michigan Council of Government's (SEMCOG's) 2025 Regional Transportation Plan, in SEMCOG's Transportation Improvement Program (TIP), and in the Michigan Department of Transportation's (MDOT's) Five-Year Road & Bridge Program (Volume V – 2003 to 2007) for the Metro Region.

This section summarizes the DEIS, addressing: 1) the project purpose and need; 2) alternatives considered; 3) the affected environment and project impacts; 4) areas of controversy; 5) permits and proposed mitigation; 6) unresolved issues; and, 7) the project's status.

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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.



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## **1.2 Alternatives**

This section summarizes the alternatives considered. More detail is provided in Section 3.

No Build, Mass Transit, and several "build" alternatives were analyzed for this DEIS, 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.

A recommended alternative will not be selected until after the public hearing and comment period are concluded and all comments have been considered.

### **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 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. These activities would expand, if the High-Occupancy Vehicle (HOV) Lane Alternative were selected.

### **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.

### **1.2.5 Mass Transit**

This DEIS 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>3</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.

### **1.2.6 Build Alternatives**

The “build alternatives” include 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>4</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 hours. The proposed project 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,<sup>5</sup> and separation of the storm water from I-75 from the combined sewer system in the south section of the corridor. The project also considers modifying curves on I-75 near 9 Mile Road and Big Beaver Road, changing ramps at Square Lake Road. The planned connections to the separate I-75/M-59 project are discussed. The build alternatives will be referred to henceforth 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 would 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 would 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 would meet full, modern standards with the exception of the “S” curve south of 9 Mile Road.

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<sup>3</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>4</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>5</sup> Reconstruction of the Harry Avenue pedestrian bridge would require relocation of three homes, so an option is not to replace this bridge.

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, redesigning this curve was not considered practical.

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

The proposed fourth through lane could 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 would 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 this DEIS. 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, but 12-foot inside (median) shoulders are preferred 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 feet would require total reconstruction of all the bridges from 12 Mile Road north to the north project limit (rather than widening), result in an inconsistent cross section along I-75 in Wayne and Oakland counties, affect four church and four residential parcels, likely cause the relocation of Our Savior Lutheran Church, and potentially cost up to \$100 million.

<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.

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

I-75 at Big Beaver Road was originally considered a rural highway section. It is now urbanized. Redesigning the curve south of the Big Beaver Road interchange to rural standards would require at least partial reconstruction of the interchange. Depending on the design approach, a motel and buildings of the City of Troy government complex on the inside of the curve would be affected, or, the ramp curves within the interchange would be tightened, increasing the potential for more crashes. Redesigning this curve, especially as it is now urban, 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.

### **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 proposed project 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**

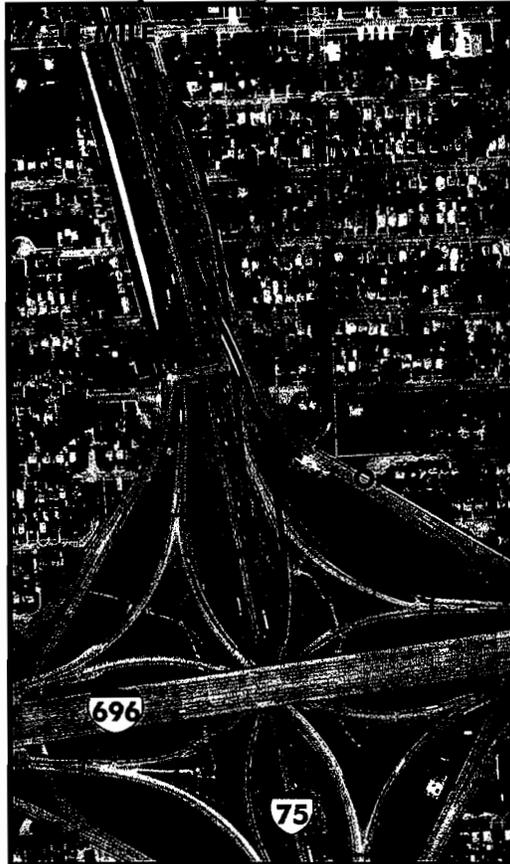
Traffic exiting eastbound I-696 to northbound I-75 backs up frequently. The primary cause of backups at this location is an inability to merge into the northbound traffic flow on I-75. The recommendation is to have the northbound off-ramp to 11 Mile Road pass under the northbound on-ramps from I-696 to prevent merge/diverge conflicts. This is called "braiding" the ramps (see figure on next page).

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

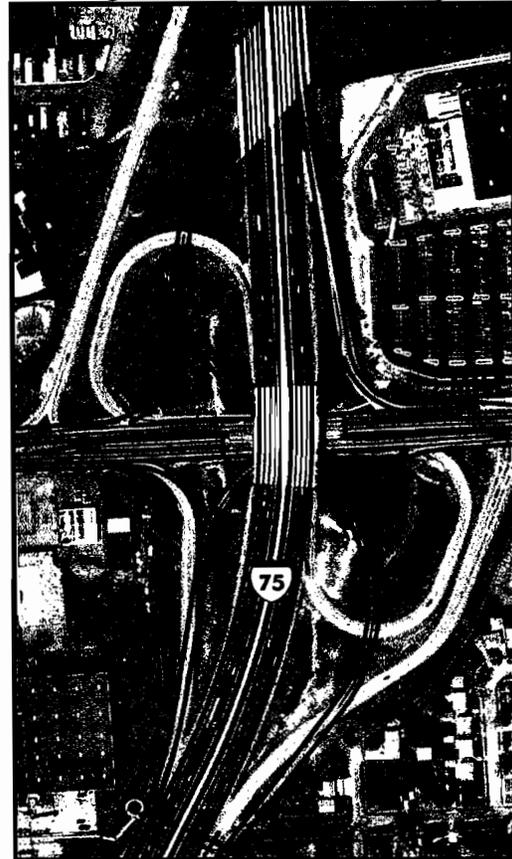
There are two options at the 12 Mile Road interchange. It could be reconstructed to retain some of its existing geometrics, or be rebuilt as a Single-Point Urban Interchange (SPUI). A SPUI brings all ramp ends together at a single point and provides for a three-phase signal operation at the resulting intersection. The three phases control: 1) left turns from the ramps ends; 2) left turns to the entrance ramps; and, 3) the through movement of 12 Mile Road. This control aids pedestrian movements. Optionally, the interchange could retain some of its current configuration. 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 (see figure on next page).

The I-75 Feasibility Study (2000) anticipated the 14 Mile Road interchange would benefit from a SPUI design. However, more detailed analysis 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.

**Ramp Braiding North of I-696**



**Single Point Urban Interchange**



### **1.2.8 Practical Alternatives**

Analysis 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. 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 this DEIS are:

- 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 (7-9 AM and 4-6 PM). The northbound HOV lane is carried through the Square Lake Road interchange.

The GP and HOV alternatives would be accompanied by improvements at the 12 Mile and 14 Mile Road interchanges, 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 DEIS, are considered part of the background system. The designs of all three projects will be integrated, although each has independent utility.

These practical alternatives will be carried to the public hearing.

### 1.3 Impacts

The following is a summary of the impacts associated with the No Build Alternative, the GP Alternative, and the HOV Alternative (Table 1-1). The GP and HOV alternatives have almost the same impacts. 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

Either build alternative will improve traffic flow over the No Build Alternative.<sup>8</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), with the GP or HOV Alternative, compared to breakdown conditions (LOS F) with the No Build Alternative. A *Crash Analysis* has identified patterns and concentrations of crashes and developed a set of countermeasures to improve safety with project construction.<sup>9</sup> Countermeasures are summarized in Section 2.2.6. They include such measures as glare screens, warnings signs and flashers, and lengthening ramps.

#### 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;
- 12 Mile Road and I-75 interchange;
- “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 will be only about an acre.

<sup>8</sup> *Traffic Analysis Report*, The Corradino Group, November 2003.

<sup>9</sup> *Crash Analysis*, The Corradino Group, June 2003.

**Table 1-1**  
**Summary of Impacts – General Purpose & HOV Lane Alternatives**

<b>Impact Category</b>	<b>Expected Impact</b>
Traffic and Safety	Mainline I-75 Level of Service D or better (exception I-696 to 11 Mile Road), compared to LOS F with No Build. Safety will improve.
Relocations	Eleven single-family residences 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 Land	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.
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 Impacts	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.
Wetlands	HOV Alternative affects 0.41 acres of Palustrine Emergent, and Palustrine Shrub-Scrub. Potential 0.61 acres of mitigation at an identified site. The GP and No Build have no impacts.
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) 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 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 (2003 dollars)	Approximately \$530 million. A SPUI at 12 Mile Road adds \$6 million. HOV adds \$6 million

Source: The Corradino Group of Michigan, Inc.

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 eight single-family dwellings in Madison Heights and a total of approximately 1.5 acres of land.

Right-of-way would be acquired with reconstruction of six pedestrian bridges. Reconstruction must conform to the Americans with Disabilities Act (ADA), which 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 ambulatory persons. The right-of-way acquisition could affect three dwelling units and approximately an acre of land in Hazel Park. These impacts will be refined during the design phase when more detailed information is available.

Storm water detention requirements in the north section of the project may require as much as seven acres of right-of-way acquisition. This acquisition in Troy would relocate no homes or businesses.

In summary, the braid would take eight homes, a pedestrian bridge three more, and the lane addition two businesses.

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. Much of this growth has occurred while 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>10</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>11</sup>

<sup>10</sup> *Land Use Change in Southeast Michigan: Causes and Consequences*, SEMCOG, March 2003.

<sup>11</sup> *Draft Environmental Impact Statement, M-15 from I-75 to I-69 – Oakland and Genesee Counties*, The Corradino Group, December 2001.

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 need to centralize jobs. The City of Detroit will experience continued job loss until 2020, when the situation will become more stable.<sup>12</sup>

The proposed improvements to I-75 are consistent with local and regional transportation and land use planning, including Oakland County's *Composite Master Plan Map* and SEMCOG's *Regional Transportation Plan*.

### **1.3.4 Environmental Justice**

The project will not result in disproportionately high and/or adverse human health or environmental effects on minority or low-income populations. Nevertheless, 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 from the proposed project.

### **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>13</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>14</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 \$121,000, 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 of properties over the coming years will outweigh potential losses. Because there are few anticipated business or residential relocations, replacement commercial space and housing is available and is not an issue.

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<sup>12</sup> 2030 *Regional Development Forecasts*, SEMCOG.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Land Use Change in Southeast Michigan: Causes and Consequences*, SEMCOG, March 2003.

### 1.3.6 Air Quality

Air quality along I-75 will improve to the extent 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 under either build or no build conditions. The differences between the HOV and GP Alternatives are negligible. However, on a regional basis, the HOV Alternative would be associated with a slightly lower pollutant burden, as the same number of trips would be made in fewer vehicles.

Approval of the Final EIS requires that the project be added to the Transportation Improvement Program (TIP) and Regional Transportation Plan of the Southeast Michigan Council of Governments (SEMCOG) after a determination of air quality conformity.

### 1.3.7 Noise

There would be no discernable difference between the HOV and GP alternatives with respect to 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, 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.

With the No Build Alternative, mitigation would be considered "Type II." This means that mitigation would be a "retrofit" project and not be eligible for federal funding. While MDOT does undertake Type II projects, funding is very limited. Under the MDOT's *Noise Policy*<sup>15</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.

A *Noise Study*<sup>16</sup> using the FHWA's TNM2.1 computer model finds that approximately 4.3 miles of noise walls are warranted. 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.

### 1.3.8 Ecological Resources

Forty-one wetland areas were identified between 12 Mile Road and South Boulevard.<sup>17</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

<sup>15</sup> *Noise Abatement*, Michigan State Transportation Commission Policy, July 31, 2003.

<sup>16</sup> *Noise Study Report*, The Corradino Group, October 2003.

<sup>17</sup> *Wetland Report*, Tilton & Associates, Inc., October 2003.

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 HOV Alternative as the HOV lane traverses the Square Lake Road interchange. Neither the GP Alternative, nor the No Build Alternative would affect wetlands, other than the increased pollutant load from storm water runoff from increased traffic volumes. Affected wetlands will require replacement through agreement with the Michigan Department of Environmental Quality (MDEQ).

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

### **1.3.9 Storm Water**

The No Build Alternative would not change existing drainage patterns or flow. However, storm water will increase with the project due to the increased impervious surface of the additional lanes. A *Drainage Study*<sup>18</sup> was performed to determine how best to handle the increase in storm water runoff from the GP or HOV alternatives (which would have almost identical impacts).

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 proposed project will separate I-75 storm water from this system. The combined system flow now goes through Detroit's regional treatment plant. During storms, the plant cannot accommodate the flow rates and the overflow of sewage and storm water there bypasses the plant. 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 proposed project 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 number of locations 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>19</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 has concurred in these findings (see letters dated October 1, 2002 and May 14, 2003 in Appendix B, Section 2).

Maddock Park in Royal Oak is adjacent to the southbound I-75 service drive. It is separated from I-75 by a noise wall. A grading permit may be necessary along the park, but effects on the park will be avoided. The Troy Family Aquatic Center and Huber Park in Troy are adjacent to

<sup>18</sup> *Drainage Study*, Orchard, Hiltz & McCliment and Rowe, Inc., October 2003.

<sup>19</sup> *Phase I Cultural Resources Survey of the Proposed I-75 Freeway Improvements, Oakland County, Michigan*, Commonwealth Cultural Resources Group, Inc., December 2002.

northbound I-75, but are separated from the road by a berm. This recreation area will not be affected.

### **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, and 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 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 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 proposed project 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 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.

A high-tension electrical line in the north section of the 12 Mile Road interchange would not be affected as the towers are not affected. Similarly, 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. The effects of the GP and HOV alternatives are very similar. 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 and create impacts. Where this was the case, the impacts of roadway widening were estimated. These indirect impacts are summarized in Section 4-18.

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; the implementation of wetland protection; and other factors, finds that development along I-75 reflects a complex mix of forces, such that widening I-75 will not have significant cumulative effects. Cumulative effects are discussed further 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 build alternatives would be about \$530 million (2003 dollars). This includes right-of-way and relocation costs of \$11 million. If the 12 Mile Interchange were built as a SPUI the cost would be approximately \$6 million more than if it were reconstructed in its same general configuration. 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 \$6 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, but amount to \$11 million.

## 1.4 Areas of Controversy

A principle concern expressed by citizens attending public meetings is that noise walls be constructed with the project. Noise walls will be constructed in accordance with established noise criteria and warrants as contained in MDOT's Noise Policy.<sup>20</sup>

Several studies in the past have called for rapid transit development in the Detroit-Ann Arbor corridor and Woodward corridor.<sup>21</sup> Extensive analysis of mass transit performed for this DEIS 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.

## 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 with the Part 301 permit.
- 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.

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<sup>20</sup> Michigan Department of Transportation's *Procedures and Rules for Implementation of the State Transportation Commission Policy 10136 - Noise Abatement*, July 2003.

<sup>21</sup> *Improving Transit in Southeast Michigan: A Framework for Action*, SEMCOG, October 2001.

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**

Before this project can receive environmental clearance, it must be included in SEMCOG's *Transportation Improvement Program (TIP)* and *Regional Transportation Plan (RTP)* for construction. It is presently in these plans as a study. The project must be shown to be in conformance with the Clean Air Act. When a Final EIS is completed, a Record of Decision (ROD) for the project is signed, and funding is identified, final design and right-of-way acquisition can begin.

This project is listed as a study in MDOT's Five-Year Road and Bridge Program (Volume V – 2003 to 2007), which outlines roadway expenditures over the next five years. Design and construction of the proposed improvement is not yet scheduled.

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.

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## **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>22</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.

##### **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>22</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>23</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>24</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 DEIS.

## **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 have 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>25</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

<sup>23</sup>*I-75 Corridor for Northern Oakland County*, The Corradino Group for the Michigan Department of Transportation, December 1991.

<sup>24</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>25</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>26</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>27</sup>

I-75 is used by Oakland County commuters and by through travelers. 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>28</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 highly 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. 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>29</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, queuing, and lower observed volumes.

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<sup>26</sup>2030 *Regional Development Forecast for Southeast Michigan*, Southeast Michigan Council of Governments (SEMCOG), 2001.

<sup>27</sup>1999 *State Profile; Michigan*, Woods and Poole Economics, Inc.

<sup>28</sup>*Traffic Analysis Report*, The Corradino Group, November 2003.

<sup>29</sup>MDOT does ramps counts less frequently, so data ranges from 1997 to 2002.

**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

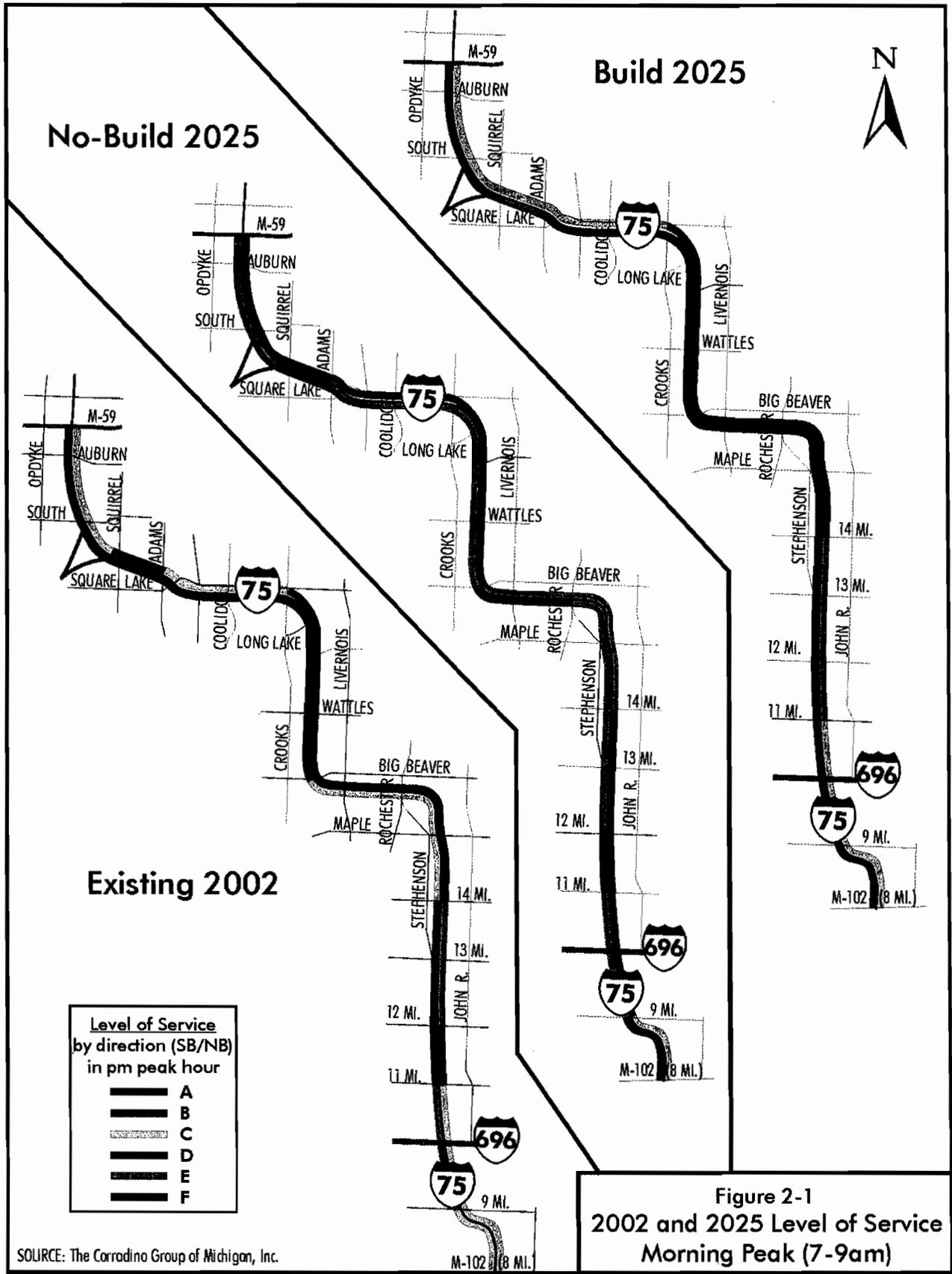
Source: The Corradino Group of Michigan, Inc.

### 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 proposed project 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>30</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.

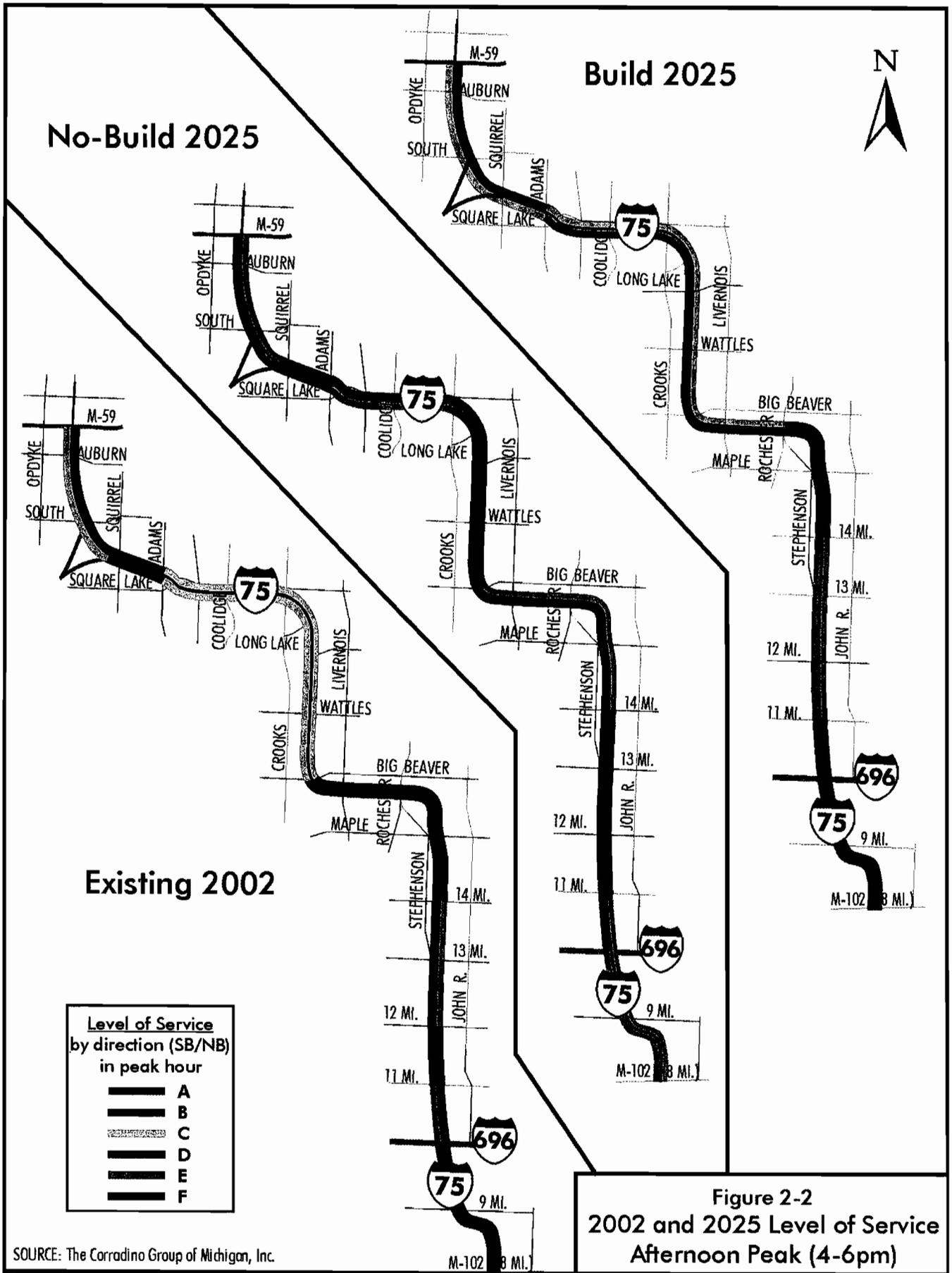
With the project, one lane would be added where needed to bring I-75 to four through lanes between M-102 and M-59 (Table 2-5). It already provides four through lanes to the north and south of these points. In the AM and PM peak hours, there would be no segments where LOS F is expected in either direction. 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>30</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.



SOURCE: The Corradino Group of Michigan, Inc.

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**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 proposed project 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:

- 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 proposed improvements. The anticipated design speed for the project is 70 mph.

### **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 contribute to traffic congestion. Minor changes in curve radii together with superelevation increases could 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 traveling surface of the roadway 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 16’3”. The proposed I-75 reconstruction will meet this standard north of I-696. South of I-696, the clearance is allowed to be 14’9” as the interstate system in the core of Detroit is gauged to that earlier standard. Vertical under-clearance of pedestrian bridges over service drives in the depressed section of the corridor will be 17’3”. 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. All locations on I-75 in the study area meet the modern standards for vertical grade and vertical sight distance. However, there are 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 could be fixed with the proposed project 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 would require changing the profile of the ramps.

**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 required 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 required 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 required 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 required 7% superelevation
	I-75, north of 15 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
	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.

**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)

### **Stopping Sight 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. Obstructed views (i.e., inadequate stopping sight distance) can contribute to crashes when motorists do not have sufficient time and distance to reduce speeds. There are 14 areas where stopping sight distances do not meet modern standards. Two of these also do not meet the standard for decision sight distance for merging ramp traffic. These deficiencies could also 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.

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

The ramp entrance and exit designs do not meet modern standards at 12 locations. Here, the decision sight distance (the distance that motorists have to make decisions about lane changes) and/or ramp taper lengths for acceleration and deceleration are inadequate. In these situations, vehicles traveling on I-75 need to slow down and/or change lanes to allow other motorists to enter or exit the freeway. These problems cause inefficient freeway operations and may contribute to crashes. The deficiencies at these locations could be met by lengthening ramps and/or providing a parallel exit.

### **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.

## **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. I-75 is consistently rated poor in capacity, scoring for the most part 6 to 8 on a scale of 30. The proposed project will substantially improve the capacity ratings.

## 2.2.6 Safety

A *Crash Analysis*<sup>31</sup> was prepared for this DEIS. 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%) and sideswipe (14%) crashes. 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>32</sup> For purposes of analysis,

<sup>31</sup> *Crash Analysis*, The Corradino Group, June 2003.

<sup>32</sup> *Comparison of Crash Rates and Characteristics in Eight States by Roadway Class*; Transportation Research Board, Paper Number 97, 1997.

the corridor was divided into 15 segments. Segments with crash rates above 1.31 are in bold type in Table 2-8. 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
2	<b>South of 9 Mile Road to South of I-696</b>	182,000	<b>2.51</b>	<b>1.45</b>
3	<b>South of I-696 to North of I-696</b>	185,000	<b>2.44</b>	<b>1.41</b>
4	<b>North of I-696 to South of 12 Mile Road</b>	187,000	<b>2.02</b>	1.26
5	<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
7	<b>North of 13 Mile Rd. to North of 14 Mile Rd.</b>	158,000	1.33	<b>2.28</b>
8	<b>North of 14 Mile Rd. to North of Maple Rd.</b>	141,000	0.90	<b>1.61</b>
9	<b>North of Maple Road to East of Livernois</b>	127,000	0.86	<b>1.94</b>
10	<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
14	<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

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 on-ramps and providing parallel style exits ramps, 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 sag 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 proposed project. Short-term measures 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. Glare screens mounted on the median barrier to minimize "gawker" behavior when incidents occur in the opposite direction are also recommended. 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 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 Figure 3-11). The latter ramp 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. This improvement is planned as part of the proposed project. In the short term, advance signing would inform drivers of potential slowdowns and glare screens could minimize distraction from opposing traffic.

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. Moving the 11 Mile Road southbound on-ramp to the north would increase the merge distance available to users of that ramp. The merge length is limited by the subsequent diverge to the exit for I-696.

### **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 as a Single Point Urban Interchange (SPUI) will allow elimination of a poor crest vertical curve and lengthening of the merge ramps. Eliminating loop ramps will improve ramp acceleration to meet freeway speed.

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**

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 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.

**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
Segment								
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	Lengthen Big Beaver On-ramps.
E of Livernois to Wattles - SB			X			X	X	Lengthen Big Beaver On-ramps.
S of Adams to Square Lake - SB						X	X	Improve Adams Off-ramp.
<b>Ramps</b>								
I-696 to I-75	X							Warning signs: "Congestion Ahead".
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.
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 identification of the practical alternatives that are analyzed in Section 4.

### **3.1 Alternatives Development**

This DEIS involved analysis of 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 and 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.

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 DEIS, 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.

The recommended alternative will not be determined until after the public hearing and comment period are concluded and all comments have been considered.

### **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 in the project area was constructed in the 1960s, which means 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 widening project, if widening becomes the chosen alternative.

Bridges need more frequent major rehabilitation than roads. 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 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 would expand, if the HOV Alternative were 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. Ramp metering cannot provide equitable access to all commuters. It favors suburban motorists who get on the freeway first.

### 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>33</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>34</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 ITS efforts are ongoing.

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>35</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 on I-75 from downtown as far north as 12 Mile Road.

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>33</sup> *Draft ITS Predevelopment Study*, Cambridge Systematics, 2002.

<sup>34</sup> *Ibid.*

<sup>35</sup> *The 2002 Urban Mobility Report*, Schrank and Lomax, Texas Transportation Institute, June 2002.

### 3.6 Mass Transit

The DEIS 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>36</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 in the Woodward Corridor.<sup>37</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.

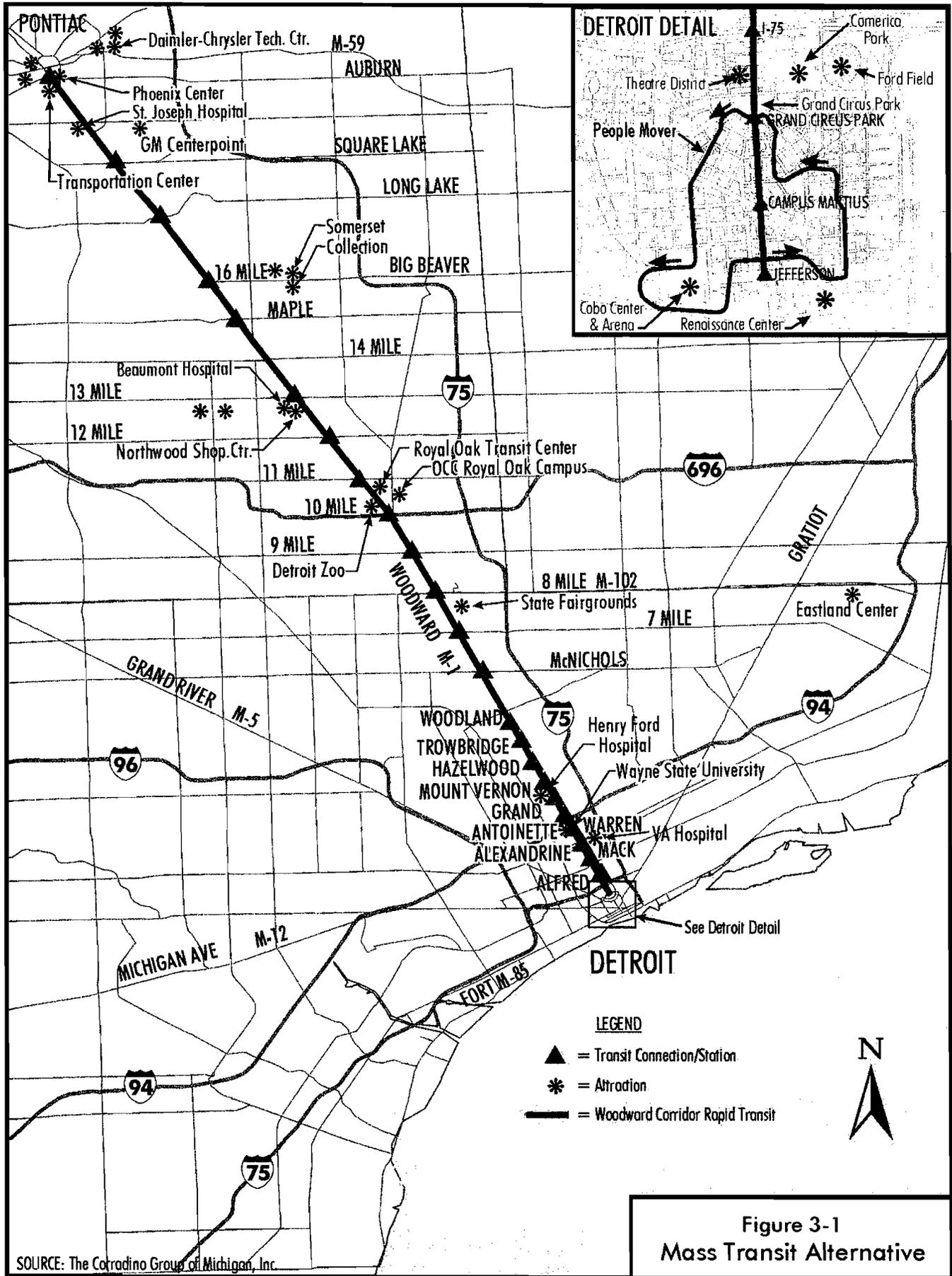
The result is a rapid transit system that attracts almost 50,000 daily riders. But, ridership was found to fall off sharply north of M-102 (8 Mile Road) (Table 3-1). As a result, even the rapid transit system that was modeled does not eliminate the need to add a lane to I-75 in Oakland County. Several 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>36</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>37</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.

### **3.7 Build Alternatives**

The “build alternatives” include 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>38</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

<sup>38</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.

periods. The lane addition supplements the planned major reconstruction of I-75. Both alternatives also include reconstruction of the 12 Mile and 14 Mile interchanges and braiding the ramps from I-696 to northbound I-75 with a relocated off-ramp to 11 Mile Road. Six pedestrian bridges would be reconstructed over I-75.<sup>39</sup> 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 following paragraphs describe the development of a general-purpose lane or an HOV lane. 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

### **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 proposed project 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>40</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 is to eliminate this pedestrian bridge and have pedestrians use the Meyers Avenue crossing of I-75 (see Section 4.2.2).

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

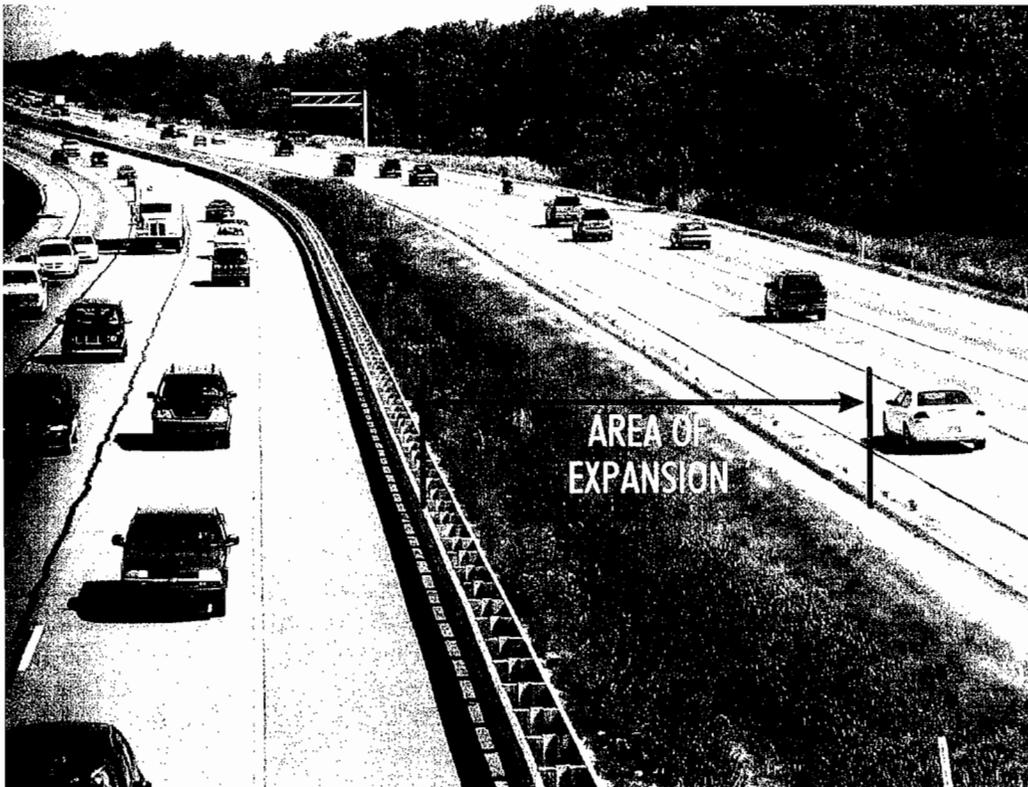
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<sup>39</sup> Reconstruction of the Harry Avenue pedestrian bridge would require relocation of three homes, so an option is not to replace this bridge.

<sup>40</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

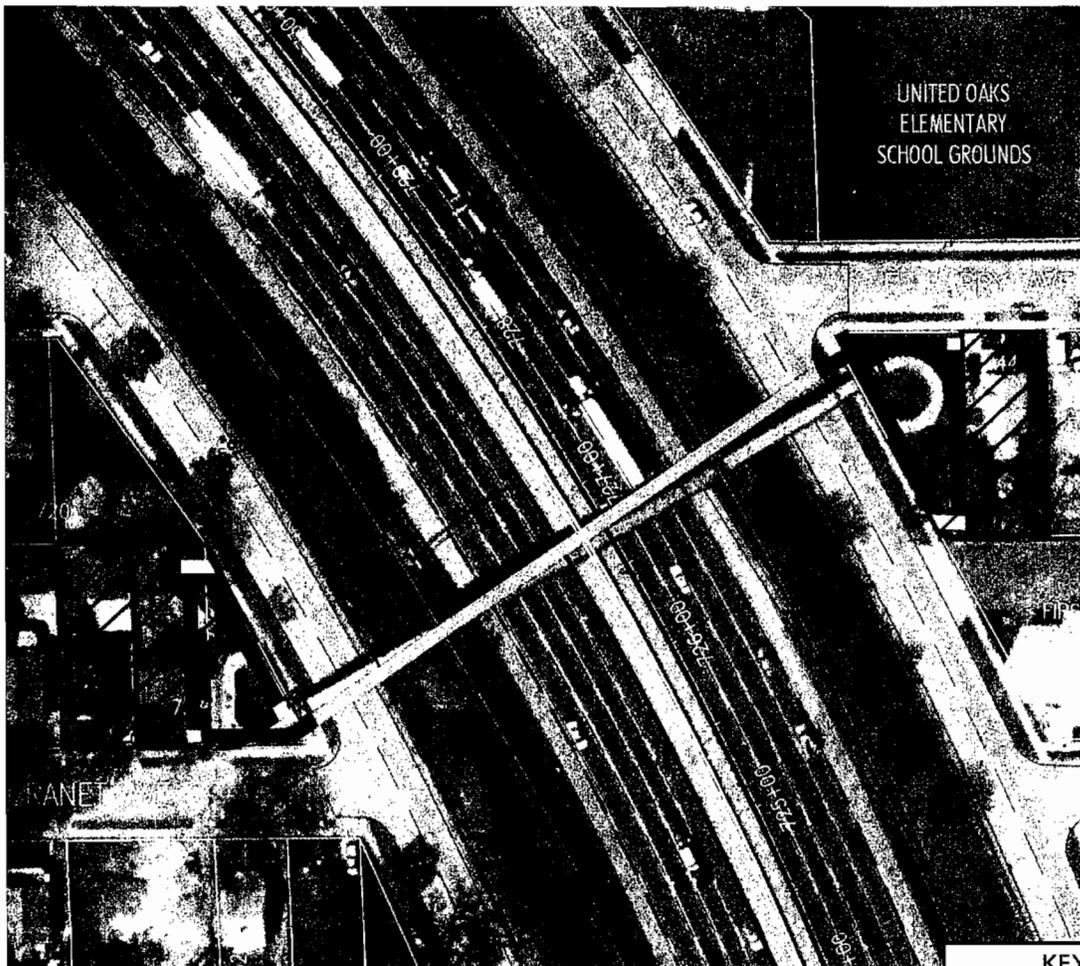


I-75 in At-Grade Freeway Section

Figure 3-2  
Lane Additions on I-75

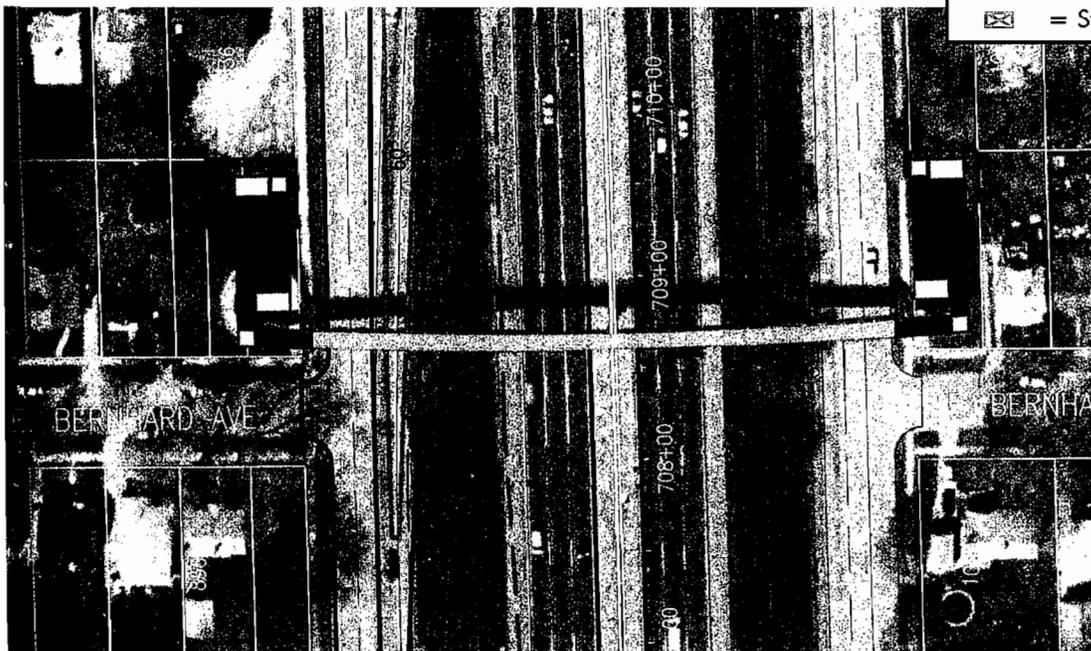
SOURCE: The Corradino Group of Michigan, Inc.

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Harry Avenue

KEY	
	= Bridge
	= Ramp
	= Stairs



Bernhard Avenue

Figure 3-3a  
Pedestrian Bridge Reconstruction

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

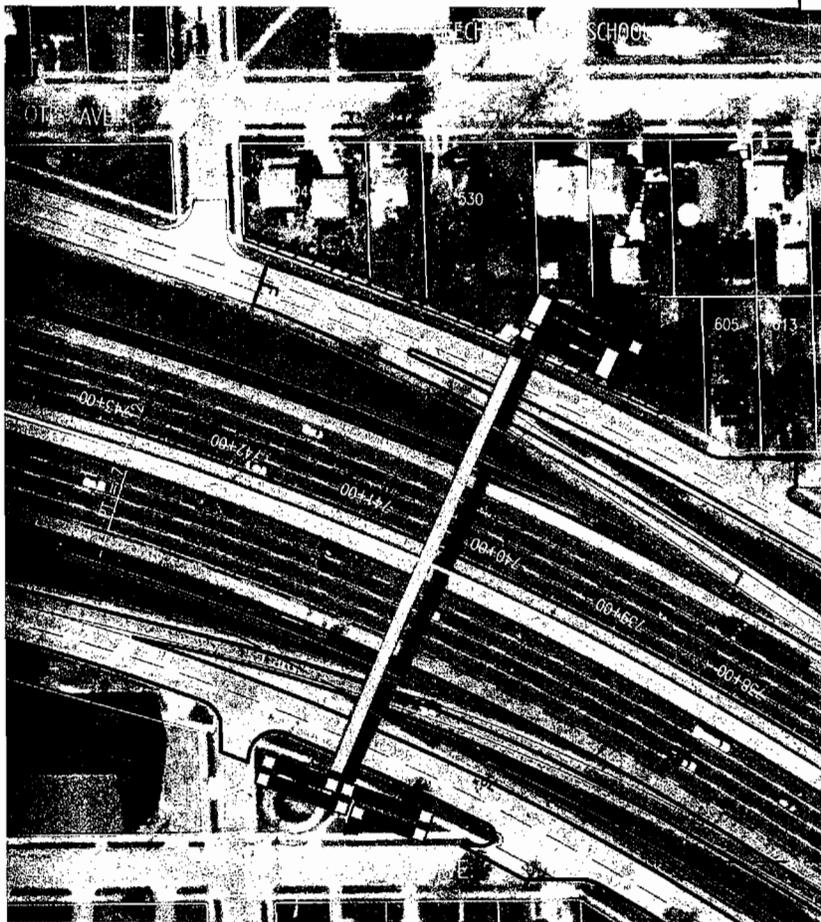
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Orchard Avenue

**KEY**

-  = Bridge
-  = Ramp
-  = Stairs

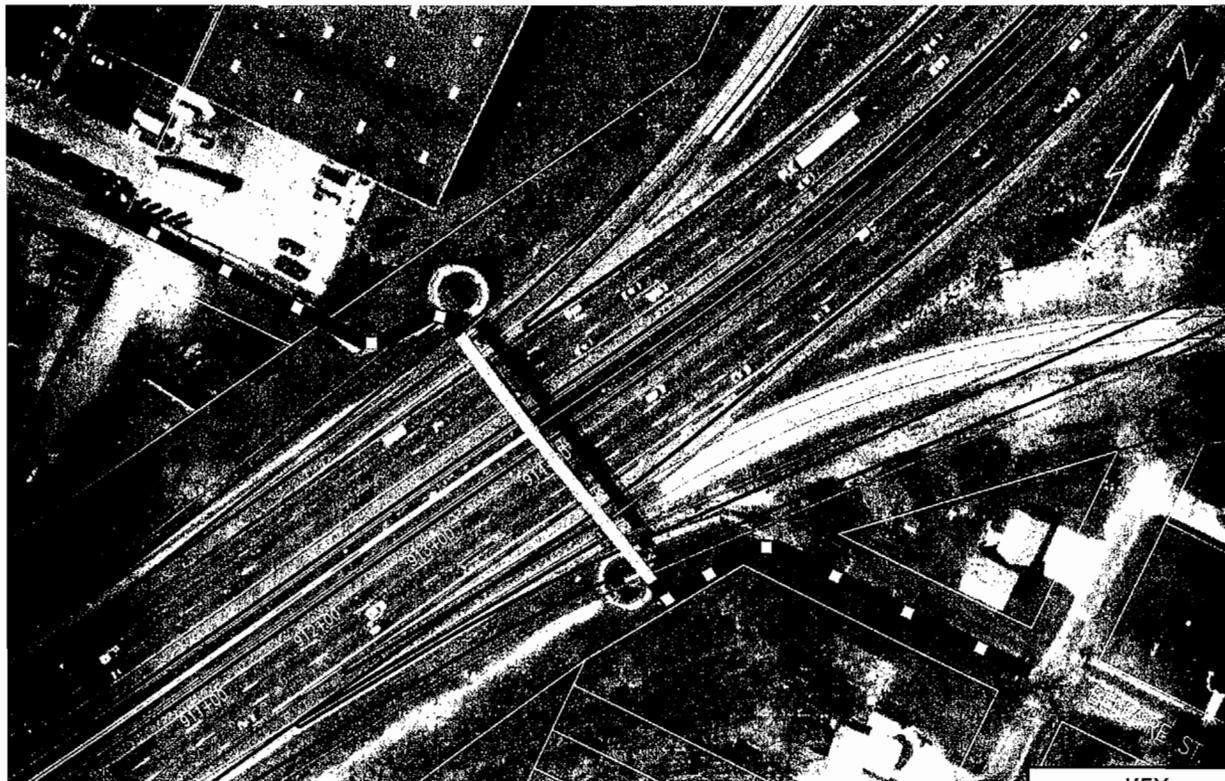


Highland Avenue

Figure 3-3b  
Pedestrian Bridge Reconstruction

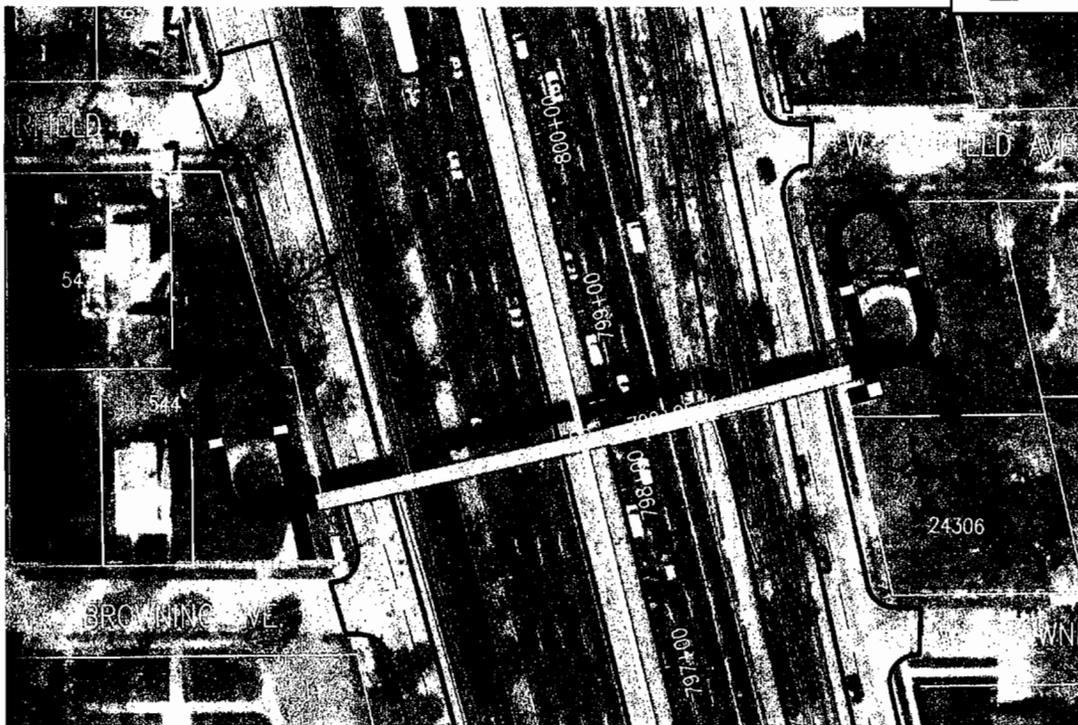
SOURCE: Rowe, Inc. & The Corradino Group of Michigan, Inc.

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Bellaire Street

KEY	
	= Bridge
	= Ramp
	= Stairs



Browning Avenue



Figure 3-3c  
Pedestrian Bridge Reconstruction

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

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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 has cross sections.

With the exception of the 9 Mile Road "S" curve discussed in the following paragraphs, the proposed project 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.

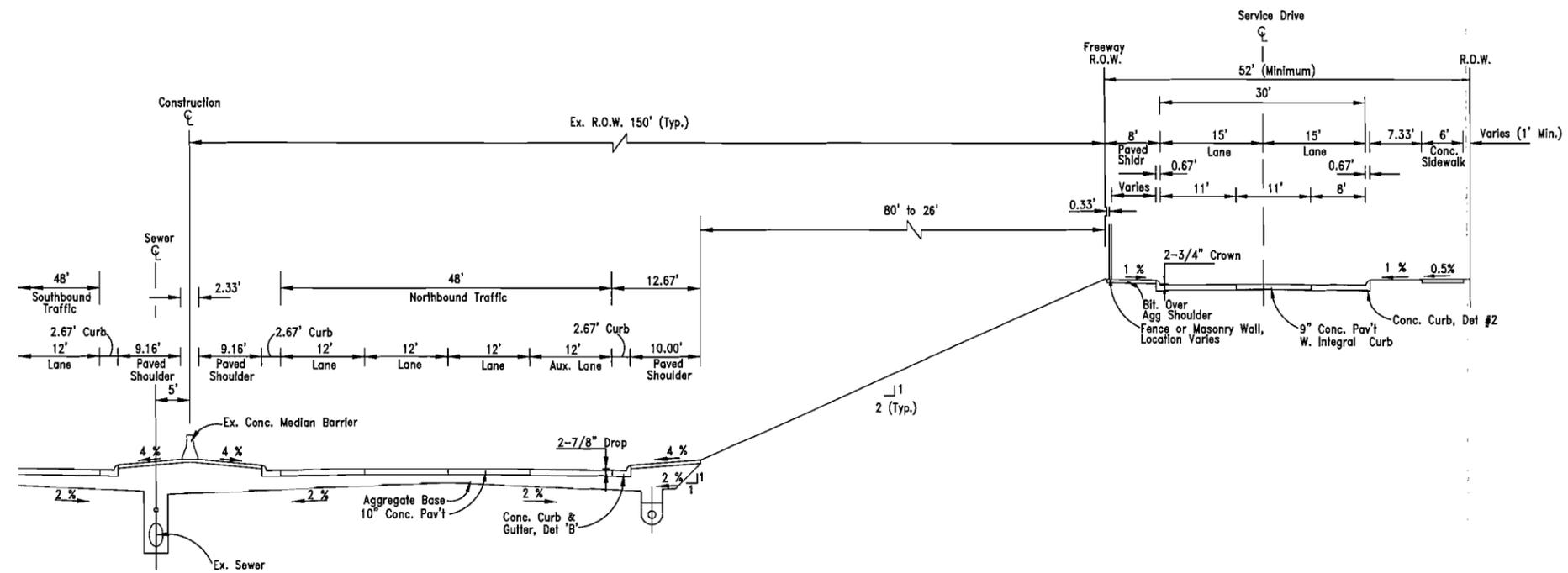
### **I-75 Lane Addition to Full Standards**

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. Short-term crash countermeasures are recommended in Section 2.2.6.

### **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 only. The proposal is to limit this lane to use by vehicles carrying two or more persons (carpools, vanpools,

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)

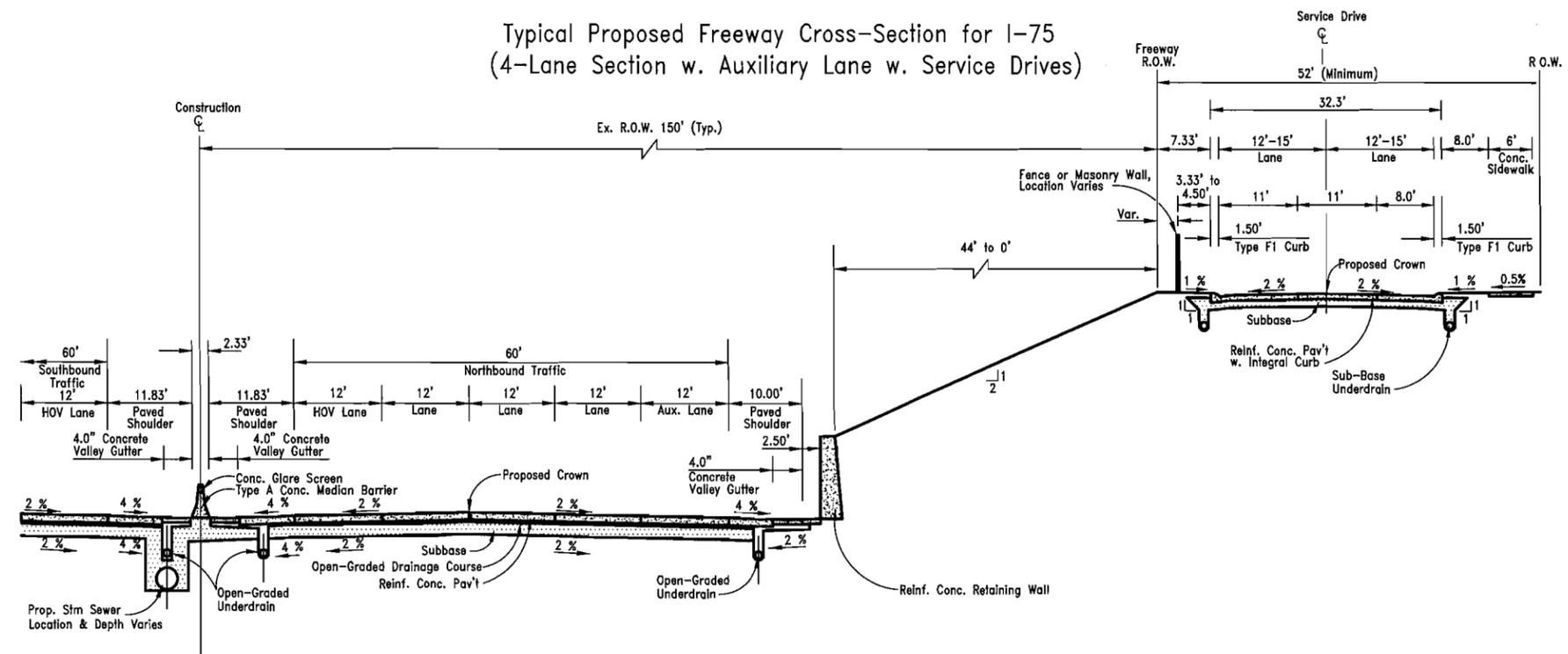
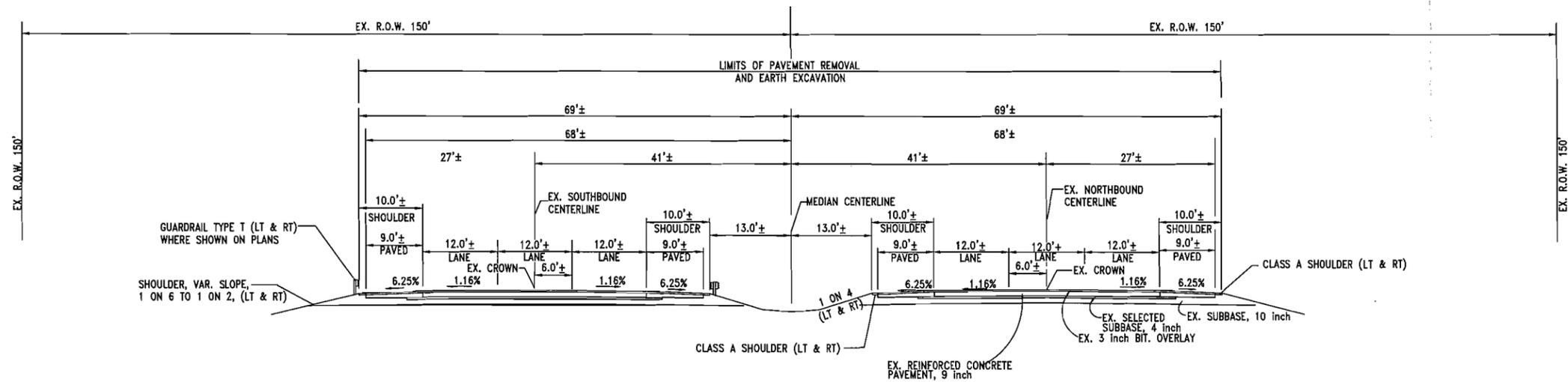


Figure 3-4a  
Existing and Proposed Typical  
Sections Depressed Area

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



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

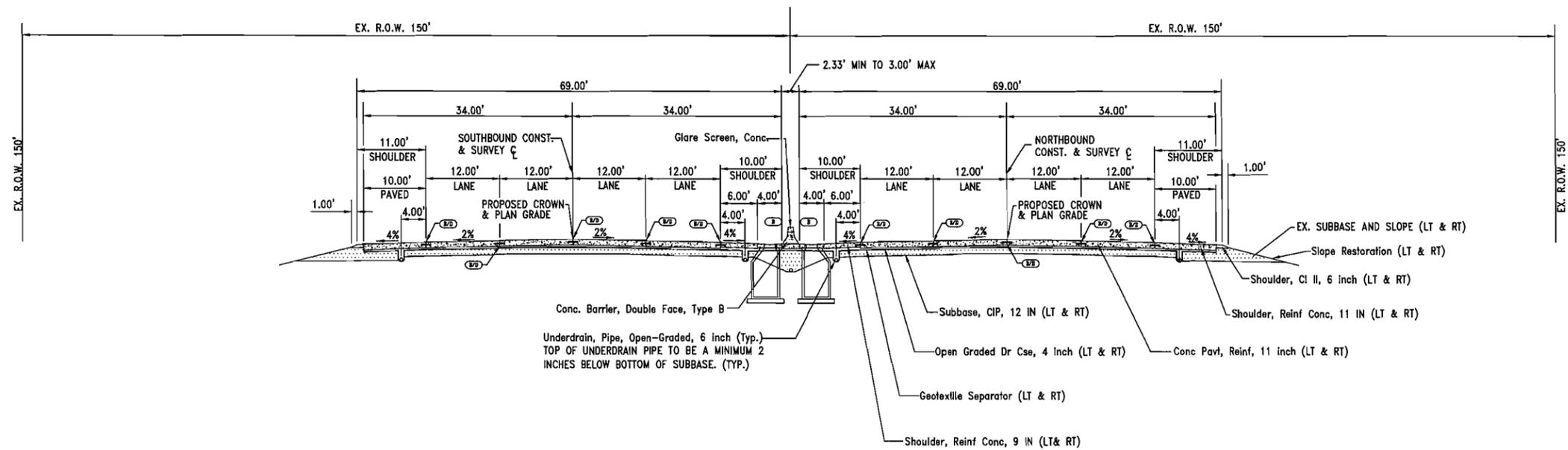


Figure 3-4b  
 Existing and Proposed Typical  
 Sections Rural Area



SOURCE: OHM

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Figure 3-5  
9 Mile Curve Redesign Impacts

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>41</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). In the case of I-75, as is true in most every case nationwide, the designated lane would be on the inside, concurrent with the flow of other I-75 traffic. It would be designated by signing and pavement markings.

Three HOV options were initially considered.<sup>42</sup> Option A called for the HOV lane (one in each direction) to be added between M-102 and M-15, with modifications at each interchange in this section (except M-102) that would allow direct access to an HOV lane on the inside of the freeway. This means construction of flyovers or special ramps connecting 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 A extended to M-15 because the computer modeling indicated that the HOV would be at least moderately effective that far north. 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 analysis found the differences among the options were significant (Table 3-2). Whereas 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. These data are for the section of I-75 covered by this DEIS. Extending the concept of exclusive access further north to M-15 would add to the impacts and cost. 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. Impacts of Options A and B are considered significant and so these options are not considered feasible.

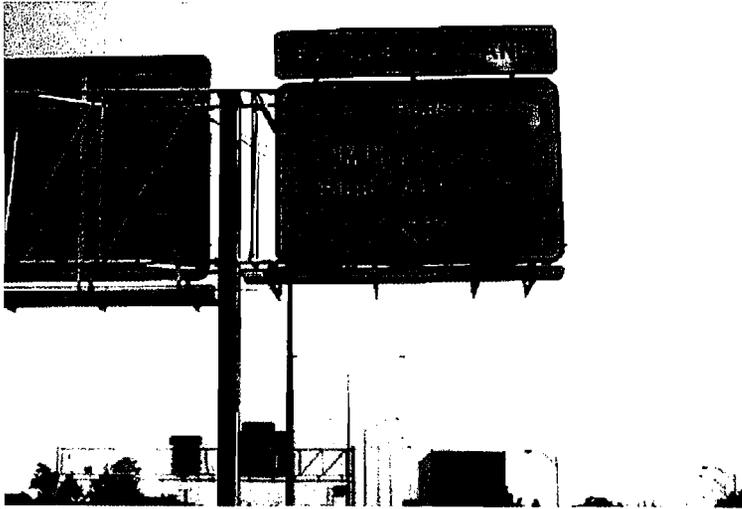
Option C, the basic HOV concept which is shaded in Table 3-2, would have no additional impacts, with the exception of 0.4 acres of wetland, and a minimal additional cost compared to the GP Alternative. It would require special construction through the Square Lake Road interchange in the northbound direction. There the HOV lane would separate from the northbound through lanes 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 million.

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<sup>41</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>42</sup> *Ibid.*

Signing



HOV Operation



Enforcement

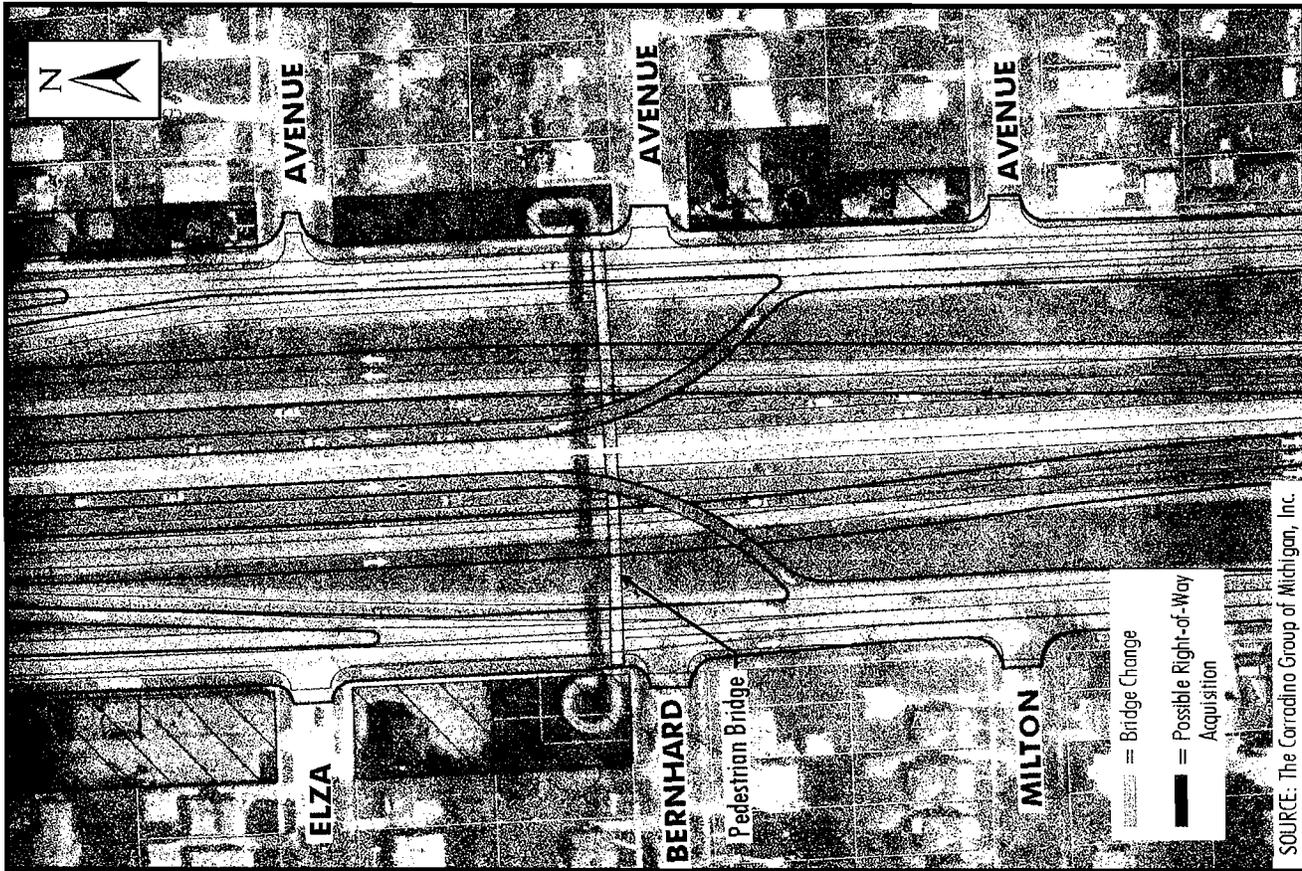
Figure 3-6  
Basic HOV  
Example Facilities

SOURCE: HOV Interactive 1.0, Federal Highway Administration, 1996

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Figure 3-7  
 Examples of Special HOV Access  
 at Nine Mile Road and  
 North of Big Beaver



SOURCE: The Corradino Group of Michigan, Inc.  
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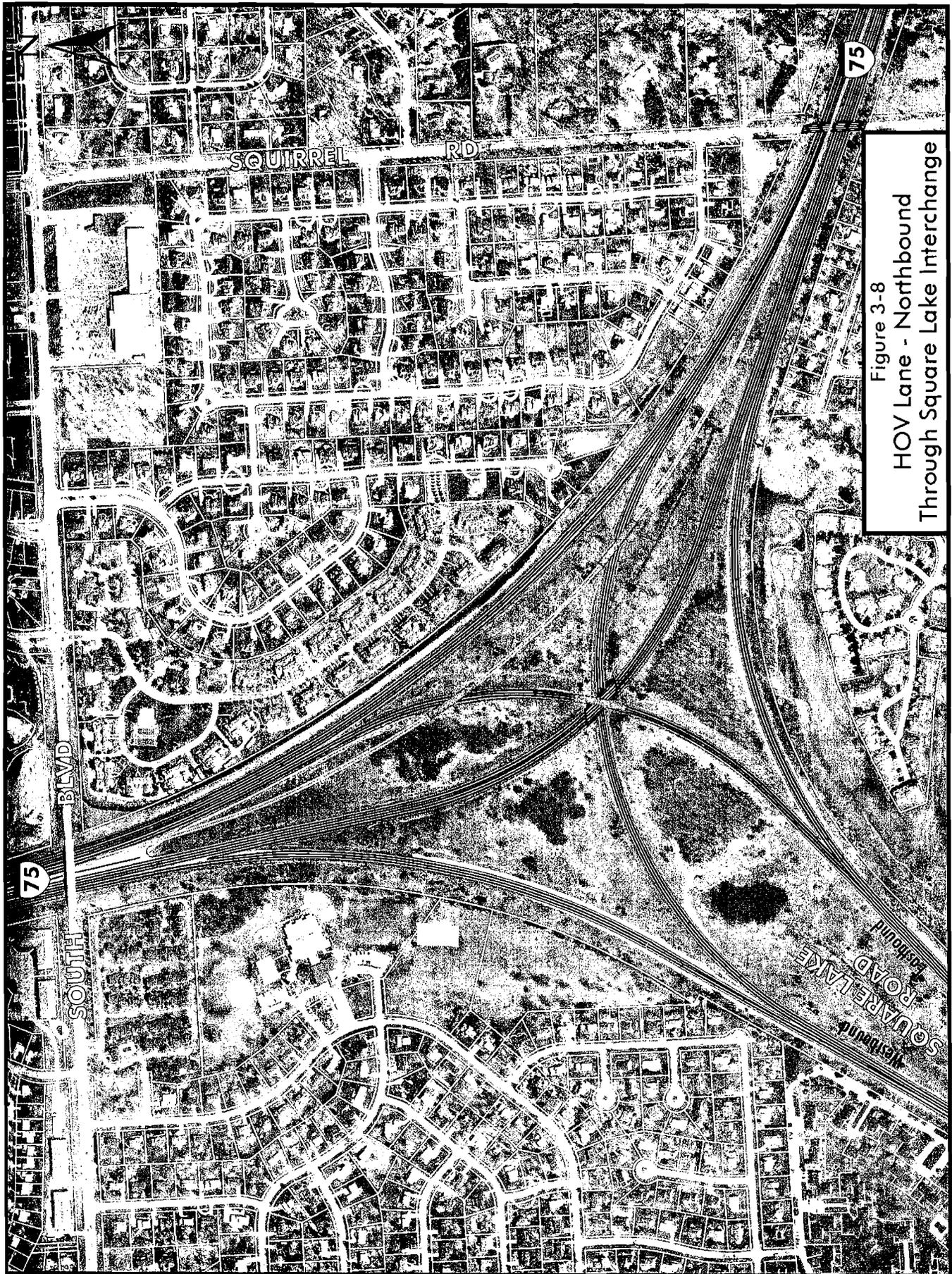


Figure 3-8  
HOV Lane - Northbound  
Through Square Lake Interchange

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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	\$3,000,000

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 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 generated 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 DEIS.

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>43</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.

<sup>43</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, should the HOV alternative be recommended. Further, if HOV becomes the Recommended Alternative, the development of additional carpool lots and park-and-ride facilities will be examined as a part of the alternative.<sup>44</sup>

In conclusion, this DEIS examines the impacts of an HOV lane between M-102 and M-59, with the underlying assumption that the lane can ultimately be developed to M-15 in the future.

### **3.7.3 Specific Design Issues**

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

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

Ten-foot inside shoulders meet modern design standards, but 12-foot inside (median) shoulders are preferred 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 call for a 10-foot median shoulder. And, the sections of I-75 south of M-102 and north of M-59 have a 10-foot median shoulder.
- **“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 church and four residential parcels (no more than 0.1 acres total of land purchased from frontages over the 10-foot median condition), plus the likely relocation of Our Savior Lutheran Church.
- **Cost:** Development of a 12-foot median shoulder would lead to an increase in project costs on the order of \$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>44</sup> Carpool lots are managed by MDOT. SEMCOG assists in management of park-and-ride facilities, which include transit service. So 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

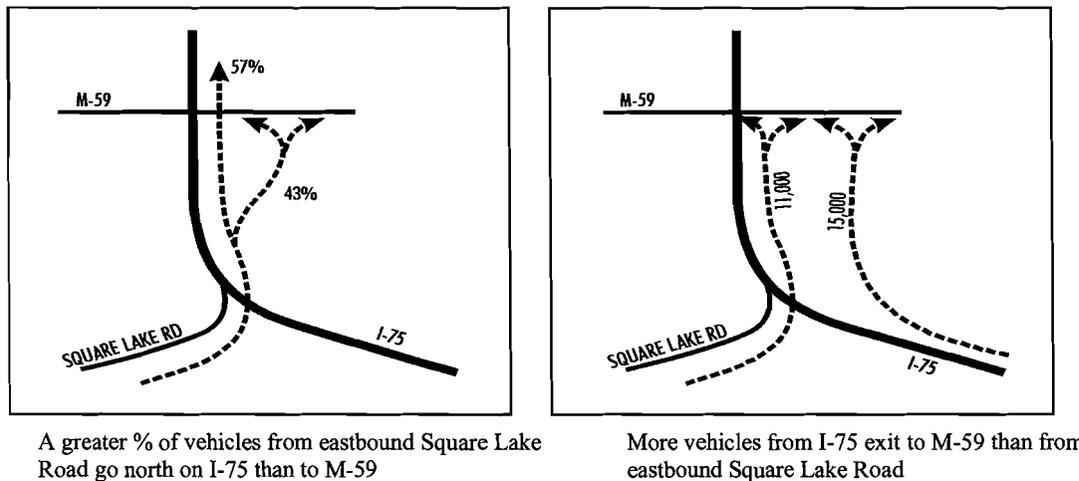
The policy of the American Association of State Highway and Transportation Officials is that "left-hand entrances and exits are contrary to the concept of driver expectancy when intermixed with right-hand entrances and exits."<sup>45</sup> To convert the left exit and entrance to a right exit and entrance on northbound I-75 at Square Lake Road would require the construction of flyovers, one for a right exit, another for a right entrance (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 affect an estimated nine single-family homes and a noise wall, which would have to be reconstructed. The construction cost would be in the range of \$3.2 million, plus another \$800,000 for noise wall relocation, for a total of about \$4 million. Right-of-way acquisition would add millions more. In order to shift the left entrance to the right, an estimated 30 apartment units would be affected and additional noise wall would have to be relocated. The construction cost would be in the range of \$2.5 million, plus another \$500,000 for noise wall relocation. Again, right-of-way acquisition would add millions more. So in total, there could be \$7 million for construction alone and impacts to nine single-family and 30 multi-family dwelling units. Shifting the mainline lanes of I-75 would avoid right-of-way impacts but would be very costly, as much of 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 4-8 do not indicate a problem at the Square Lake interchange. Potential relocations, cost, and the examination of travel patterns support leaving the left exit and entrance. Therefore, this is the recommendation.

**Figure 3-9**  
**Travel Desire Analysis – Square Lake Road to M-59**



<sup>45</sup> *A Policy on Geometric Design of Highways and Streets*, Chapter 10, p. 845, American Association of State Highway and Transportation Officials, 2001.

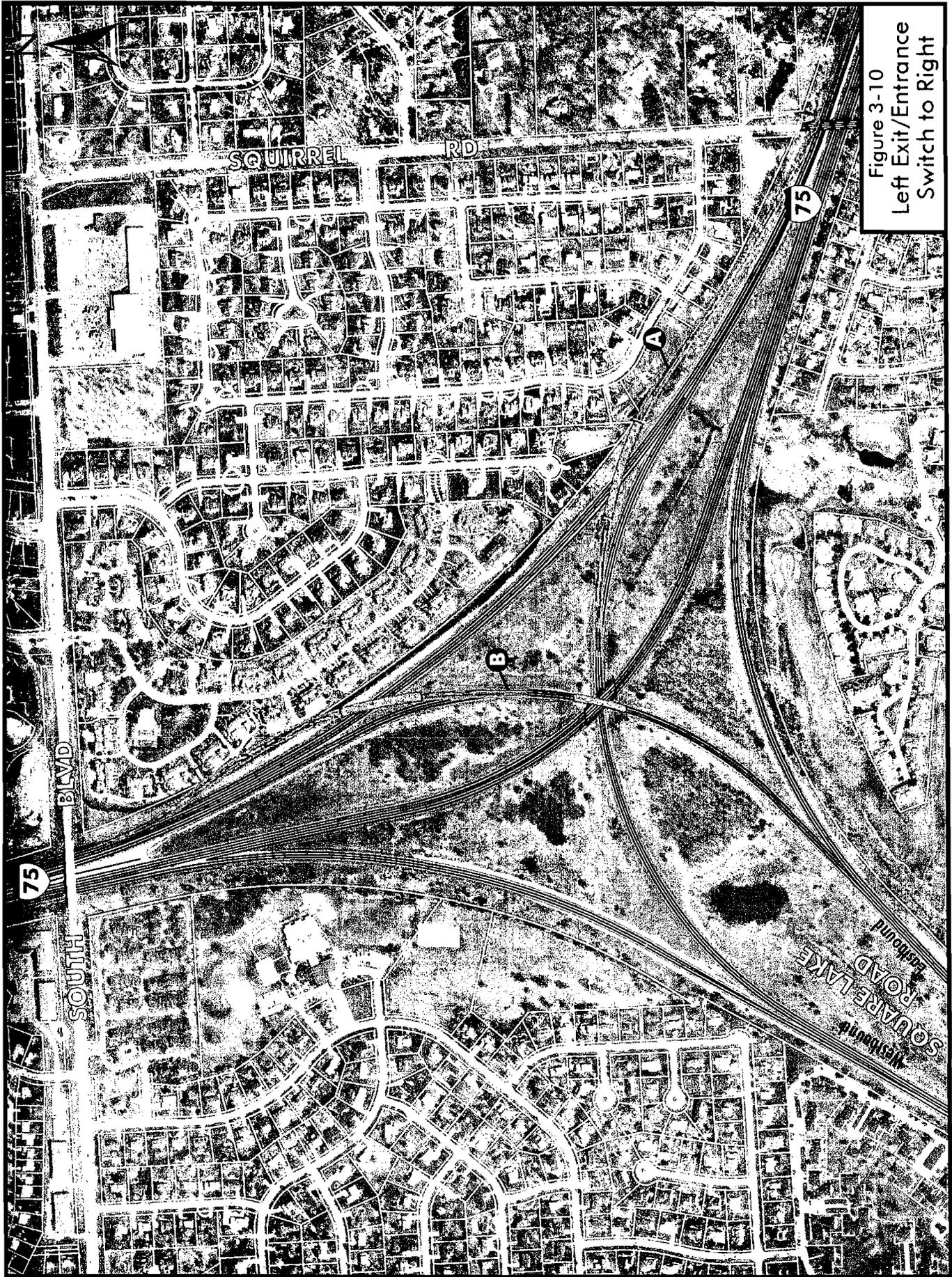
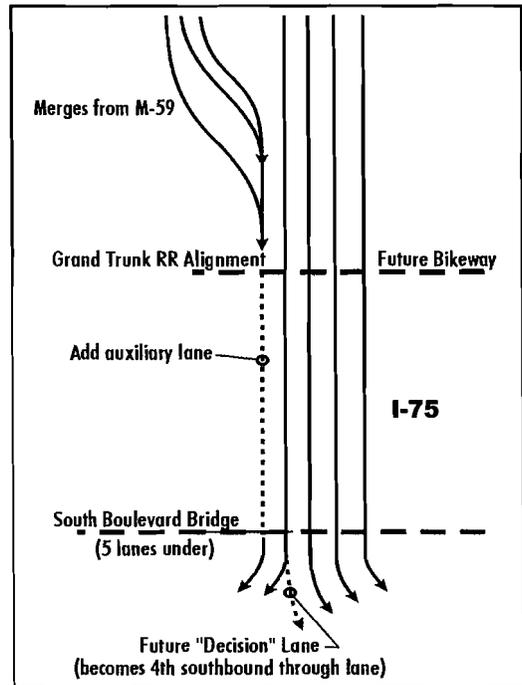


Figure 3-10  
Left Exit/Entrance  
Switch to Right

**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 proposed project will tie to the separate I-75/M-59 interchange project to the north of South Boulevard.

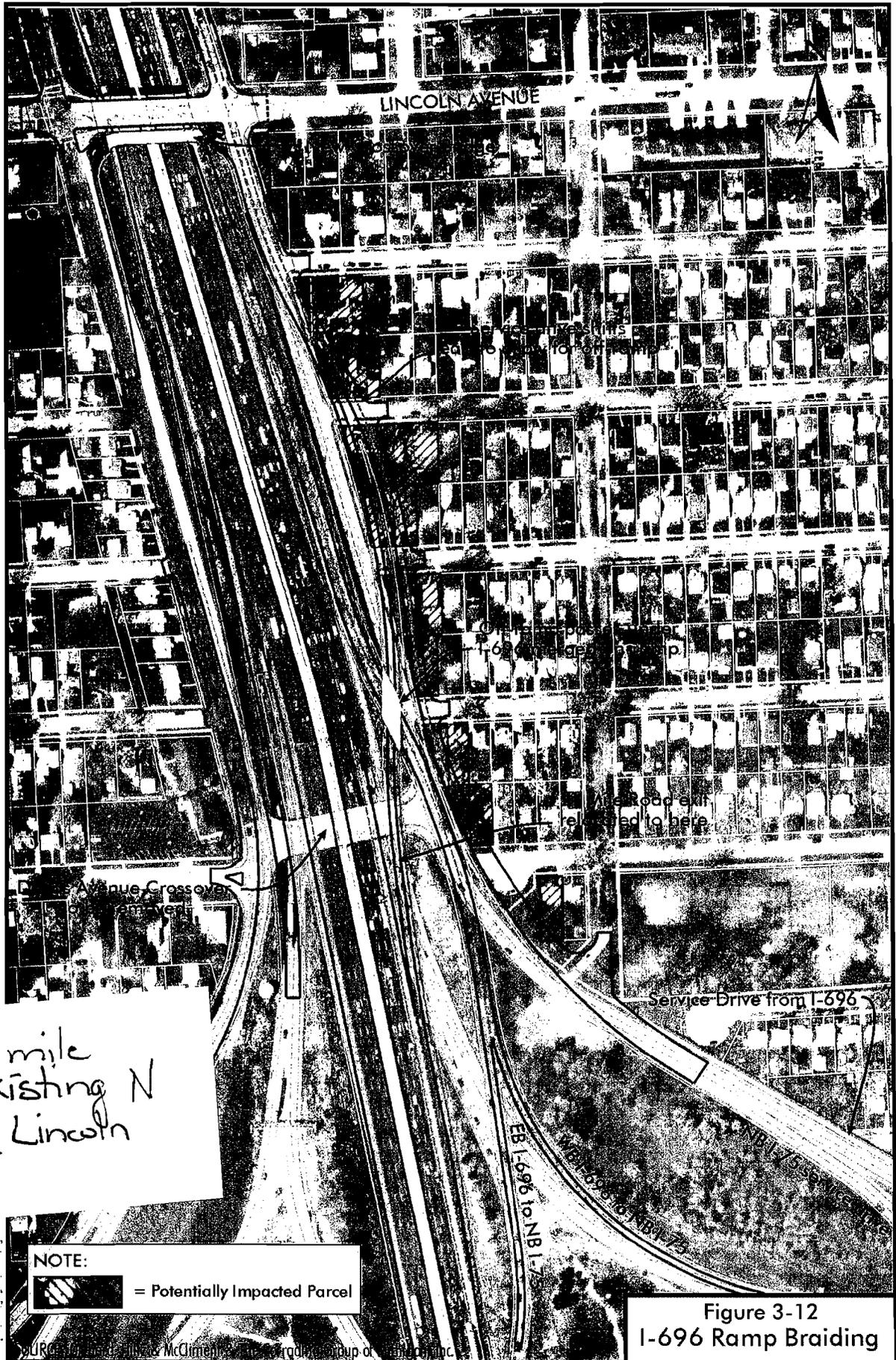


**Auxiliary Lane, Northbound I-75 from Square Lake Road to M-59**

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, either as a general-purpose lane or an HOV lane. 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. The recommendation is to braid the northbound ramp from I-696 and the relocated off-ramp to 11 Mile Road (Figure 3-12). This safety and operational improvement could require relocation of eight single-family dwellings. 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 north-to-south movement. The south-to-north traffic now served at the existing Dallas Avenue bridge is light and would be served by the Lincoln Avenue bridge.



## 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.

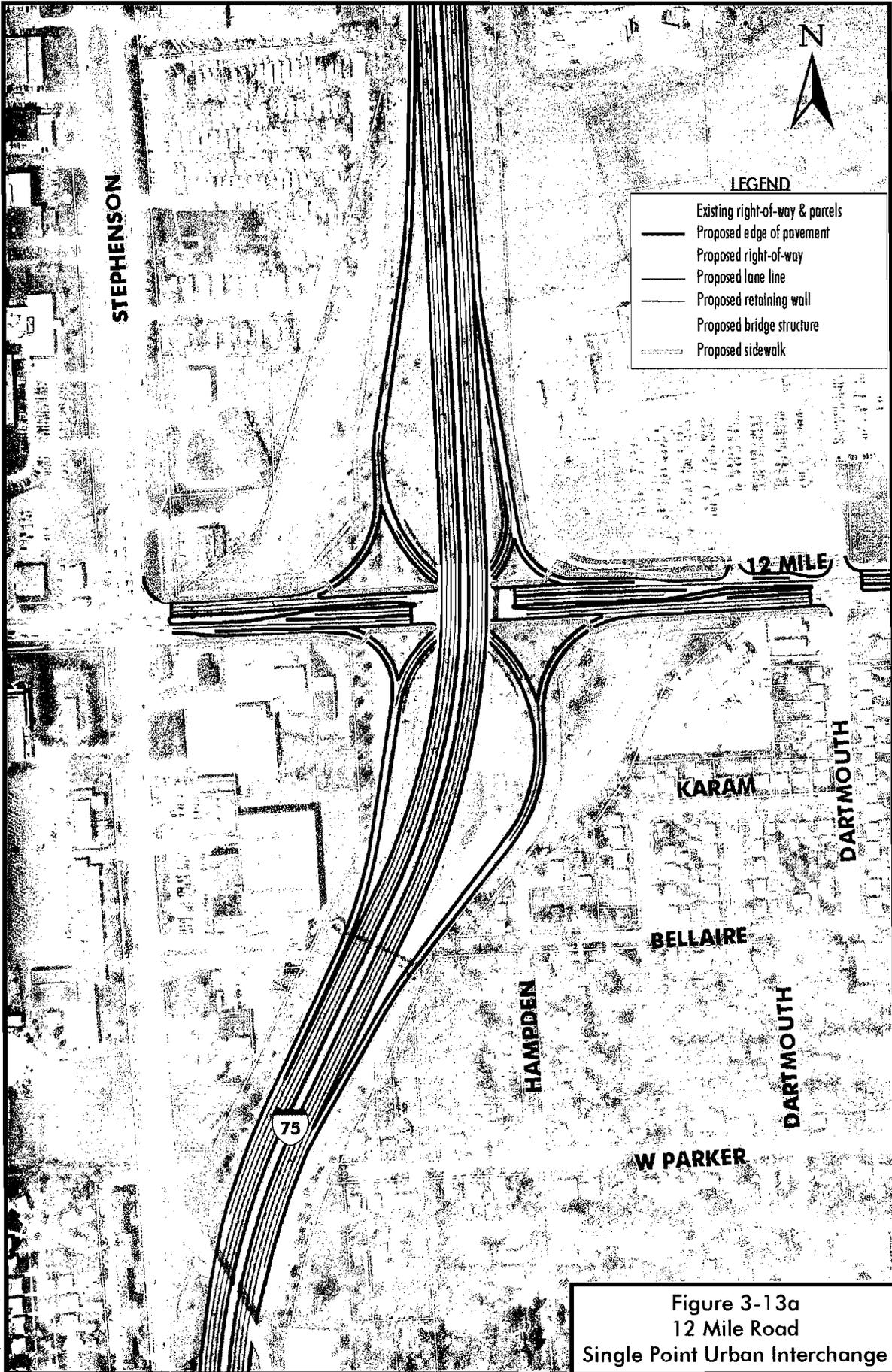
More detailed analysis for this DEIS found that the existing interchange could be modified to serve traffic adequately (Figure 3-13b), as volumes at this interchange are relative low. Backups on 12 Mile Road from Stephenson Highway block vehicles exiting the southbound off-ramp. To remedy this situation, 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 under this option 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**

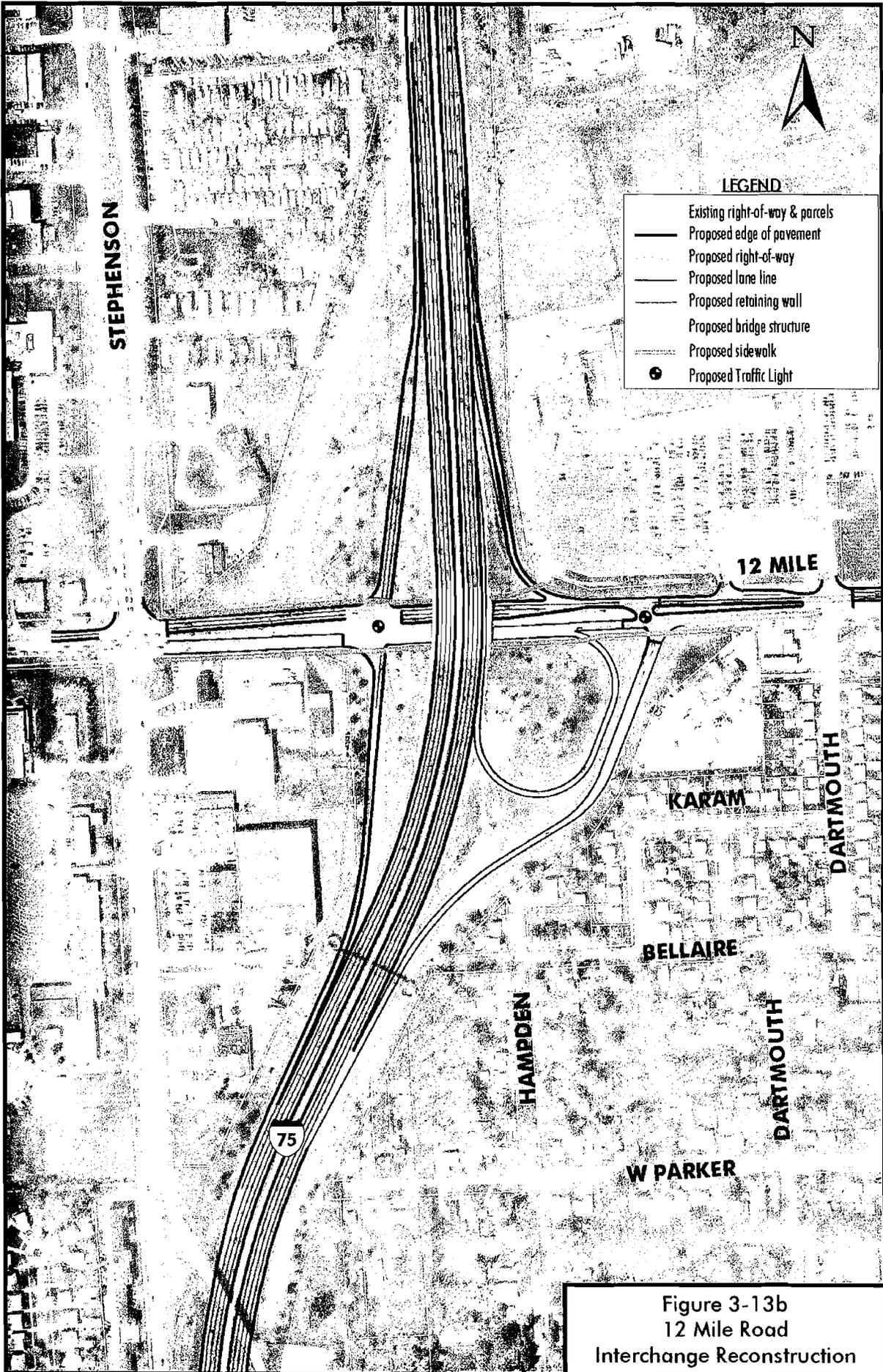
		Signalized Intersection	2025 AM Peak Hour	2025 PM Peak Hour
12 Mile	SPUI	Central Signal	C	C
	Modification	West	C	C
		East	B	C
14 Mile	SPUI	Central Signal	D	F
	Modification	Southbound Off	C	C
		Southbound On	B	B
		Northbound Off	C	D
		Northbound On	A	A

Source: URS Corporation

Both options will provide sidewalks along both the north and south sides of 12 Mile Road (see the orange lines in Figures 3-13a and 3-13b). The SPUI can provide better protection to pedestrians and bicyclists than the partial cloverleaf option, which would continue to have one loop ramp. 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.



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## **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 DEIS 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 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 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 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. A similar sidewalk will be provided 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 are noted in Table 3-6. Construction of the lane addition to full standards or one of the special access HOV options has significantly greater impacts and cost than the GP Alternative or the basic HOV (Option C) Alternative. Therefore, the practical alternatives carried forward through this DEIS are:

- No Build – Continued regular maintenance with no capacity improvements.
- 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.
- 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.



**Table 3-6  
Build Alternatives Impact Summary**

Alternative	Cost (millions 2003)	Wetlands (acres)	Relocations		
			Dwelling Units	Businesses	Institutions
General Purpose	\$530	0	11	2	0
Lane Addition - Full Standards <sup>a</sup>	\$630	0	100	22	2
HOV - Option A - Special Access M-102 to M-15	\$792	8	152	24	6
HOV - Option B - Special Access I-696 to M-59	\$709	8	111	9	5
HOV - Option C - Signing & Striping	\$536	0.4	11	2	0

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup>Totals to the right do not include 30 vacant lots.

The GP and HOV practical alternatives would 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 (with option of not building Harry Avenue bridge due to relocations), 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 would tie to 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 DEIS, 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 will be carried to the public hearing. A Recommended Alternative will not be determined until after the public hearing and comment period are concluded and all comments have been considered.

## 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. Those impacts with a reasonable possibility for individual or cumulative significant impacts were analyzed further. The results are discussed below.

### 4.1 Relocations

To construct the proposed project, permanent fee right-of-way and grading permits will be required at the time of right-of-way acquisition.<sup>46</sup> New right-of-way that MDOT will likely need to acquire is identified in the Engineering Report<sup>47</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 A) was developed based on a review of real estate available in the corridor. 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;
- 12 Mile Road and I-75 interchange;
- "Braiding" of ramps north of I-696;
- Reconstruction of pedestrian bridges; and
- Storm water detention.

The proposed lane addition itself will not require the relocation of any dwelling units. Right-of-way acquisition will be minor, approximately one acre. One business currently encroaches on the existing right-of-way and another is so close that it cannot be avoided. So, two businesses must be relocated. These are in Hazel Park. Also in Hazel Park, about 16 parking spaces could be needed from one commercial area, and about 17 spaces of 380 spaces could be required from a church.

Excess right-of-way will actually be created at the 12 Mile interchange, if the single-point urban interchange (SPUI) is incorporated in the Recommended Alternative (although strips of right-of-way totaling about one acre [no relocations] would be necessary along 12 Mile Road). Approximately five acres of land will become available at this location, as the new interchange has a smaller footprint than the existing one. This land could support carpool, park-and-ride, or

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<sup>46</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>47</sup> *Engineering Report*, The Corradino Group and Orchard Hiltz and McCliment, October 2003.

other transportation facilities. If the interchange were reconstructed in a similar configuration (with the elimination of the loop ramp in the northwest quadrant), no right-of-way acquisition would be necessary.

Right-of-way will be required for the “braiding” of ramps north of I-696. This safety and operational improvement could relocate eight single-family dwellings. The land taken would be approximately 1.5 acres.

Approximately an acre of right-of-way will be required as six pedestrian bridges are reconstructed. 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. 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 could require the relocation of three homes. For this reason, an option would be to remove the bridge without replacement, and relocate no homes (see Section 4.2.2). The relocation impacts of the pedestrian bridges would 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 avoid right-of-way 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. Further analysis will refine the acreage needed. Detention will be designed to avoid relocations. The option always exists of managing the storm water within the right-of-way, 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.

**Table 4-1  
Relocation Summary**

IMPROVEMENT	DISPLACEMENTS
Lane Addition	2 businesses
Ramp Braiding	8 single-family dwellings
Pedestrian Bridges	3 single-family dwellings
Storm Water Detention	None

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 an 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. In other words, development exists today where it does, because of I-75.

Community cohesion will not change with the proposed project, as the basic footprint of I-75 will not change. A possible exception would be if the Harry Avenue pedestrian bridge (Section 4.2.2) were not replaced because of its potential taking of three homes. If it were not replaced, those living to the north of the bridge would have to walk another minute (approximately 300 feet) longer to use the surface street connection. Pedestrian and bicycle access across the freeway will be improved. The United Oaks Elementary School and First Free Will Baptist Church have been contacted to discuss removal of the bridge. It is anticipated they will participate in the public hearing.

#### **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.

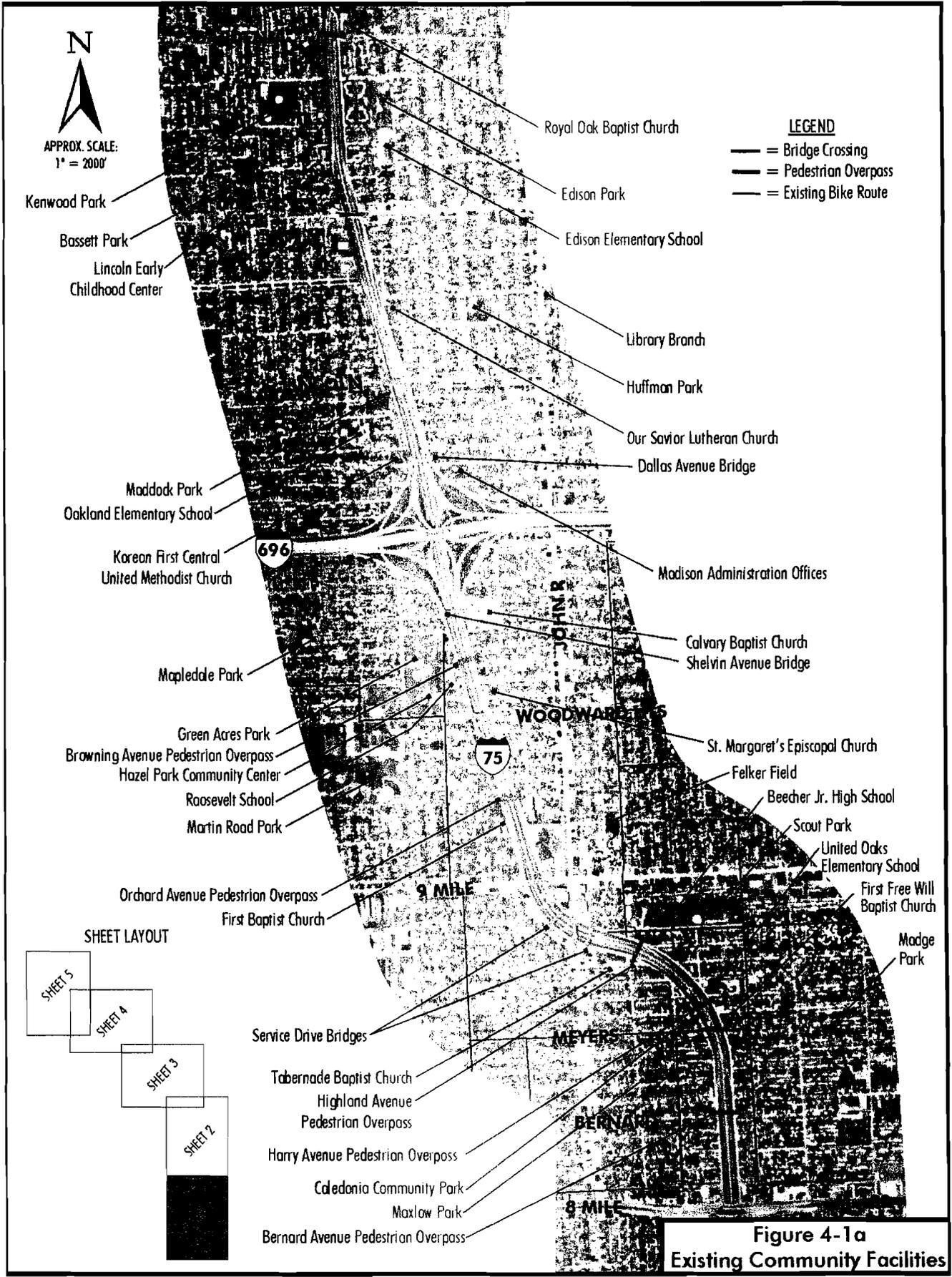
When noise walls are built, provisions must be made for fire hydrant access through the walls. Discussions with all adjacent municipalities will be necessary during the design phase to identify these locations, and other locations where emergency access through the wall may be necessary.

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.

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 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.

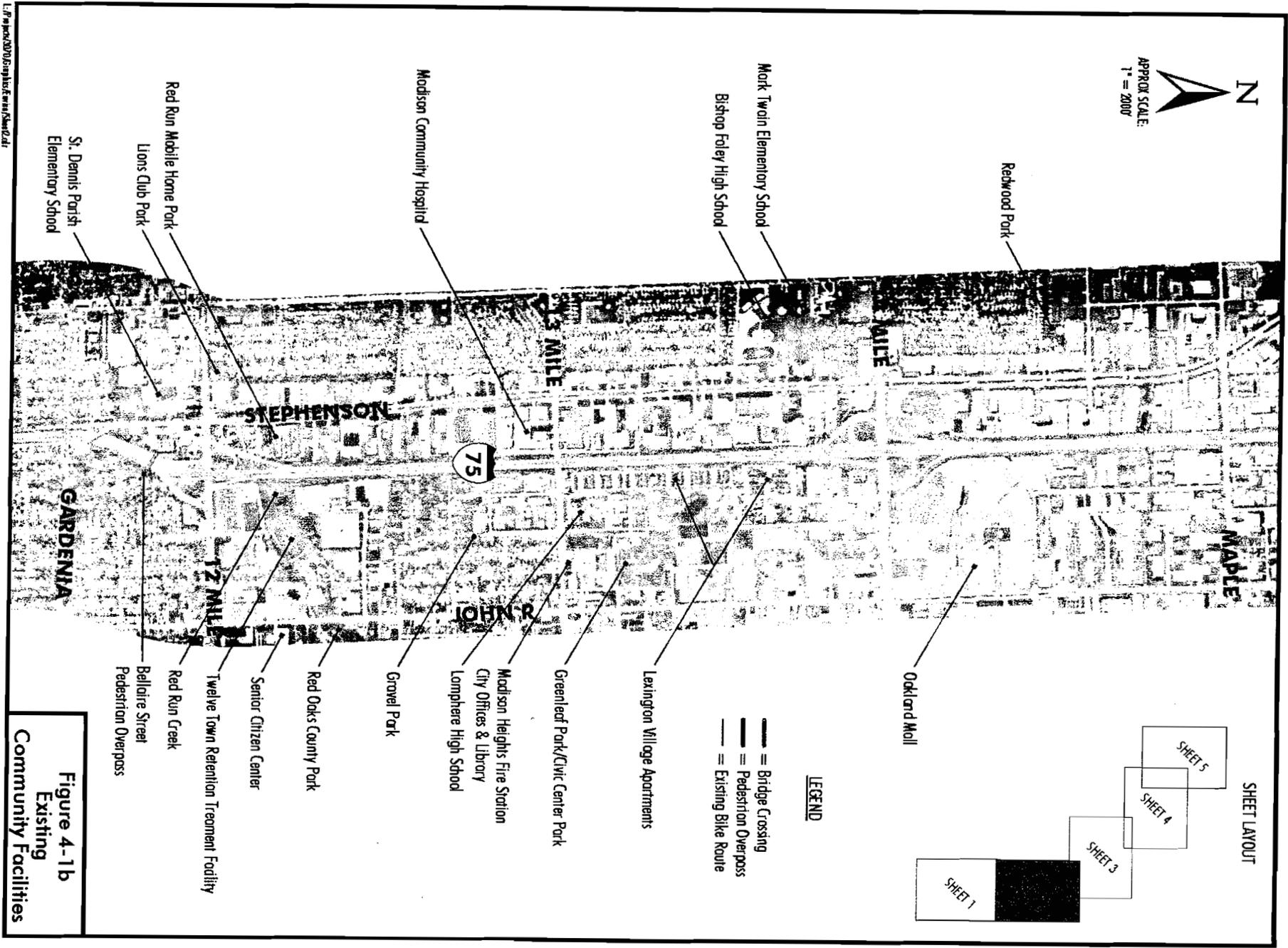
Hazel Park requested that the crossover bridges north and south of 9 Mile Road be moved further away from 9 Mile Road for capacity purposes, and the plan does so. In addition, these crossovers will be widened to accommodate larger trucks, including fire apparatus.



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

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N  
 APPROX SCALE:  
 1" = 200'



Redwood Park

Mark Twain Elementary School

Bishop Foley High School

Madison Community Hospital

St. Dennis Parish  
 Elementary School

Red Run Mobile Home Park  
 Lions Club Park

Oakland Mall

Lexington Village Apartments

Greenleaf Park/Civic Center Park

Madison Heights Fire Station  
 City Offices & Library  
 Lamphere High School

Gravel Park

Red Oaks County Park

Senior Citizen Center

Twelve Town Retention Treatment Facility

Red Run Creek  
 Bellaire Street  
 Pedestrian Overpass

GARDENIA

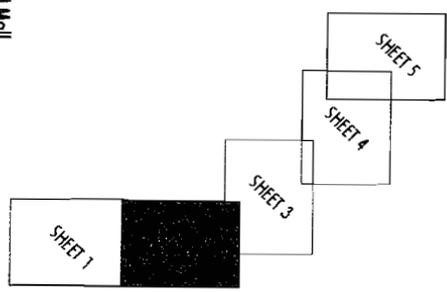
12 MILE

3 MILE

STEPHENSON

JOHN R

SHEET LAYOUT



LEGEND

- = Bridge Crossing
- = Pedestrian Overpass
- = Existing Bike Route

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

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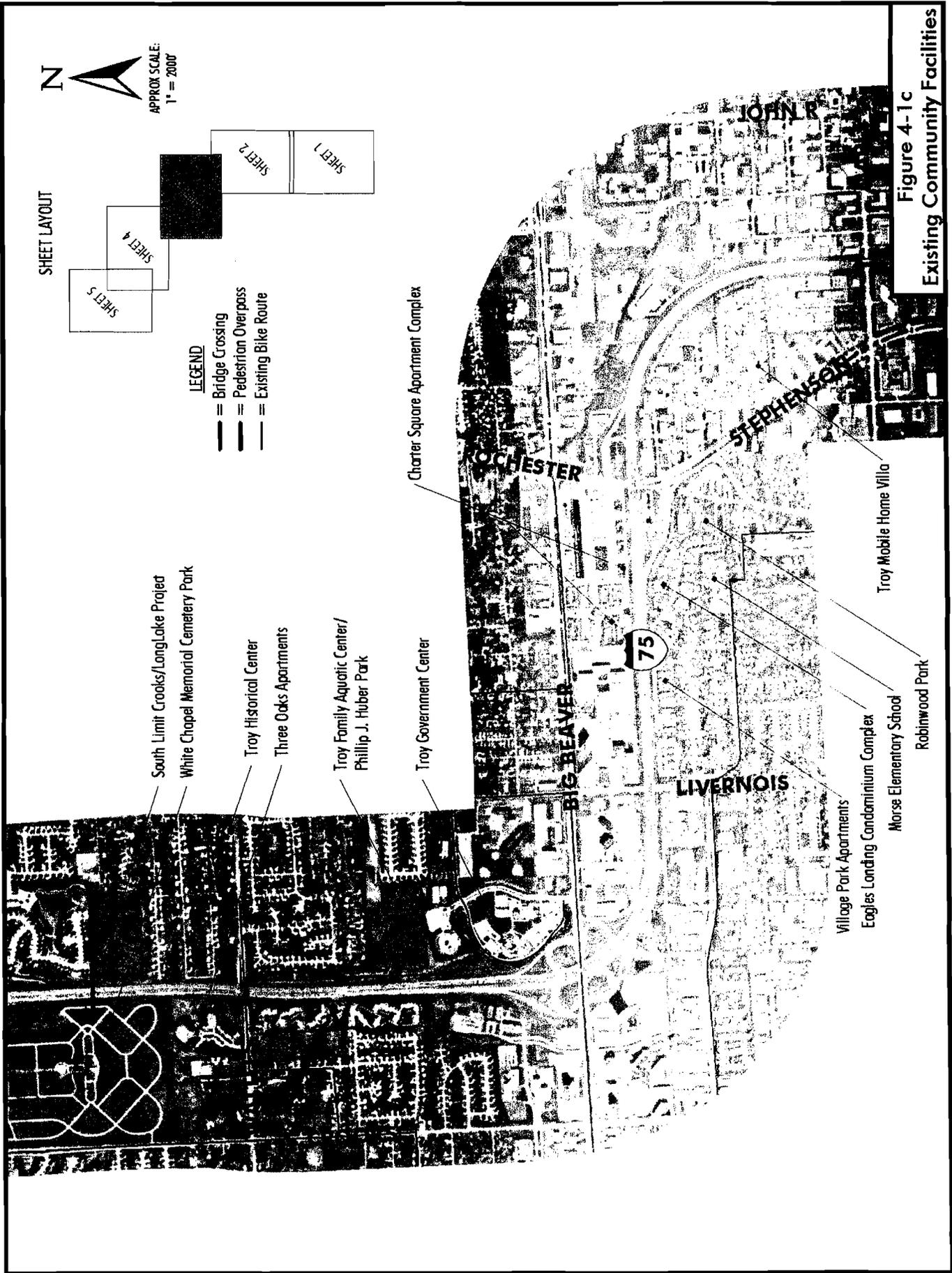


Figure 4-1c  
Existing Community Facilities

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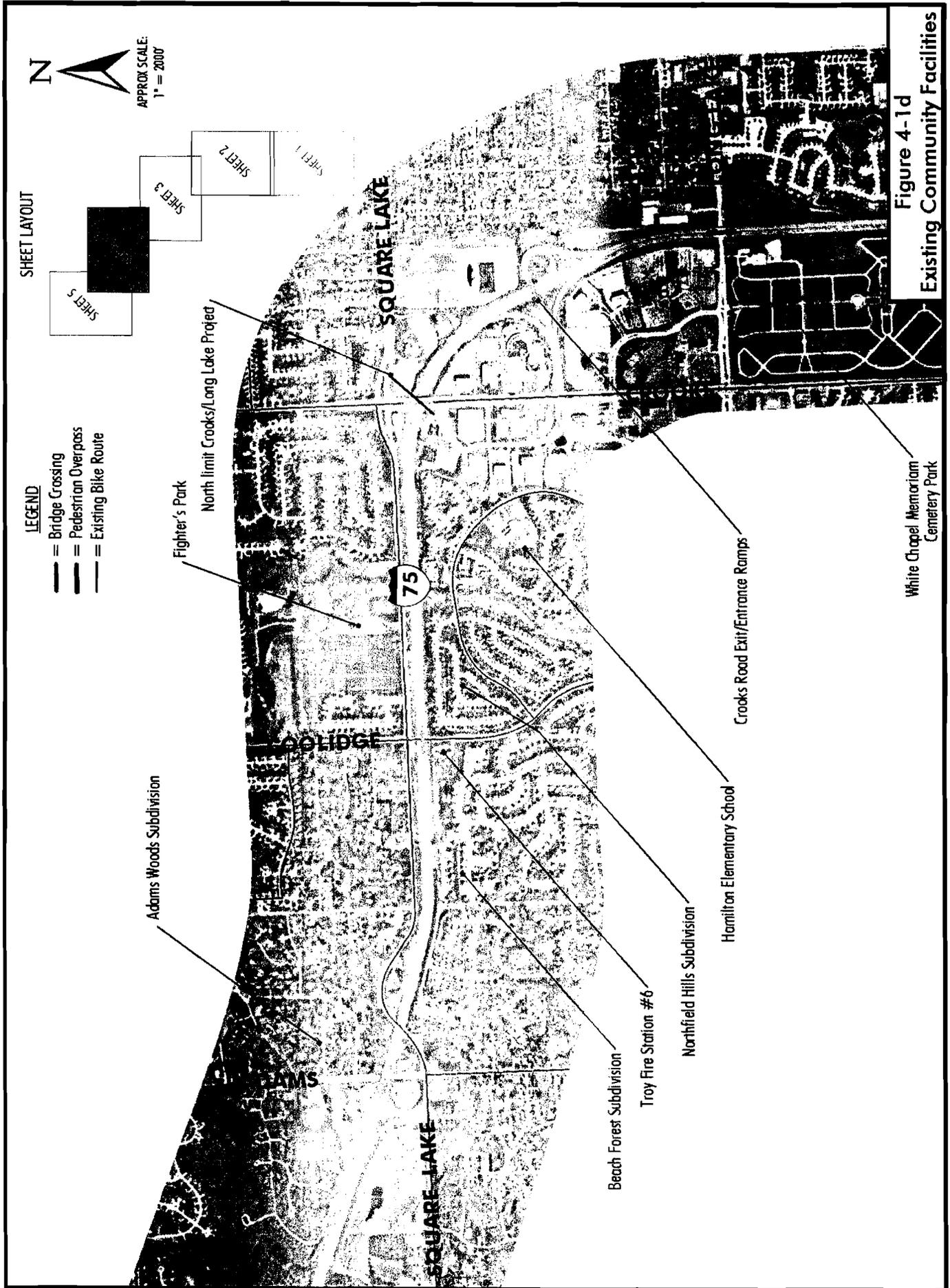


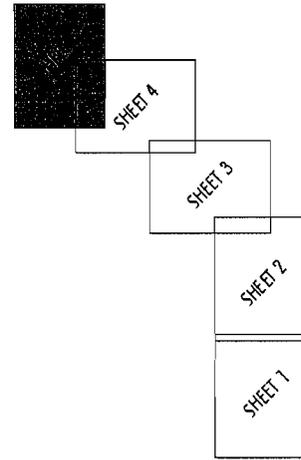
Figure 4-1d  
Existing Community Facilities

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APPROX SCALE:  
1" = 2000'

SHEET LAYOUT



New Pedestrian/Bike Bridge Project

South Limit M-59  
Interchange Project

LEGEND

-  = Bridge Crossing
-  = Pedestrian Overpass
-  = Existing Bike Route

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

## **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 that serves this school may not be replaced, as replacement could require displacement of three homes (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 is being reconstructed. 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. As the clearance height under the bridge must be increased and the ramps lengthened to bring them up to ADA standards, there would be longer walks for school children.
- 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 an imperceptible manner at this location, but a noise wall is reasonable and feasible and may be built.
- 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 no effect on school access or functions.
- 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, United Oaks Elementary School could lose its pedestrian bridge, requiring some students to walk an additional minute (approximately 300 feet) to school and cross the I-75 service drives at a signalized intersection. Roosevelt School would be considered for a noise wall. A grading permit may also 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 proposed improvements to I-75.

### **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 proposed improvements to I-75.

### **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 proposed improvements to I-75.

## **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 382 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, and certainly from those whose property is affected.

## **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>48</sup> that cross I-75 at Meyers Avenue, Big Beaver, Wattles Road, Crooks Road, Coolidge Highway, Square Lake, and South Boulevard (Figure 4-1). As a separate project, a bike path is bridging over I-75 on the former Grand Trunk 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 underclearance of the bridges must be increased two to three feet<sup>49</sup> and reconstruction must conform to the Americans with Disabilities Act (ADA), which requires more gradually sloping ramps. Together the effect is longer ramps and, therefore, more land. Steps could be provided,

<sup>48</sup> *Oakland County Linked Path/Trail System Map*, Oakland County Department of Community and Economic Development.

<sup>49</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.

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 first five pedestrian bridges listed in the above paragraph are in Hazel Park. The last is in Madison Heights.

The Harry Avenue pedestrian bridge serves the United Oaks Elementary school and the First Free Will Baptist Church, located on the east side of I-75. If the pedestrian bridge were reconstructed to conform to ADA standards, three homes could be displaced. MDOT has contacted the elementary school and the church to discuss this issue. At this time several options are being investigated to see if the bridge could be replaced without displacing the homes. If the bridge were not replaced, pedestrians, including school children, would need to walk over surface streets. The pedestrians living north of Granet Avenue and west of I-75 would have to walk south one block to Meyers Avenue, cross the Meyers Avenue bridge over I-75, and then walk north two blocks to Harry Avenue. This walk over surface streets would be approximately 1250 feet. Taking into account the lengthened ramps of a new pedestrian bridge, the walk over such a bridge would be approximately 300 feet for each ramp and 400 feet across the freeway, for a total of 1000 feet. So, pedestrians walking via Meyers Avenue would have to walk 250 feet farther and cross both service drives at the signalized Meyers Avenue intersection. The walk time is approximately 2.5 minutes now over the pedestrian bridge. It would be 3.5 minutes over a new bridge or 4.5 minutes via Meyers Avenue. United Oaks School officials were contacted in September 2003. They are researching the effects on children.

In May 2002, officials of the municipalities along the corridor were interviewed to record their thoughts regarding pedestrian and bicycle activity related to I-75. These are noted by community from south to north. 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.
- 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 concerns 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 none 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.

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 12 Mile Road the SPUI design allows control of vehicle speed at the ramp ends, through traffic control devices (signals or signs) and/or the radius of the curve to 12 Mile Road (see Figure 3-12a). If the existing interchange were reconstructed in its same basic configuration (see Figure 3-12b), the problem of crossing loop ramps would remain. Vehicles merge from these loop ramps to 12 Mile Road without coming to a stop, making crossing more difficult. Nevertheless, under that option, sidewalks would be provided along both sides of 12 Mile Road. The SPUI is more desirable from the standpoint of pedestrian and bicycle movement, because of the greater control that can be exercised over vehicular traffic.

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. Therefore, the sidewalk along the south side of 14 Mile Road would be 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.

**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 or remove 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	Both SPUI and rebuild options would have sidewalks both N & S. SPUI preferred for safety and convenience
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

old bridge removed

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

### 4.2.3 Considerations Relating to Mass Transit Service and Carpooling

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, Stephenson Highway, and Big Beaver 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. A park-and-ride lot served by transit is located in the Oakland Mall. Dial-a-ride service is provided in Troy.

As discussed in Section 3.6, computer modeling for this DEIS found rapid transit to be viable in the Woodward Corridor at least 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 service. Planning continues for improved transit along the Woodward Corridor in the City of Detroit. The *Woodward Corridor Transit Alternatives Study*<sup>50</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.

MDOT maintains four carpool lots along I-75 in Oakland County (Table 4-3). New lots at Sashabaw Road and Grange Hall Road will be established along I-75 in 2003. The lot at Dixie Highway will be expanded. Data for all four lots dates to 1984, when the population of the north corridor (where three of the lots are located) was substantially lower. Lot usage is principally related to the condition of the economy and gasoline prices.

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

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

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).

<sup>50</sup> *Woodward Corridor Transit Alternatives Study*, IBI Group, May 2000.

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

During the construction of the proposed improvements both local and regional access would be maintained. A minimum of two lanes of traffic in each direction would be maintained on I-75 at all times. Staged construction would be employed. For most of the corridor, part-width construction techniques would 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 would be closed at one time or another. In the depressed section, bridges would be replaced. This means there would be brief periods when one side of the freeway would have to be totally closed as bridge beams are removed and new ones put in place.

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

It is anticipated that, based on available funding and cooperation, special transit services could be initiated in advance of the construction period. Existing MDOT and SEMCOG rideshare programs would be enhanced, with particular emphasis of major corridor employers.

#### **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 balance of townships within Oakland County along I-75 is 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>51</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>52</sup>

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<sup>51</sup>2030 *Regional Development Forecast for Southeast Michigan*, Southeast Michigan Council of Governments (SEMCOG), 2001.

<sup>52</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.

#### **4.2.6 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.

### **4.3 Environmental Justice**

Several socioeconomic characteristics are of particular interest as they relate to environmental justice. Executive Order 12898 is being implemented to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The proposed improvements will not cause disproportionately high and adverse human health or environmental effects on minority populations or low-income populations, as the impacts of the project are few. Impacts will largely be positive as access to jobs will be improved.

The characteristics of the census tracts immediately adjacent to the corridor (Table 4-6 and Figure 4-2) were examined with respect to minorities and low income. The census tracts with the highest proportion of minorities are 1406 and 1810, each with minority populations of 35 percent.

In tract 1810 the minority population is led by Asian/Pacific Islanders (20 percent) and African Americans (9 percent). American Indian/Eskimo and "other" are both 1 percent, and Multiple Race is 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), other (1 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 figure is 8.8 percent. In Oakland County it is 5.5 percent, and statewide the figure is 10.5 percent.

All those who live near I-75 will benefit from noise abatement (Section 4.8.5), including low-income and minority persons. No concentrations of low-income or minority persons are known. But efforts will continue to identify such groups through the study process. Any such groups will benefit from the improvements in access resulting from the project. As noted in Section 1, I-75 serves as a route to employment. Oakland County now leads the state in terms of providing jobs.



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

Community	2000 Census Tract	% Low-Income Persons (1999 data)	Percent Minority (2000 data)	Percent Hispanic (2000 data)	Top Three Non-White Races (2000 data) <sup>a</sup>
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

<sup>a</sup> A = Asian or Pacific Islander; B = Black or African American; MR = Multiple Race.

Most of the project impacts are the relocations that would occur in tract 1815 in Madison Heights, where eight homes will likely be relocated with the ramp braiding. 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. Its percent of minorities is 6 percent, lower than the 10 percent for Madison Heights, 20 percent for Oakland County, and 20 percent for the state of Michigan. Its percent of persons in poverty (8.4) is lower than that of Madison Heights as a whole (8.8), and the state of Michigan's (10.5), but higher than Oakland County's (5.5). These data indicate no disproportionate impacts to minority or low-income populations.

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. 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.

No disproportionately high and adverse impacts to minority populations and low-income populations are considered to be associated with the proposed project at this time. A continuing effort will be made to identify such populations during subsequent phases of this project. If any 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 show more commuters (17,700) now travel from Wayne County to Oakland County to work than the reverse (Table 4-7). And overall, 115,000 more workers commute into Oakland County than the reverse.

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.

**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

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.

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.

**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

#### 4.4.2 Tax Base Loss

The right-of-way cost estimate indicates that property acquisition will result in a reduction 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 4-9). The effect will be greatest on Hazel Park, which would realize a likely tax loss of over \$60,000. The increase in SEV of remaining properties over the coming years will outweigh potential losses.

**Table 4-9**  
**Tax Base Loss (2003 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	\$2,065,000	\$1,032,500	\$61,065	0.0225%
Royal Oak	\$2,000	\$1,000	\$49	0.0000%
Madison Heights	\$2,360,000	\$1,180,000	\$55,120	0.0051%
Troy	\$350,000	\$175,000	\$8,260	0.0002%
Total	\$4,777,000	\$2,388,000	\$124,000	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:

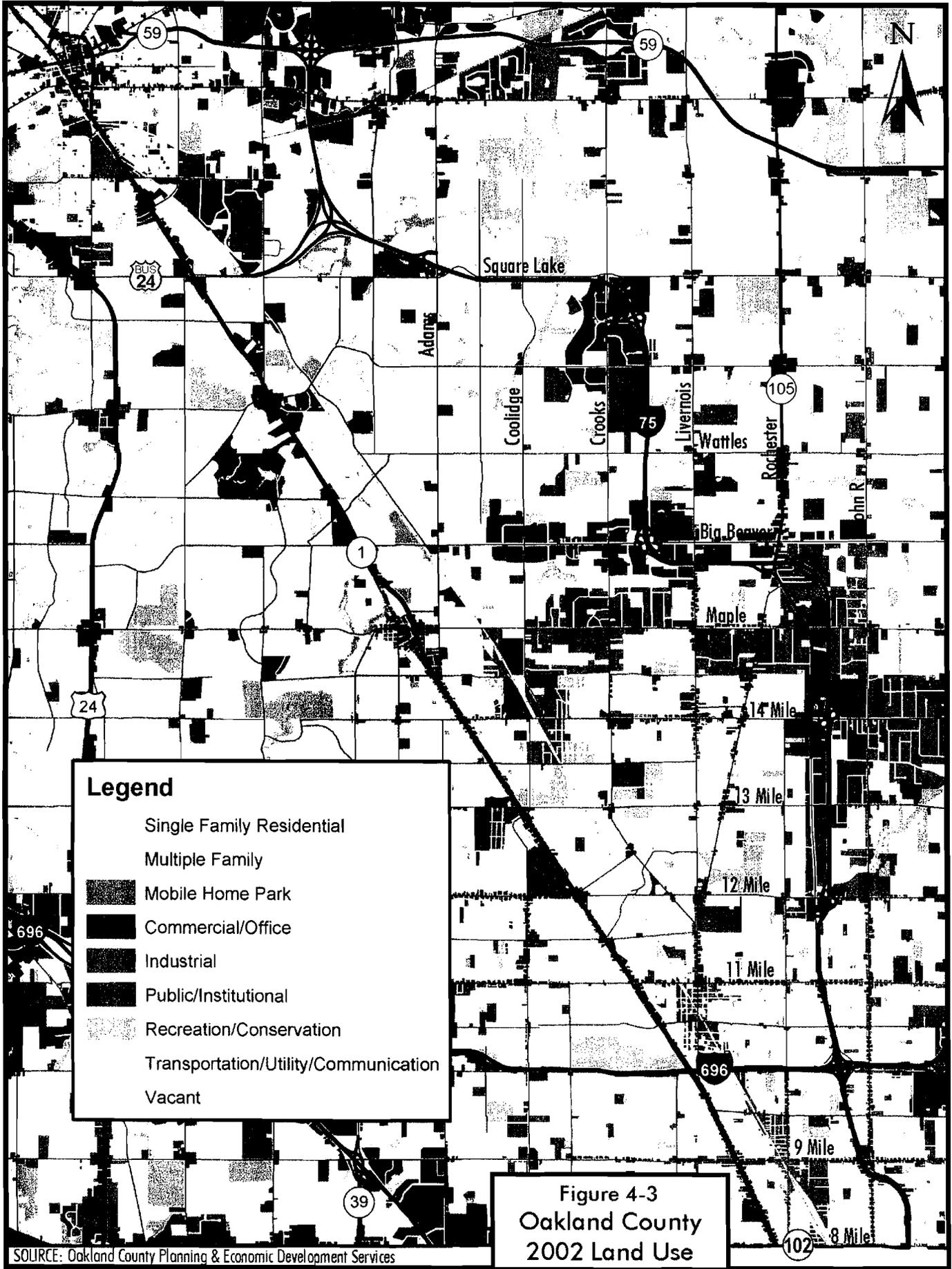
- **Auburn Hills** -- *Master Plan* adopted on November 7, 2002. No mention of I-75.
- **Ferndale** -- *Master Plan* adopted in June of 1998. No mention of I-75.
- **Hazel Park** -- *Master Plan* adopted on March 21, 2000. I-75 mentioned in relation to access to the Hazel Park racetrack, and as a major 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 new bridges are planned with the proposed build alternatives at 9 Mile Road and John R. Road that will improve pedestrian access.

## 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 proposed project. 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>53</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

<sup>53</sup> Based on a search of the Act 451, Part 361 database for Oakland County.



SOURCE: Oakland County Planning & Economic Development Services

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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 B).

## 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**

Pollutant	Standard Value		Standard Type
<b>Carbon Monoxide (CO)</b>			
8-hour Average	9 ppm	(10 mg/m <sup>3</sup> ) <sup>a</sup>	Primary <sup>b</sup>
1-hour Average	35 ppm	(40 mg/m <sup>3</sup> )	Primary
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
Annual Arithmetic Mean	0.053 ppm	(100 µg/m <sup>3</sup> )	Primary & Secondary <sup>c</sup>
<b>Ozone (O<sub>3</sub>)</b>			
1-hour Average	0.12 ppm	(235 µg/m <sup>3</sup> )	Primary & Secondary
8-hour Average	0.08 ppm	(157 µg/m <sup>3</sup> )	Primary & Secondary
<b>Lead (Pb)</b>			
Quarterly Average	1.5 µg/m <sup>3</sup>		Primary & Secondary
<b>Particulate (PM 10)    <i>Particles with diameters of 10 micrometers or less</i></b>			
Annual Arithmetic Mean	50 µg/m <sup>3</sup>		Primary & Secondary
24-hour Average	150 µg/m <sup>3</sup>		Primary & Secondary
<b>Particulate (PM 2.5)    <i>Particles with diameters of 2.5 micrometers or less</i></b>			
Annual Arithmetic Mean	15 µg/m <sup>3</sup>		Primary & Secondary
24-hour Average	65 µg/m <sup>3</sup>		Primary & Secondary
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>			
Annual Arithmetic Mean	0.030 ppm	(80 µg/m <sup>3</sup> )	Primary
24-hour Average	0.14 ppm	(365 µg/m <sup>3</sup> )	Primary
3-hour Average	0.50 ppm	(1300 µg/m <sup>3</sup> )	Secondary

Source: US EPA

<sup>a</sup> Parenthetical values are approximate equivalent concentrations.

<sup>b</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>c</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.

Effective April 6, 1995, the seven-county<sup>54</sup> Southeast Michigan area (including Oakland County) was redesignated by EPA to attainment and associated section 175A maintenance of the 1-hour National Ambient Air Quality Standard (NAAQS) for ozone. EPA also approved the state's plan for maintaining the 1-hour ozone standard for the next ten years as a revision to the Michigan State Implementation Plan (SIP). So, the seven-county area is now an "attainment/maintenance" area for ozone. However, a new EPA 8-hour standard, that was held in abeyance for some time due to litigation, is now being implemented. Oakland County, along with other southeast Michigan counties, is expected to become a non-attainment area under the new standard. Based on EPA's plan for implementation of the 8-hour standard, it is likely the need to test projects for conformity under the new standard will apply during 2005. Conformity under the 1-hour standard will continue until the 8-hour standard is applied.

Effective June 30, 1999 portions of Wayne, Oakland, and Macomb counties were redesignated by EPA to attainment and associated 175A maintenance of the NAAQS for carbon monoxide (CO). The section of the I-75 project south of 14 Mile Road is in this attainment/maintenance area for CO. Therefore, the project must also be included in the three-county conformity determination for CO.

The current NAAQS for particulates include PM<sub>10</sub> (particles with diameters of 10 micrometers or less) and PM<sub>2.5</sub> (particles with diameters of 2.5 micrometers or less). The status of the Detroit area under the PM<sub>2.5</sub> standard (attainment or non-attainment) will likely be determined in autumn 2004 with conformity required one year later.

Because the project is located in an area designated as maintenance for both carbon monoxide and ozone, emissions levels for CO and the ozone precursors, volatile organic compounds (VOCs) and nitrogen oxides (NOx) must remain below established regional budgets. Ozone is a regional pollutant and evaluation of impacts on a project-level basis is not meaningful.

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

1. A regional (macroscale) conformity analysis to be performed on the Preferred Alternative by SEMCOG prior to the approval of the Final EIS, if a build alternative is identified after the public hearing and is then added to SEMCOG's Transportation Improvement Program. The conformity analysis for ozone would be on a seven-county basis. The conformity analysis for CO would be on a three-county basis.
2. The microscale analysis of CO concentrations summarized below.<sup>55</sup>

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.

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<sup>54</sup> Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw and Wayne counties.

<sup>55</sup> *Air Quality Technical Report* The Corradino Group, October 2003.

The difference between the GP and HOV alternatives on CO concentrations is negligible. A computer program, CAL3QHC, was used to estimate CO concentrations at over fifty sensitive receptors at eleven locations along the corridor. 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.

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 proposed project 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.

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).

There is no method approved by EPA to calculate air toxics produced by vehicles. No national standards have been set for air toxics by EPA, but 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).

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 vehicles. By 2007, 90 percent of the sulfur in diesel fuel is to be eliminated. This will substantially reduce diesel emissions and PM<sub>2.5</sub>.

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.

**Table 4-11  
CO Concentrations**

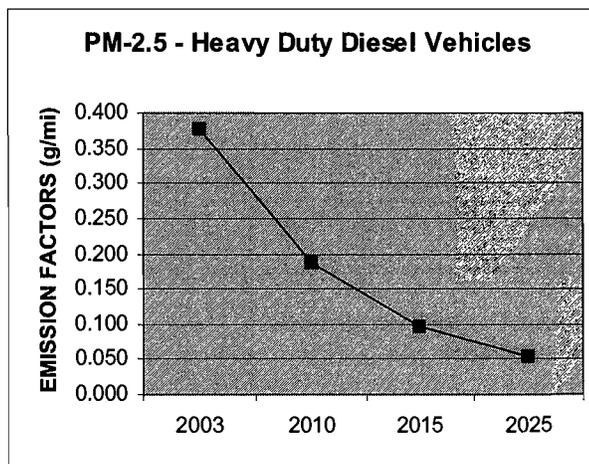
Modeling Site	Location	Receptor	Existing (2003)		Build (2015)		No Build (2015)		Build (2025)		No Build (2025)	
			1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr
1	South of 9 Mile Rd at Highland Ave	1	10.5	7.0	8.1	5.4	7.8	5.2	8.1	5.4	7.6	5.1
		2	8.7	5.8	7.2	4.8	7.0	4.7	7.2	4.8	6.9	4.6
2	South of I-75/696 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.

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. Though it has not yet been approved for use in modeling PM<sub>2.5</sub>, it does contain 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>**



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. Conformity tests will be required for CO and ozone prior to the signing of the Record of Decision for the project. Conformity testing may be required for PM<sub>2.5</sub>, depending on when funding for the project is identified and when the project is included in SEMCOG's Regional Transportation Plan and Transportation Improvement Program.

## 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>56</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.

<sup>56</sup> *Noise Study Report*, The Corradino Group, October 2003.

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 "average" of sound over a one-hour period (referred to as  $L_{Aeq1h}$ ).<sup>57</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**  
**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

<sup>57</sup> Title 23, Code of Federal Regulations (CFR), Part 772, revised April 1998.

calibrated equipment.<sup>58</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 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>59</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
<b>Total</b>						<b>436</b>	<b>472</b>

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup> In some cases a modeled receptor represents multiple dwelling units.

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

<sup>58</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.

<sup>59</sup> *Noise Study Report*, The Corradino Group, October 2003.

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 proposed project. Future traffic would 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 \$34,200 (2003 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 build alternatives, 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>60</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.”

<sup>60</sup> *Noise Abatement*, Michigan State Transportation Commission Policy, July 31, 2003.

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.

A number of potential mitigation measures may be considered to reduce noises 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 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-site 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 to take over ownership of the walls. Based on an agreement signed at the time of construction, MDOT would maintain the structural integrity of the wall for five years, and then the local jurisdiction would accept ownership and maintenance of the wall.

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. 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 wishes to pursue it and 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 guard 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. A final consideration is that typically walls are to be a minimum of 590 feet long. 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 DEIS.

Barriers that were found reasonable and feasible are listed in bold in Table 4-14 and are shown on Figure 4-5. One wall would protect a church and another would protect a school. (For purposes of analysis, these institutions are counted as the equivalent of 10 dwelling units in the cost formula.) The existing noise wall in the northeast quadrant of the I-696 interchange will be impacted by the proposed ramp braiding. It would be replaced with a new wall. A discussion of the results for each analysis segment follows.

It is noted that where noise walls are not found to be reasonable, i.e., where the cost exceeds \$34,200 per benefiting dwelling unit, the local community can participate in funding to bring the cost down to the \$34,200 level. Therefore, other walls could become reasonable, if a local community decided to participate in funding.

The TNM2.1 model was run for 12 segments.

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

### **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). 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

**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>	8 Mile to Meyers Avenue					
	<b>Wall 0 - NB 1</b>	<b>2117</b>	<b>10.5</b>	<b>\$994,630</b>	<b>31</b>	<b>\$32,085</b>
	<b>Wall 1 - SB 1</b>	<b>1,002</b>	<b>7.5</b>	<b>\$397,831</b>	<b>12</b>	<b>\$33,153</b>
	Meyers Avenue to 9 Mile Road					
	<b>Wall 2 - NB 1</b>	<b>644</b>	<b>10.0</b>	<b>\$294,440</b>	<b>10</b>	<b>\$29,444</b>
	9 Mile to Woodward Heights Blvd.					
	<b>Wall 3 - SB 1</b>	<b>594</b>	<b>8.0</b>	<b>\$243,598</b>	<b>8</b>	<b>\$30,450</b>
	Woodward Heights Blvd. To I-696					
	<b>Wall 4 - NB - Church counts as 10 dwellings<sup>a</sup></b>	<b>669</b>	<b>10.0</b>	<b>\$306,052</b>	<b>10</b>	<b>\$30,605</b>
	<b>Wall 5 - SB 2 -School counts as 10 dwellings<sup>a</sup></b>	<b>656</b>	<b>10.0</b>	<b>\$300,119</b>	<b>10</b>	<b>\$30,012</b>
	I-696 to Gardenia Avenue					
	<b>Wall 6 - Replacement Wall</b>	<b>1,368</b>	<b>10.0</b>	<b>\$625,587</b>	<b>NA<sup>b</sup></b>	<b>NA<sup>b</sup></b>
	Gardenia to North of 12 Mile Road					
	<b>Wall 7 - SB1</b>	<b>598</b>	<b>13.0</b>	<b>\$316,898</b>	<b>14</b>	<b>\$22,636</b>
	North of 12 Mile Road to 14 Mile Road					
	<b>Wall 8 - NB 1</b>	<b>658</b>	<b>12.0</b>	<b>\$332,325</b>	<b>12</b>	<b>\$27,694</b>
	<b>Wall 9 - NB 2</b>	<b>3,310</b>	<b>12.7</b>	<b>\$1,723,718</b>	<b>92</b>	<b>\$18,736</b>
	14 Mile Road to Rochester Road					
	<b>Wall 10 - SB 1</b>	<b>1,223</b>	<b>10.0</b>	<b>\$559,432</b>	<b>17</b>	<b>\$32,908</b>
Rochester Road to Livernois Road						
<b>Wall 11 - NB1</b>	<b>695</b>	<b>10.9</b>	<b>\$332,568</b>	<b>10</b>	<b>\$33,257</b>	
<b>Wall 12 - NB2</b>	<b>1,143</b>	<b>11.9</b>	<b>\$575,489</b>	<b>17</b>	<b>\$33,852</b>	
<b>Wall 13 - SB1</b>	<b>646</b>	<b>10.0</b>	<b>\$295,208</b>	<b>24</b>	<b>\$12,300</b>	
<b>Wall 14 - SB2</b>	<b>2,381</b>	<b>13.1</b>	<b>\$1,263,340</b>	<b>83</b>	<b>\$15,221</b>	
Livernois Road to Wattles Road						
<b>Wall 15 - SB 1</b>	<b>2,749</b>	<b>13.5</b>	<b>\$1,486,948</b>	<b>56</b>	<b>\$26,553</b>	
Wattles Road to Coolidge Highway						
<b>Wall 16 - SB1 &amp; SB2</b>	<b>2,078</b>	<b>12.5</b>	<b>\$1,072,462</b>	<b>35</b>	<b>\$30,642</b>	
<b>Totals</b>	<b>22,531</b>		<b>\$11,120,645</b>	<b>441</b>	<b>\$25,217</b>	
<b>Walls Not Feasible or Reasonable</b>	8 Mile to Meyers Avenue					
	SB 2	1,880	11.5	\$927,153	5	\$185,431
	Meyers Avenue to 9 Mile Road					
	NB Church - Church 10 dwellings	403	10	\$184,074	6	\$30,679 <sup>d</sup>
	NB 2	600	8.8	\$257,861	4	\$64,465
	SB 1	1,323	7	\$510,202	9	\$56,689
	9 Mile to Woodward Heights Blvd.					
	NB 1	1,333	12.7	\$693,555	15	\$46,237
	Woodward Heights Blvd. To I-696					
	SB 1	465	16	\$278,969	0	-
	Gardenia to North of 12 Mile Road					
	NB 1	447	14.6	\$253,656	6	\$42,276
SB2	676	10	\$308,921	0	-	
Wattles Road to Coolidge Highway						
NB	1,596	10	\$729,658	7	\$104,237	
SB3	472	12	\$238,524	22	\$10,842 <sup>d</sup>	
Square Lake Noise Wall Project <sup>c</sup>						

Source: The Corradino Group of Michigan, Inc.

<sup>a</sup> These walls are considered reasonable as schools and churches are counted as 10 dwelling units.

<sup>b</sup> This wall functionally replaces the present wall, a portion of which would be removed by the project.

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

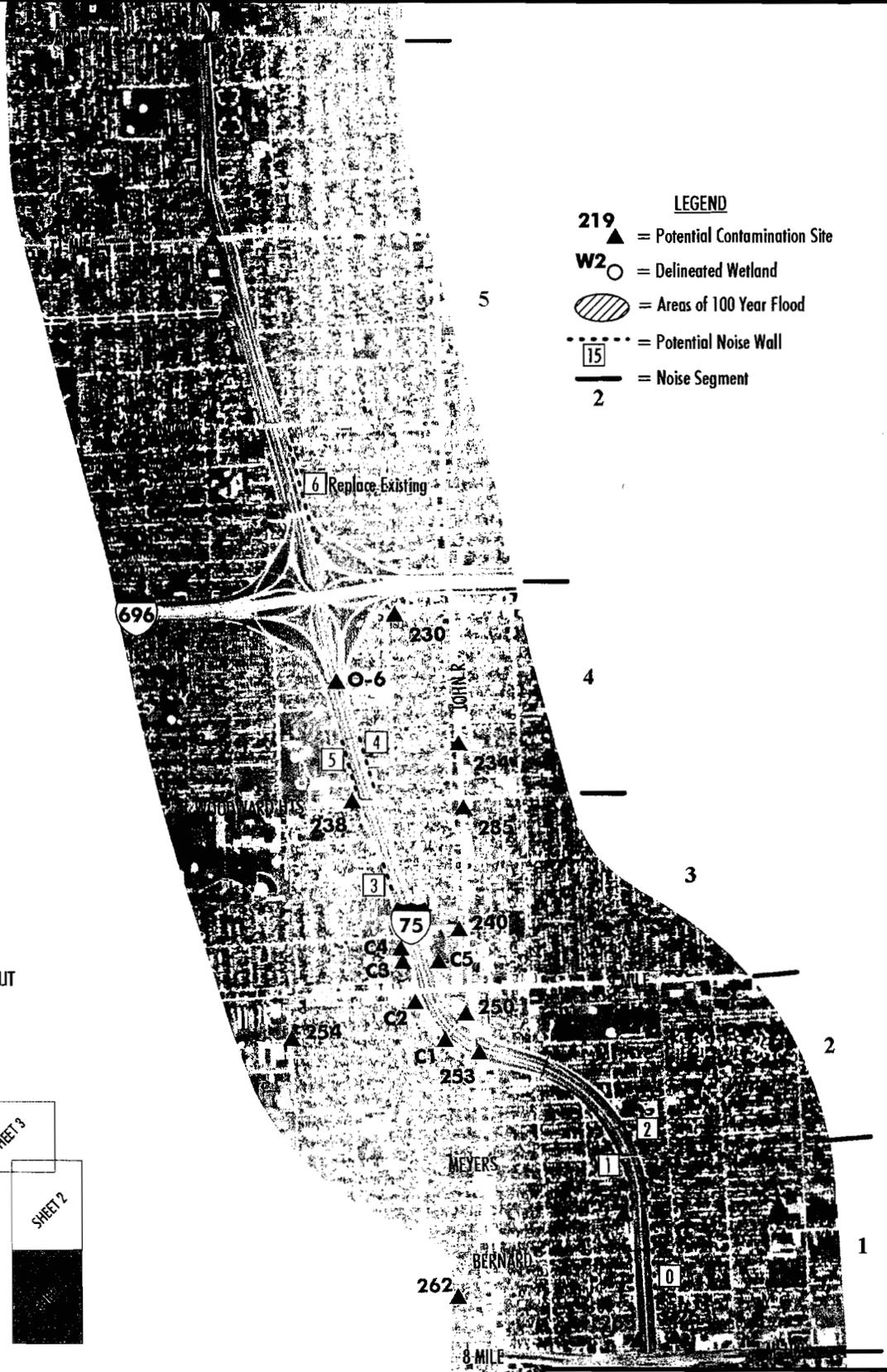
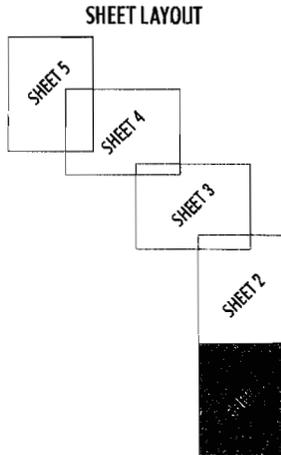
<sup>d</sup> These walls are not of sufficient length to be considered feasible.

N

APPROX. SCALE:  
1" = 2000'

**LEGEND**

- 219 ▲ = Potential Contamination Site
- W2 ○ = Delineated Wetland
- ▨ = Areas of 100 Year Flood
- - - = Potential Noise Wall
- 15  
— = Noise Segment
- 2



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

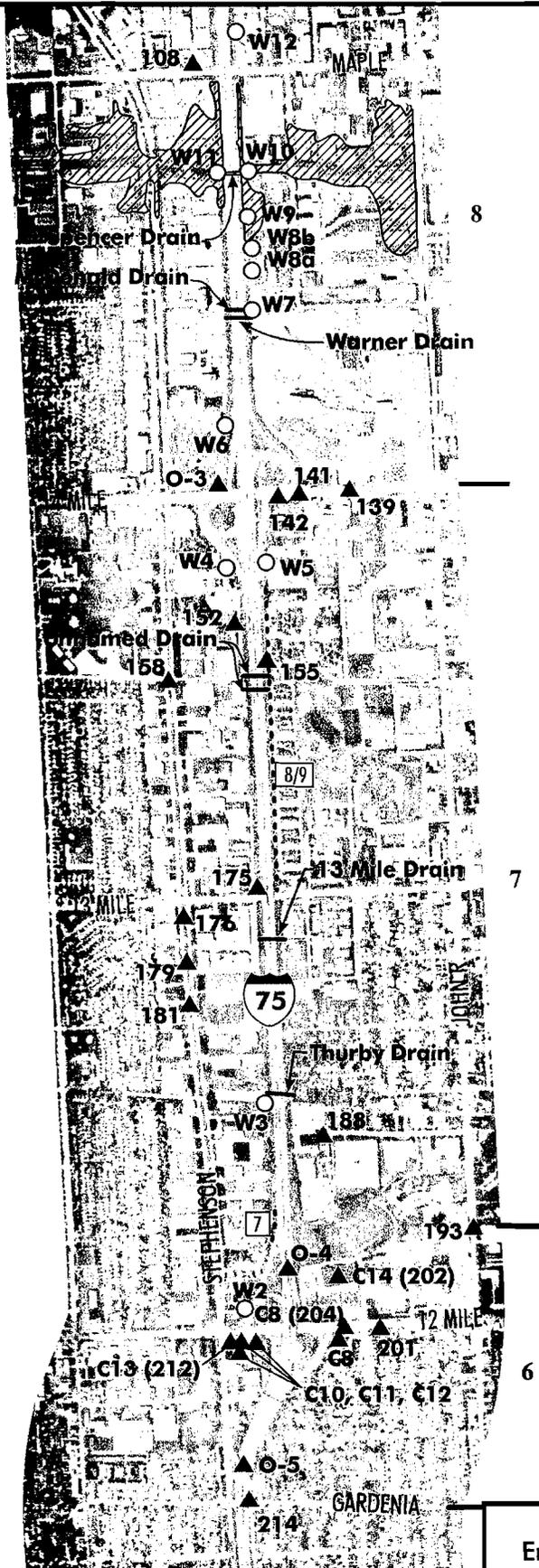
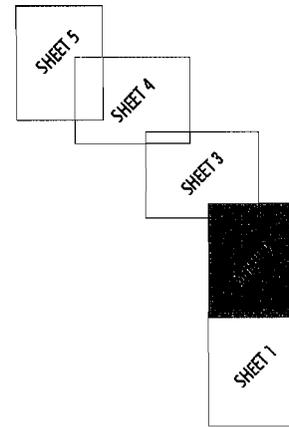
**Figure 4-5a  
Environmental Information**

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APPROX SCALE:  
1" = 2000'

SHEET LAYOUT

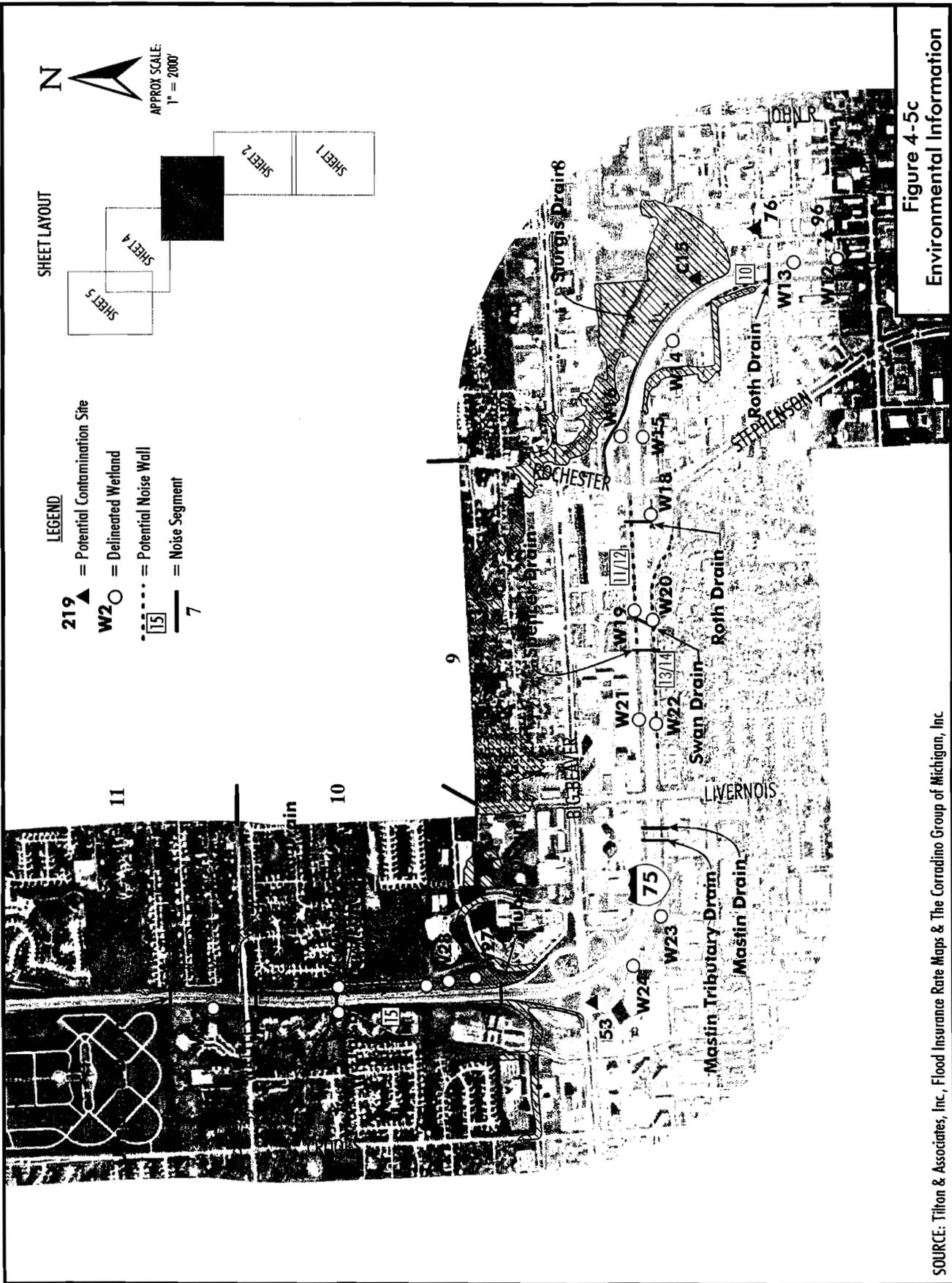


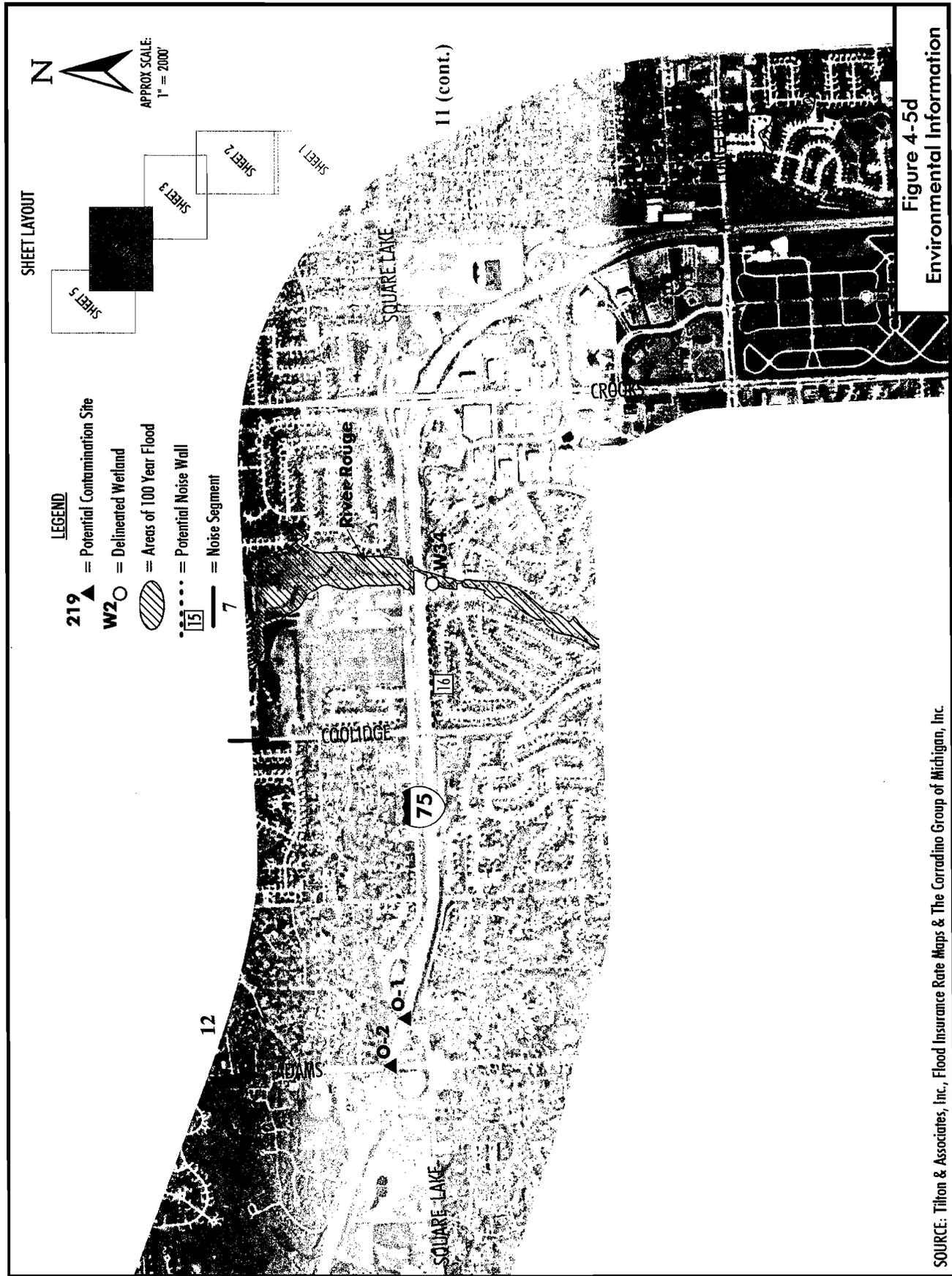
- LEGEND**
- 219 ▲ = Potential Contamination Site
  - W2 ○ = Delineated Wetland
  - = Areas of 100 Year Flood
  - - - = Potential Noise Wall
  - = Noise Segment
  - 7 = Noise Segment

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

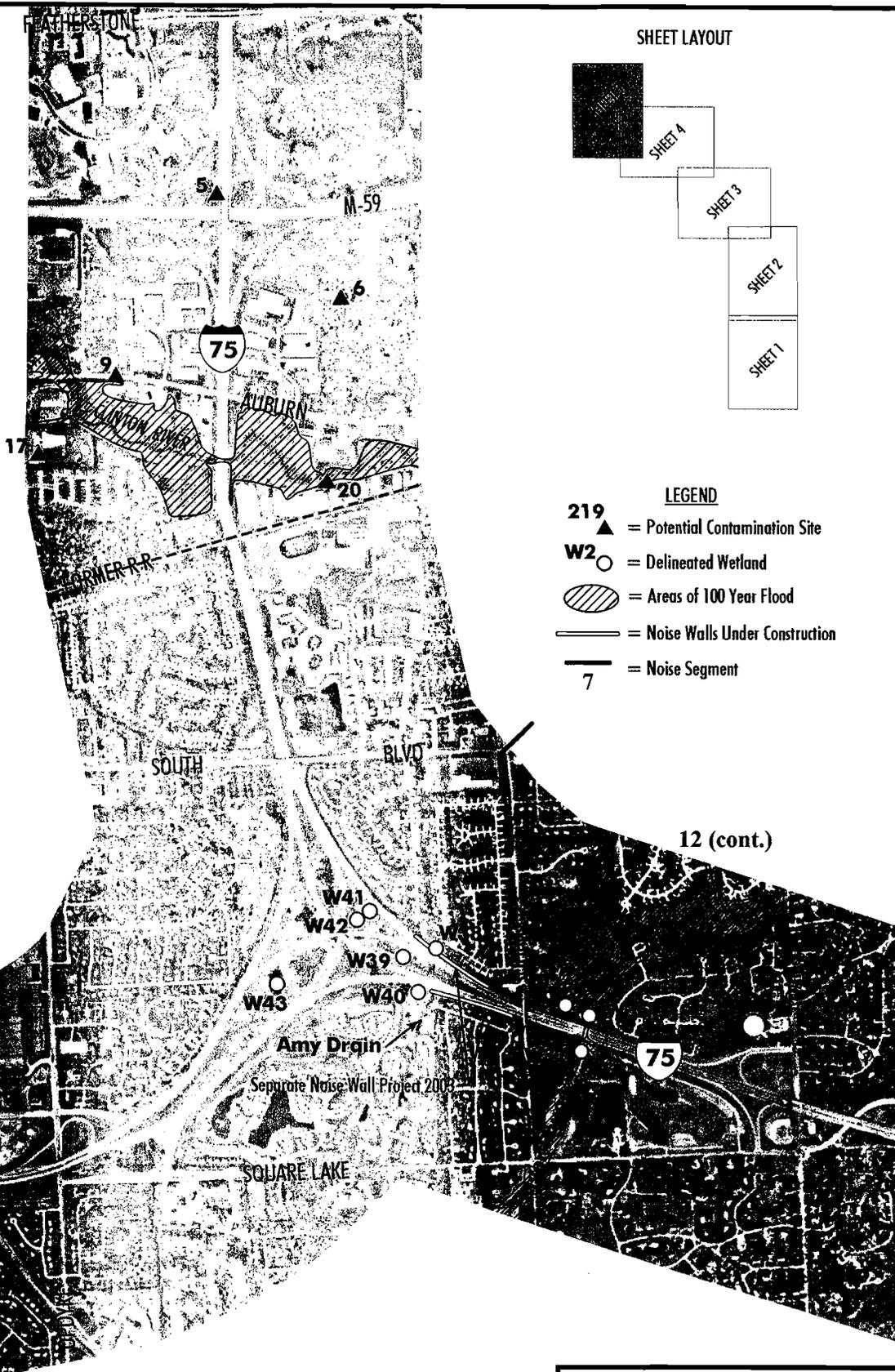
Figure 4-5b  
Environmental Information

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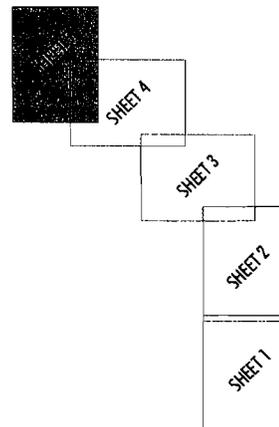




N  
 APPROX SCALE:  
 1" = 2000'



SHEET LAYOUT



LEGEND

- 219 ▲ = Potential Contamination Site
- W2 ○ = Delineated Wetland
- (Hatched Area) = Areas of 100 Year Flood
- (Double Line) = Noise Walls Under Construction
- (Single Line) = Noise Segment

12 (cont.)

Figure 4-5e  
 Environmental Information

SOURCE: Tilton & Associates, Inc., Flood Insurance Rate Maps & The Corradino Group of Michigan, Inc.  
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considered to be reasonable, meaning the cost per benefiting receiver was less than \$34,200 (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 was not found to be feasible and reasonable, even if the church were 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. This distance of 400 feet does not meet the minimum noise wall length specified in the Noise Policy of 590 feet.

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 3 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 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 sufficiency 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 594 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 in this segment, there is insufficient density to find wall construction to be reasonable, except for the presence of the Roosevelt School. It faces the southbound service drive. A pedestrian bridge crossover occupies several of the lots on both sides of I-75, decreasing the residential density. Counting the school as 10 residences, a wall 660 feet long and 10 feet high could be considered reasonable (see Wall 5 in Figure 4-5a).

### **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 may be in a relocated position. Relocation could occur if the lane addition into the embankment through this depressed section is in jeopardy of undermining the wall.

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. The northern section of the existing noise wall in this section could be left in place. A new wall could be placed along the reconstructed ramp edge. This wall would effectively replace the existing wall. It would be approximately 1,400 feet long and average 10 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 a 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 on the order of 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. The condominium patio home area to the east did not have sufficient density to support a wall. The wall protecting the closest condominium patio homes was too short (SB 3). The distance of the units from I-75 varies, and not enough units are close enough to I-75 to benefit from a wall. A low berm is also present that makes a feasible wall difficult to achieve.

### **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. Seventeen barriers meet the criteria. The wall 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. A final decision on noise barrier installation will be made upon completion of the next phase (design) and public involvement process.

## **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.

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 B, Section 2). 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 (Appendix B, Section 2) in the I-75 corridor.

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>61</sup> None were found (see results of field work in Section 4.10.1 under discussion of River Rouge).

## **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>62</sup>

### **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>63</sup>, and from a drainage study associated with this EIS. Additional analysis results will be reported in this section in the Final EIS.

The study area contains or crosses surface water features including Red Run Creek, Thurby Drain, 13 Mile Drain, Warner Drain, McDonald Drain, Spencer Drain, Roth Drain, Swan Drain, Mastin Drain, Huber Drain, Lane Drain, Wattles Road Drain, Amy Drain, Levison 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. At this time no extension of any pipe or culvert is expected to exceed 24 feet. This will be confirmed in final design. The existing condition of each crossing is shown in Table 4-15, together with anticipated changes. The only crossings that serve an area greater than 2 square miles are Spencer Drain, south of Maple Road and the River Rouge at its crossing east of

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<sup>61</sup> *Wetland Report*, Tilton and Associates, Inc. October 2003.

<sup>62</sup> *Drainage Study - M-102 to M-59*, Orchard Hiltz & McCliment and Rowe, Inc., November 2003.

<sup>63</sup> *I-75 from 12 Mile Road to Adams Road Drainage Study*, CH2M Hill, May 2000.

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

Water Crossing Name	Setting	Existing Structure Type	Proposed Work	Drainage Area	
				Acres	Sq. Mile
Red Run Creek – N of 12 Mile Road	Commercial	Bridge	Bridge removal <sup>a</sup>	NA	NA
Thurby Drain – between 12 and 13 Mile Roads	Commercial	24" Culvert, 18" outlet	None at this time <sup>b</sup>	13	0.02
13 Mile Drain – south of 13 Mile Road	Commercial	24" Concrete w/end sections	None at this time <sup>b</sup>	7	0.01
Unnamed Drain – midway between 13 and 14 Mile Roads	Commercial	36" Concrete w/end sections	None at this time <sup>b</sup>	12	0.02
Warner Drain – N of 14 Mile Road	Commercial	36" Concrete w/end sections	None at this time <sup>b</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>b</sup>	NA	NA
<b>Spencer (Barnard) Drain – S of Maple Road</b>	<b>Commercial</b>	<b>14' x 6' Box culvert, 15' Tunnel</b>	<b>None at this time<sup>b</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>b</sup>	NA	NA
Roth Drain – W of Rochester Road	Commercial	48" Tunnel <sup>c</sup>	None at this time <sup>b</sup>	51	0.08
Swan Drain – between Livernois and Rochester Roads	Apartments	36" Concrete w/end sections	None at this time <sup>b</sup>	45	0.07
Spencer Drain – W of Swan Drain	Apartments	42" Concrete	None at this time <sup>b</sup>	70	0.11
Mastin Drain – W of Livernois	Commercial	72" Tunnel <sup>c</sup>	None at this time <sup>b</sup>	22	0.03
Mastin Drain Tributary – W of Mastin Drain	Commercial	42" Concrete w/headwalls	None at this time <sup>b</sup>	61	0.10
Huber Drain - in Big Beaver interchange, N side	Commercial	60" Culvert	None at this time <sup>b</sup>	457	0.71
<b><i>Lane Drain – S of Wattles Road</i></b>	<b><i>Apt./Single-family</i></b>	<b><i>58" x 91" Helical elliptical</i></b>	<b><i>Replace<sup>d</sup></i></b>	<b><i>790</i></b>	<b><i>1.23</i></b>
Wattles Road – at Wattles Road	Residential	24" Concrete w/headwalls	None at this time <sup>b</sup>	5	0.01
<b><i>Unnamed Drain – N of Wattles Road</i></b>	<b><i>Residential</i></b>	<b><i>43" x 68" Helical elliptical</i></b>	<b><i>Replace<sup>d</sup></i></b>	<b><i>181</i></b>	<b><i>0.28</i></b>
<b>River Rouge – 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>b</sup></b>	<b>5100</b>	<b>7.97</b>
<b><i>River Rouge – E of Squirrel Road</i></b>	<b><i>Apt./Single-family</i></b>	<b><i>72" x 113" Helical elliptical w/headwalls</i></b>	<b><i>Replace<sup>d</sup></i></b>	<b><i>373</i></b>	<b><i>0.58</i></b>
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>b</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>b</sup>	156	0.24
Levison Drain	Single family	Tunnel <sup>c</sup>	None at this time <sup>b</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> The need for the bridge has been eliminated with the construction of a Combined Sewer Overflow (CSO) tunnel system upgrade, including the Twelve Town Retention Treatment Facility, which occupies the former Red Run Drain and carries water underground, rather than on the surface.

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

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

<sup>d</sup> Helical elliptical is a metal pipe that due to material type would likely be replaced with reconstruction of I-75.

Coolidge Road.<sup>64</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**

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 has been eliminated and it will be removed.

#### **Thurby Drain**

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 investigation (April 2000).<sup>65</sup>

#### **13 Mile Drain**

This drain flows 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. 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 drain does not 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.

#### **Unnamed Drain**

Between 13 Mile Road and 14 Mile Road is a 36" unnamed drain that cross I-75 in concrete pipe.

#### **Warner Drain**

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.

#### **McDonald Drain**

This drain is totally enclosed and would not be affected by the project.

#### **Spencer Drain (Barnard Drain)**

Spencer Drain is a 14-foot by 6-foot 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 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

<sup>64</sup> *Drainage Study - M-102 to M-59*, Orchard Hiltz & McCliment and Rowe, Inc., November 2003.

<sup>65</sup> *I-75 from 12 Mile Road to Adams Road Drainage Study*, CH2M Hill, May 2000.

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 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 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 (two locations)**

Roth Drain is in tunnel under I-75 and is connected to the surface only by storm water inlets.

#### **Swan Drain**

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.

#### **Spencer Drain**

This is a 42" concrete pipe midway between Rochester Road and Livernois Road.

#### **Mastin Drain and Mastin Drain Tributary**

The Mastin Drain itself is in tunnel and would be unaffected by the project. Its tributary is in a 42" concrete pipe. They are close to one another west of Livernois Road.

#### **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.

#### **Huber Drain**

Huber Drain 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).

#### **Lane Drain**

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 adjoins the right-of-way of I-75 for some distance to the south. 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**

This is a 24-inch reinforced concrete culvert flowing west to east, south of Wattles Road.

#### **Unnamed Drain**

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 to update the pipe material.

### **River Rouge Main Branch Between Coolidge Highway and Crooks Road**

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>66</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 DEIS (April 2003)<sup>67</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.

### **River Rouge at Squirrel Road (Sprague Branch)**

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

<sup>66</sup> *An Assessment of the Rouge River Fish Community*, Michigan Department of Natural Resources, Fisheries Division, June 14, 1996.

<sup>67</sup> *Wetlands Report*, Tilton and Associates, Inc., October 2003.

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. Sections 5.3 and 5.4 outline mitigation.

#### **Amy Drain**

I-75 crosses Amy Drain west of Squirrel Road. Amy Drain flows northeast to southwest and is enclosed. 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.

#### **Levison Drain**

This drain flows under I-75 with no connection to the surface.

### **Summary of Impacts**

The lane addition to I-75 would cross two watersheds of greater than two square miles - Spencer Drain and the main channel of the River Rouge between Crooks and Coolidge roads (Table 4-15). In neither case will the structures carrying these watercourses be affected, as the freeway widening is to the inside in the median area and the structures carry all the way across the freeway to the ditch lines. Replacement of three drains is likely, 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. One detention site has been identified.

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 structures 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.

#### **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 may 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 ongoing drainage analysis will report on potential detention areas. That information will be summarized in the Final EIS.

Planning is also occurring in conjunction with this DEIS 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 proposed project will separate such flow, reducing the need to bypass the sewage treatment plant during storms. The result will be substantially improved water quality.

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 areal 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>68</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. Ordinarily the 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 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.

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. If the HOV Alternative were selected, design standards guide how the HOV lane would traverse the Square Lake Road interchange, and its alignment could not 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 about 0.61 acres (Table 4-17). Mitigation is discussed further in Section 5.14.

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<sup>68</sup> *Wetlands Report*, Tilton and Associates, Inc. October 2003.

**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			1.05	1.05	0.00	

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.

**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.

## 4.12 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 be fifty years old or older, and meet one of the following criteria: a) be associated with a significant event; 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) (see letter dated October 1, 2003, Appendix B, Section 2).

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>69</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 (see letter dated May 14, 2003, Appendix B, Section 2).

#### **4.13 Parkland – Section 4(f) and Section 6(f) Resources**

No Section 4(f) or Section 6(f) parkland is affected by the proposed project. 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 affect 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, and 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

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<sup>69</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 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 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 proposed project 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>70</sup> The survey included a reconnaissance of the project corridor and review of federal and state environmental records.

The GP and/or HOV Alternatives are anticipated to require approximately 4 acres of new right-of-way from a mix of residential and commercial lots. An additional 7 acres could be acquired for storm water detention. One site in Royal Oak where right-of-way acquisition is expected was identified as a possible former gas station with underground storage tanks (UST). This site was rated medium/high for contamination potential and additional investigation of the site (Phase II) is recommended. The other commercial sites that could be acquired were rated low for contamination potential.

The review of federal and state environmental records identified 49 listed sites within the project corridor (Table 4-18 and Figure 4-5). None would be subject to acquisition. Most of these were 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. Three of the 49 sites would be acquired with the build alternatives. Construction of the SPUI would add a fourth. Three of the four were rated medium for contamination potential. All of these were leaking UST sites. 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>70</sup> *Project Area Contamination Survey*, The Corradino Group, October 2003.



**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; Corrects-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 high-tension electrical line in the north section of the 12 Mile Road interchange would not be affected as the towers are not affected. 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 similarly 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 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 associated with the proposed widening of I-75 are presented here. The basis upon which the analysis was conducted is defined in federal guidance, which indicates the following:

Indirect (secondary) effects – Caused by the action (widening I-75) and occurring later in time or farther removed in distance, but occurring in the reasonably foreseeable future (40 CFR 1508.8(b)).

Cumulative effects – Resulting from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7).

The database supporting this analysis includes material from a number of sources, including the following:

- 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 the U.S. Census
  - ✓ Population data
  - ✓ Agricultural data

- MIRIS (Michigan Resource Inventory System) mapping
- Michigan Natural Features Inventory, maintained by MDNR
- I-75 Corridor Study in Oakland County (Feasibility Study), MDOT, November 2000
- County plat maps
- Aerial photography provided by the Oakland County Department of Planning
- Detroit Area Study, University of Michigan, 2001

It is recognized that this database is limited. In this situation, federal guidance is also helpful, 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).

To determine indirect effects an "area of influence" was established based on traffic/access. (Computer travel model runs were made to determine which roads in the region could experience changes in travel great enough to possibly require widening, if I-75 were widened.) For cumulative effects a broader area was covered where roadway improvements in the I-75 corridor were identified in the I-75 Feasibility Study. The land adjacent to I-75 is mostly "built out" in terms of the relative amount of development already in place.

Because of the extensive network of roads in Southeast Michigan, residents and businesses have large areas to choose from in deciding where to locate. But highway travel predominates, as the spread-out pattern and low density of housing make providing effective transit service difficult. So, in defining the assessment area in terms of time, the association of transportation and land use was examined using aerial photography since 1971, when the roadway network began expanding north, following the construction of I-75 in the 1960's. The aerial mapping allowed an assessment of the extent to which roadway improvements, as well as land developments, have occurred over the last 30+ years. The mapping then lead to the development of a series of issues by which indirect (secondary) and cumulative effects can be measured.

#### **4.18.1 Indirect Impact Summary**

The potential improvement of eight miles of arterials, whose widening would support shifts in travel demand resulting from the widening of I-75, are summarized below.

##### Traffic and Safety

Conditions at eleven high crash locations<sup>71</sup> will be improved.

##### Community Cohesion

No significant effects are expected, as the potential negative of road widening will be accompanied by improved or expanded sidewalks, and other traffic flow and safety upgrades.

##### Relocations

One residential, but no business relocations are expected.

##### Land Use

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.

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<sup>71</sup> Compiled by the Traffic Improvement Association of Oakland County.

#### Environmental Justice

No disproportionate effect is expected.

#### Noise

Noise will likely increase slightly for some 250 residential properties along the local widened arterials, if the widened road becomes closer to homes. No hospitals or schools are expected to experience increased noise, but six churches could.

#### Air Quality

Smoother traffic flow is expected to allow air quality to be categorized moderate or good for those arterials to be widened as an indirect result of I-75 widening.

#### Parks

One park, at the southeast corner of Avon Road and Livernois Road could possibly be affected as an indirect consequence of widening I-75.

#### Cultural Resources

Historic Troy Corners and two archaeological sites will need to be reviewed for impacts as arterial widenings indirectly associated with I-75 widening go forward.

#### Farmland

No impacts to prime or unique farmland are expected.

#### Wetlands

Six-tenths of an acre of wetland near the Clinton River (Livernois Road) could require mitigation.

#### Water Quality

No significant effect on water quality is expected.

#### Threatened/Endangered Species

No significant effect is expected on threatened or endangered species.

#### Economy

Improving the eight miles of arterial roads indirectly associated with widening I-75 will have a neutral 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.

### **4.18.2 Cumulative Impact Summary**

Widening of I-75 may be related to changes (possible widening) to 56+ miles of arterial roads in Oakland County as a cumulative effect over time. These cumulative effects, described below, are separate and distinct from the direct and indirect impacts.

#### Traffic and Safety

Conditions at 22 high crash locations will be improved.

#### Community Cohesion

No significant effects are expected, as the potential negative of road widening will be accompanied by improved or expanded sidewalks, and other traffic flow and safety upgrades.

### Relocations

Twenty-seven residential properties could be subject to relocation, as well as twenty-eight businesses.

### Land Use

The cumulative development 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.

### Environmental Justice

The potential widening of South University Road between Paddock and Martin Luther King Boulevard may involve an area with low-income and minority persons.

### Noise

Widening 56+ miles of arterials could affect over 700 residential units, eight schools/hospitals, and 22 churches with increased noise.

### Air Quality

Smoother traffic flow is expected along the local arterials to be widened, so air quality would fall in the moderate or good category as a cumulative effect of widening I-75.

### Parks

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

### Cultural Resources

The following cultural resources may need to be reviewed for impacts:

- Five archaeological sites
- Historic Troy Corners
- Saterlee
- Samuel House
- Meadowbrook Farm

### Farmland

No prime or unique farmland impacts are expected from the widening of 56+ miles of arterials.

### Wetland

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

Water Quality

No significant effect is expected on water quality.

Threatened/Endanger Species

No significant effect is expected on threatened or endangered species.

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 Grandholm'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 and construction management, right-of-way, and construction. Construction costs are based on average unit bid prices and estimated quantities from the engineering analysis, and include a 15 percent contingency and 5 percent mobilization. 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 530 million (2003 dollars). At 12 Mile Road two options exist for interchange reconstruction. A SPUI would offer operational and safety benefits but cost \$6 million more than a reconstruction of the existing interchange. The additional cost of developing an HOV lane would be about \$6 million, about \$3.5 million for signing and striping and other road work and \$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 proposed project. 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 proposed project. 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. These are anticipated to outweigh the commitment of these resources.

**I-75 Oakland County Planning / Environmental Study**  
**CS 63174, JN 55776**  
**Draft Environmental Impact Statement**  
**Green Sheet: Project Mitigation Summary**

<i>Impact Category</i>	<i>Mitigation Measures</i>
<b>I. Social and Economic Environment</b>	
a. 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.
b. 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. Noise	Analysis finds 17 individual reasonable and feasible noise walls totaling 4.3 miles in length (see Table 4-14).
b. Wetlands	0.41 acres of impacted wetlands in the Square Lake Road Interchange will be replaced by 0.61 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 Wetland Mitigation Plan will be included in the Final EIS for the project.
c. Tree Removal/ Clearing/Landscaping	Mature trees will be preserved within MDOT right-of-way (principally at fencelines), 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.
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.
<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 Phase II survey, prior to right-of-way acquisition.
<b>IV. Construction</b>	
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.

## **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."

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.

#### **5.1 Right-of-Way Acquisition and Relocation Impacts**

A Conceptual Stage Relocation Plan has been prepared (Appendix A). The following standard procedures will be followed.

Compliance with State and Federal Laws – Relocation assistance and services will be provided by MDOT in accordance and compliance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended, and Act 87, and Michigan P.A. 1980 as amended. MDOT will inform individuals and businesses 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 – MDOT is required by statute to determine the availability of comparable, decent, safe and sanitary housing for eligible displaced individuals. MDOT has specific programs that will implement the statutory and constitutional requirements. Appropriate measures will be taken to ensure that all eligible displaced individuals are advised of the rights and benefits available and courses of action open to them.

Business – MDOT is required by statute to relocate eligible displaced businesses. MDOT has specific programs that will implement the statutory and constitutional requirements. Appropriate measures will be taken to ensure that all eligible displaced businesses are advised of the rights and benefits available and courses of action open to them.

Purchasing Property - The Michigan Department of Transportation 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, with a reasonable time allowed to find a buyer, 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, PO 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**

Noise mitigation is detailed in Table 4-14. If the project proceeds to design, provisions will be made for fire hydrant access through noise walls. Discussions with all adjacent municipalities will be necessary to 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.

## **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, 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 in several areas. 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 Portland cement 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 with the Part 301 permit.

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 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.

## **5.7 Disposal of Surplus or Unsuitable Material**

Surplus or unsuitable material generated by the removal of structures, trees, etc., will be disposed 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 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.

## **5.9 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, heavy metals, and pesticides.

In the depressed section of I-75 between M-1 (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.

## **5.10 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.

Major detours are not planned. The service drives will be available south of 12 Mile Road.

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. If the availability of funding remains a significant limitation, an option would be to build northern sections first, as these sections have lower costs. On a cost basis, a logical first step could be construction of I-75 between the I-75/M-59 interchange project and the Crooks / Long Lake project.

It is anticipated that (based on available funding) special transit services could be initiated in advance of the construction period. Existing MDOT and SEMCOG rideshare programs would be enhanced, with particular emphasis on major corridor employers.

## **5.11 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.

## **5.12 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 will be reviewed further during the design phase. Vibration impacts are not anticipated at this time.

## 5.13 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 Portland cement 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. This permit should be applied for a minimum of 30 calendar days for plants with an active MDEQ permit (or 60 calendar days for plants not previously permitted in Michigan) prior to the plant being installed. For proposed plant sites in Wayne County, the contractor should apply directly to the Wayne County Department of Environment, Air Quality Management Division.

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.

## 5.14 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 would have no impacts on wetlands. The HOV Alternative would require unavoidable impacts at the Square Lake Road interchange 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

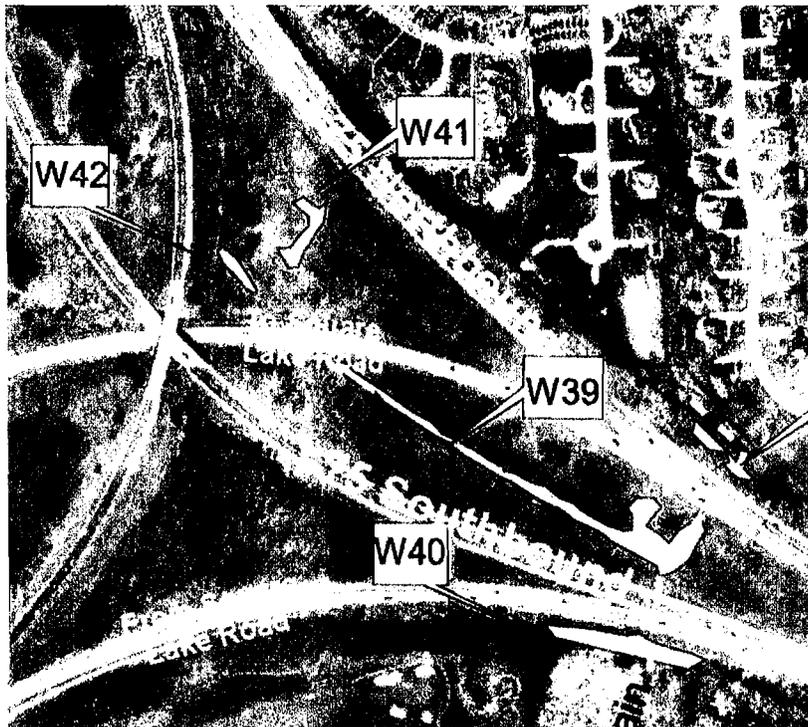
Compensatory wetland restoration or creation is planned in accordance with state and local wetland protection ordinances. The emergent and scrub shrub wetlands that would be affected by this project would be mitigated at a 1.5:1 ratio, so that each acre of impact is compensated with 1.5 acres of mitigation wetland, for a total mitigation need of about 0.61 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>72</sup> They are within the Quarton Branch of the River Rouge watershed. The wetland impact site and the proposed mitigation site are shown in Figure 5-1.

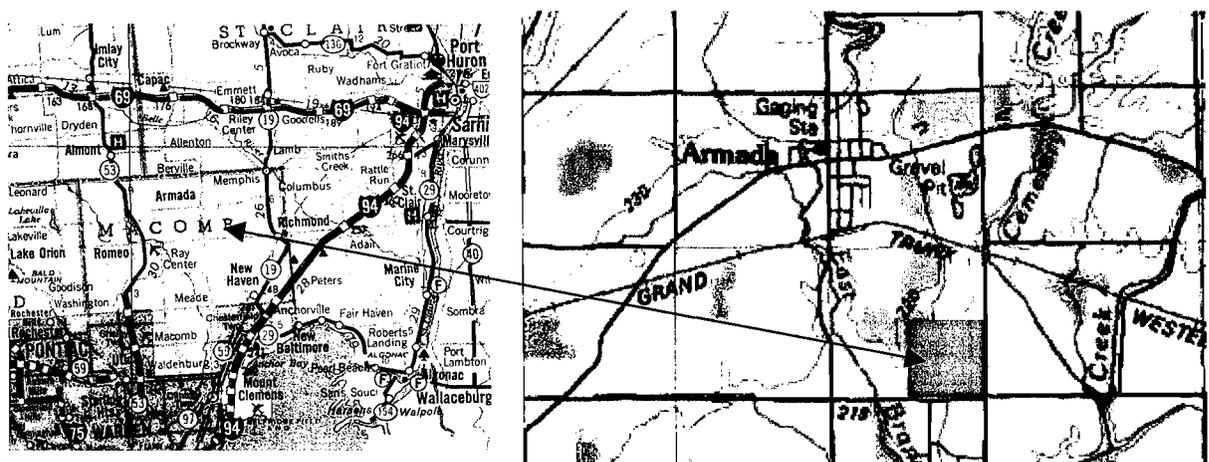
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<sup>72</sup> *Regional Landscape Ecosystems of Michigan*, D.A. Albert, 1995.

**Wetland Impacts at Square Lake Road**



**Mitigation Site (in blue)**



**Figure 5-1  
Wetland Impact and Mitigation Sites**

The proposed 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. On July 14, 2003 a field review of a site was completed with a representative of the MDEQ, who concurred that this site would meet the mitigation need of the I-75 project, even though the mitigation site is within the Coon Creek (Unit 31) and Highbank Creek (Unit 28) subwatersheds of the Clinton River Watershed. The site is in Armada Township in Macomb County. The National Resource Conservation Service has classified the site as Prior Converted wetland. The site has been cleared of any environmental issues.

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 through manipulation of existing drain tiles and water elevations in ditches. 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.

## **5.15 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.

## **5.16 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.

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 October 2003.

## **SECTION 6**

# **EARLY COORDINATION, PUBLIC MEETINGS, AND SCHEDULE**

This section traces the public and agency input that was vital to the development of the alternatives, the analysis of impacts, and the measures to minimize harm that have been developed to mitigate project impacts. The first section covers early coordination, wherein those with a review or regulatory role, or special interest in the project, were specifically invited to participate in a dialogue about the project. The next section covers the public meetings held during the course of the project that led to the public hearing.

### **6.1 Early Coordination**

A Notice of Intent to prepare an Environmental Impact Statement was published in the *Federal Register* June 14, 2002 (Appendix B). A scoping meeting was held August 29, 2002 in 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 B. Pertinent correspondence received by MDOT is also included in Appendix B, as are minutes of the scoping meeting.

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. 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 sent to MDEQ, US EPA, and the US F&WS ending the concurrency process are included at the end of Appendix B, Section 2.

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 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.

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 email (the email 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. Emails and correspondence were responded to promptly. Local officials were visited numerous times to understand the interests and concerns of their constituents. Logs of email and phone calls are on file at MDOT.

During the I-75 Feasibility Study, 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 the project in May 2002.

### **6.3 Next Steps - Schedule**

Following availability of this Draft EIS for review by the public and federal, state, and local agencies, a public hearing will be held. After the close of the DEIS comment period, public and agency comments will be reviewed and a Preferred Alternative will be selected. This will likely occur in 2004.

A Final EIS will then be prepared that addresses the comments received and making any necessary changes to the DEIS. After that document is finalized and made available, a Record of Decision (ROD) will be prepared that chronicles the decision-making process. This would occur after project funding has been identified and the project has been found to be in conformity. When the Federal Highway Administration signs the ROD, the project can move forward to the design phase. The project is currently funded only through the environmental clearance stage.

Design will commence when funding becomes available. 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.

## **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. Ten 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-two years of experience in land use planning, environmental document preparation, research and development projects, including twenty-three years service with the Michigan Department of Transportation. 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. Fifteen 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. Sixteen 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-two 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-eight 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. Six years of experience at the Michigan Department of Environmental Quality (MDEQ) and six months at MDOT. Drainage review.

**Brenda Peek, Metro Region Communications Representative**, M.A. in Urban Affairs, University of Detroit. Twenty-three 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. Sixteen 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. Fourteen 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-eight years of project management and environmental experience. Quality control on EIS.

**Ari Adler, Public Involvement**, The Corradino Group. B.A. Michigan State University. Thirteen 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. Twelve 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 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-four years of civil and roadway design experience. Engineering Report.

**Ken Wells, P.E., Road Engineer**, Rowe, Inc. B.S.C.E. Michigan State University. Fourteen 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 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. Fourteen 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-six years of management and planning experience.

**Gnanadesikan Ramanujam, P.E. (Ram), Geotechnical Analysis**, SOMAT Engineering. M.S. in Civil Engineering, Vanderbilt University, Nashville, Tennessee. Thirteen 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 this document has been 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 and Agencies**

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

**Appendix A**  
**Conceptual Stage Relocation Plan**

Michigan Department of Transportation  
Real Estate Support Area  
Conceptual Stage Relocation Plan  
I-75 EPE Corridor Study  
Control Section 63174, Job Number 55776

September 29, 2003

**GENERAL AREA AND PROJECT INFORMATION**

The proposed I-75 project extends eighteen miles along I-75 from 8 Mile Road in the City of Hazel Park to M-59 in the City of Pontiac, 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. 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**

11 single family residential  
2 commercial

Additionally, there is one residential garage displacement.

**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 8 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 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.

## 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:

A handwritten signature in cursive script, reading "Kelly Ramirez". The signature is written in black ink and is positioned to the left of the date.

Date: September 29, 2003

**Appendix B**  
**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**  
**Correspondence Received in Response to Scoping**

**Section 4**  
**Minutes of Scoping Meetings**

**Appendix B - 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 B - 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  
Patrick McNamara Federal Building  
477 Michigan Avenue  
Detroit, Michigan 48226

Craig Czarnecki, Field Supervisor - **Responded**  
United States Department of the Interior  
Fish and Wildlife Service  
2651 Coolidge Road  
East Lansing, MI 48823  
Ph: 517.351-8315 (Tameka Dandridge)  
Email [r3elfo@fws.gov](mailto:r3elfo@fws.gov)

Mr. Joel Ettinger, Regional Administrator  
Federal Transit Administration  
200 West Adams Street, Suite 2410  
Chicago, Illinois 60606

Mr. Gary Mannesto, Chief - **Responded**  
Regulatory Office  
Department of the Army  
Detroit District, Corps of Engineers  
PO Box 1027  
Detroit, Michigan 48231-1027  
Ph: 313-226-7590 (Paul Allending)

Mr. William Schenk, Regional Director  
National Park Service, Midwest Region  
1709 Jackson Street  
Omaha, Nebraska 68102-2571

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  
77 West Jackson Boulevard, B-19-J  
Chicago, Illinois 60604-3590  
Ph 312/353-5794 (Sherry Kamke)  
Email [Westlake Kenneth@epa.gov](mailto:Westlake Kenneth@epa.gov)

Mr. Ronald C. Williams,  
State Conservationist  
Natural Resources Conservation Service  
Michigan State Office  
Suite 250  
3001 Coolidge Road  
East Lansing, MI 48823-6350  
Ph 517.324.5277  
Email [ron.williams@mi.usda.gov](mailto:ron.williams@mi.usda.gov)

## STATE AGENCIES

Mr. George Burgoyne - **Responded**  
Resource Management Deputy  
Dept. of Natural Resources  
Mason Building, 6th Floor  
530 West Allegan  
Lansing, MI 48933  
Ph: 517-373-1263 (Lori Sargent)

Mr. Brian Conway - **Responded**  
State Historic Preservation Officer  
Michigan Dept. of History, Arts and Libraries  
717 West Allegan Street  
Lansing, MI 48918

Mr. Gerald Fulcher - **Attended (Alex Sanchez)**  
Geological and Land Water Mgt. Division  
Dept. of Environmental Quality  
Constitution Hall  
525 West Allegan  
Lansing, MI 48933

Mr. G. Vincent Hellwig  
Division Chief  
Air Quality Division  
Dept. of Environmental Quality  
Constitution Hall  
525 West Allegan  
Lansing, MI 48933

Ms. Carol Isaacs, Director  
Health Legislation & Policy Development  
Michigan Department of Community Health  
Lewis Cass Building, 6th Floor  
320 South Walnut Street  
Lansing, MI 48913

Ms. Teresa Seidel, District Supervisor  
Southeast Michigan District Office  
Dept. of Environmental Quality  
38980 Seven Mile Road  
Livonia, MI 48152-1006

Mr. Dan Wyant, Director - **Responded**  
Michigan Department of Agriculture  
Constitution Hall,  
525 West Allegan  
Lansing, MI 48933

## LOCAL AGENCIES

Mr. Gary Ahol  
Oakland County Drain Commission  
Building 95 West  
One Public Works Road  
Waterford, MI 48328

Mr. Brent Bair – **Attended** (Gerald Holmberg)  
**Responded**  
Road Commission of Oakland County  
31001 Lahser Road  
Beverly Hills, MI 48025

Ms. Claudia Berry  
Chamber of Commerce  
One Woodward Avenue, Suite 1900  
P.O. Box 33840  
Detroit, MI 48232-0840

Mr. Michael Brouchard, Sheriff  
Oakland Co. Sheriff Department  
1201 North Telegraph Road  
Pontiac, MI 48341-1044

Hon. Ralph Castelli, Jr., Mayor  
City of Pleasant Ridge  
23925 Woodward Avenue  
Pleasant Ridge, MI 48069-1132

Hon. Ben Colley, Mayor  
City of Hazel Park  
111 East 9 Mile Road  
Hazel Park, MI 48030-1892

Mr. Joseph Cozma – **Attended** (Eugene  
Snowden)  
Oakland Co. Drain Commission  
Bldg. 95 West  
One Public Works Road  
Waterford, MI 48328

Hon. John Davey, Mayor  
City of Bloomfield Hills  
45 E. Long Lake Road  
Bloomfield Hills, MI 48304-2369

Mr. Dan Dirks – **Attended** (Ron Ristau)  
General Manager  
SMART  
660 Woodward Avenue  
Suite 950  
Detroit, MI 48226

Hon. George Frisch, Mayor  
City of Lake Angelus  
45 Gallogly Road  
Lake Angelus, MI 48326-1262

Hon. Ronald F. Gillham, Mayor  
26815 Scotia Road  
Huntington Woods, MI 48070-1199

Mr. Ron Grimes, Supervisor  
Environmental Health  
Oakland Co. Health Dept.  
1200 N. Telegraph Road, Dept. 432  
Pontiac, MI 48341-0432

Hon. Mari Harvey-Edwards, Mayor  
1827 N. Squirrel Road  
Auburn Hills, MI 48326-2753

Ms. Carolyn Henney  
Oakland Co. Soil Conservation District  
1200 N. Telegraph Rd., Dept. 416  
Building #26  
Pontiac, MI 48341

Hon. Barbara L. Iseppi, Mayor  
425 N. Main Street  
Clawson, MI 48017-1596

Hon. David Katulic, Mayor  
400 6th Street, #10  
Rochester, MI 48307-1483

Hon. Kwame Kilpatrick, Mayor – **Attended**  
(Sarah Lile)  
City of Detroit  
1340 City-County Building  
Detroit, MI 48226

Mr. Robert Long, Chairman  
Oakland Co. Conservation District  
2891 Dixie Highway  
Waterford, MI 48328

Hon. Dianne McKeon, Mayor  
151 Martin Street, #3001  
Birmingham, MI 48009-3368

Hon. John Mark Mooney, Mayor  
3338 Coolidge Highway  
Berkley, MI 48072-1690

Hon. Gerald E. Naftaly, Mayor  
City of Oak Park  
13600 Oak Park Blvd.  
Oak Park, MI 48237-2090

Mr. Gail Novak, Chief  
Oakland Co. Emergency Management  
1200 N. Telegraph Rd.  
Dept. 410  
Pontiac, MI 48341-0410

Mr. Carmine Palombo, Director - **Attended**  
Transportation Programs, SEMCOG  
535 Griswold Street  
Suite 300  
Detroit, MI 48226

Hon. Willie Payne, Mayor – **Attended** (Art Mitchell)  
City of Pontiac  
47450 Woodward Avenue  
Pontiac, MI 48342-2271

Hon. Robert Porter, Mayor – **Attended** (Tom Barwin)  
City of Ferndale  
300 East 9 Mile Road  
Ferndale, MI 48220-1731

Hon. Matt Pryor, Mayor - **Attended**  
City of Troy  
500 W. Big Beaver Road  
Troy, MI 48084-5254

Mr. Phil Sanzica  
Asst. Chief Engineer  
Oakland Co. Drain Commission, Construction  
Building 95 West  
One Public Works Road  
Waterford, MI 48328

Hon. Patricia Somerville, Mayor – **Attended**  
(Paul Davis)  
City of Rochester Hills  
1000 Rochester Hills Drive  
Rochester Hills, MI 48309-3033

Hon. Edward Swanson, Mayor – **Attended**  
300 West 13 Mile Road  
Madison Heights, MI 48071

Hon. Bill Urich, Mayor – **Attended** (Dick Cole)  
211 South Williams St, #64  
Royal Oak, MI 48067-2634

Mr. J. David Vanderveen - **Attended**  
Oakland County  
2400 Telegraph Road  
Pontiac, MI 48341

## STATE AND U.S. SENATORS AND REPRESENTATIVES

Hon. Michael D. Bishop  
State Representative  
124 North Capitol  
Lansing, MI 48933

Hon. Mat J. Dunaskiss  
State Senator  
Capitol Building, Room S-8  
100 North Capitol  
Lansing, MI 48933

Hon. Patricia A.K. Godchaux  
State Representative  
123 N. Capitol  
Lansing, MI 48933

Hon. Robert Gosselin - **Attended**  
State Representative  
P.O. Box 30014  
Lansing, MI 48909-7356

Hon. Gilda Z. Jacobs  
State Representative  
124 North Capitol  
Lansing, MI 48933

Hon. Ruth A. Johnson  
State Representative  
124 North Capitol  
Lansing, MI 48933

Hon. Shirley Johnson  
State Senator  
124 North Capitol  
Lansing, MI 48933

Hon. Dale E. Kildee  
U.S. Representative  
2107 Rayburn House Office Building  
Washington, DC 20515

Hon. Joe Knollenberg  
U.S. Representative  
2349 Rayburn House Office Building  
Washington, DC 20515

Hon. Mike Kowall  
State Representative  
124 North Capitol  
Lansing, MI 48933

Hon. Carl Levin  
U.S. Senator  
459 Russell Senate Office Building  
Washington, DC 20510

Hon. Sander Levin  
U.S. Representative  
2300 Rayburn House Office Building  
Washington, DC 20515

Hon. John G. Pappageorge  
State Representative  
124 North Capitol  
Lansing, MI 48933

Hon. Gary Peters  
State Senator  
710 Farnum Building  
125 West Allegan  
Lansing, MI 48933

Hon. Clarence Phillips  
State Representative  
124 North Capitol  
Lansing, MI 48933

Hon. Debbie Stabenow  
U.S. Senator  
702 Hart Senate Office Building  
Washington, DC 20510

Hon. David T. Woodward  
State Representative  
124 North Capitol  
Lansing, MI 48933

## OTHER AGENCIES

Ms. Dusty Fancher  
Land Programs Director  
Michigan Environmental Council  
119 Pere Marquette  
Suite 2-A  
Lansing, MI 48912

Mr. James Goodheart  
Executive Director  
Michigan United Conservation Clubs, Inc.  
2101 Wood Street  
Lansing, MI 48912

Mr. Keith G. Harrison  
Executive Director  
Michigan Environmental Science Board  
Constitution Hall, 5th Floor South  
525 West Allegan Street  
Lansing, MI 48933

Ms. Allison Horton  
Director  
Sierra Club  
Mackinac Chapter  
109 East Grand River Avenue  
Lansing, MI 48906

Ms. Bethany Renfer  
Program Coordinator  
Clean Water Action  
1200 Michigan Avenue #A  
East Lansing, MI 48823

## **Appendix B - Section 3**

### **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. Lozano  
Commissioner*

*Brent D. 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  
DAD 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 black ink, 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 (FEWA)

Dear Ms. Barondeess:

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:big

STATE HISTORIC PRESERVATION OFFICE, MICHIGAN HISTORICAL CENTER  
702 WEST KALAMAZOO STREET • P.O. BOX 30740 • LANSING, MICHIGAN 48909-8240  
(517) 378-1630  
www.michigan.gov/hai



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 Allerding 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.

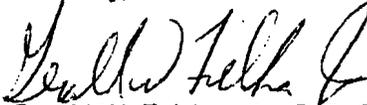
Under the National Environmental Policy Act and the Section 404 regulatory process we agree with the first concurrence point as to the purpose and need for the project investigation to continue. We have the following comment:

- 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.

May 14, 2003

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:

COPY

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.*).

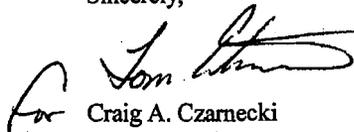
Based on information presently available, there are no endangered, threatened, proposed, or candidate species, or critical habitat occurring within the proposed project areas. This presently precludes the need for further action on this project as required under Section 7 of the Act.

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. Czarniecki  
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

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



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: Leri Noblet, MDOT, Environment



U.S. Department  
of Transportation

Federal Highway  
Administration

Michigan Division

315 W. Allegan St., Room 207  
Lansing, Michigan 48233

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

## Appendix B - Section 4

### 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

# INDEX

	<u>Page</u>
Act 451 .....	1-16, 4-26, 4-57,5-4
Air Quality.....	1-12,4-28, 5-4
Alternatives .....	1-3, 3-1
Archaeological Resources .....	4-58
Bicycle Considerations.....	4-12
Clean Water Act .....	1-16, 5-3
Community Cohesion.....	4-2
Conformity .....	1-12, 4-28
Construction Noise .....	5-7
Contaminated Sites.....	4-60
Cost .....	1-15, 4-67
Crashes .....	2-13
Cultural Resources .....	4-58
Description of the Proposed Project.....	1-1
Do Nothing (No Build) Alternative.....	1-3, 3-2
Early Coordination .....	6-1
Ecological Resources .....	1-12
Economics .....	4-23
Energy .....	4-67
Environmental Consequences .....	4-1
Environmental Justice .....	4-20
Executive Order 11990.....	1-16, 5-3
Executive Order 11998.....	4-55
Executive Order 12898.....	4-20
Existing Land Use .....	4-26
Farmlands .....	4-26
Federal Agency Coordination .....	6-1
Floodplains .....	4-55
Floodways .....	4-55
Groundwater.....	4-54
Historic Resources.....	4-58
Housing .....	4-1, A-2
Income.....	4-19
Indirect and Cumulative Impacts .....	4-63
Land Use .....	2-2, 4-26

# INDEX (continued)

	<u>Page</u>
List of Preparers .....	7-1
Maintenance of Traffic .....	4-17, 5-6
Mass Transit .....	1-4, 3-4
Mitigation .....	5-1
No Build (No Action, Do Nothing) Alternative .....	1-3, 3-2
Noise .....	4-32
Ozone .....	4-29
Park-and-ride Lots .....	3-22
Parkland .....	4-59
Pedestrian Considerations .....	4-12
Permits .....	1-16, 4-63, 5-3
Population .....	2-2, 4-17
Preparers .....	7-1
Property Taxes .....	4-25
Public Involvement .....	6-2
Rapid Transit .....	1-4, 3-4
Relocations .....	4-1, A-1
Safety .....	1-8, 2-13
Scoping .....	6-1, B-1
Section 4(f)/6(f) .....	4-59
Section 401 Permit .....	5-3
Section 404 Permit .....	5-4
Sedimentation .....	5-4
Social Impacts .....	4-2
Soils .....	4-63
State Agency Coordination .....	6-2
Surface Water .....	4-49, 5-3
Tax Base .....	4-25
Threatened and Endangered Species .....	4-48
Traffic .....	2-4
Visual Conditions .....	4-59
Water Quality .....	4-54
Wetland Mitigation .....	4-57, 5-8
Wetlands .....	4-55
Zoning .....	1-10, 1-11