

CHAPTER 3

THE ENVIRONMENT: WHAT'S THERE NOW AND PROJECT EFFECTS

The purpose of this chapter is to present the anticipated impacts of the Recommended Alternative on the social, economic, natural and cultural environments as they differ from the information presented in the DEIS. For impacts that have not changed, the information is briefly summarized and the reader will be referred to the DEIS for the complete discussion. For impacts that have changed, the updated information is discussed.

Resources Identified within the DEIS Not Impacted by this Proposed Action

The following resources are not impacted by the Recommended Alternative:

- Farmland
- Wild and Scenic Rivers
- Coastal Zone
- Coastal Barriers/Critical Dunes

A complete discussion of the topics not impacted by this study are available in the DEIS, Sections 3.17 – 3.20.

3.1 Land Use and Zoning

This section discusses the existing land use and zoning conditions within the Study Area and examines the impacts and compatibility of the No-Build and the Recommended Alternative on existing and future land uses.

3.1.1 What are the Land Uses in the Study Area?

Both the city of Port Huron and Port Huron Township have zoning ordinances that were updated in 2004. There are various land uses within the Study Area. These land uses include single-family residential, multiple family residential, commercial, and public facilities.

Both developed and undeveloped land can be found in the Study Area. Developed lands are primarily found east of the Lapeer connector interchange with I-94/I-69 and continue east to the St. Clair River, including parts of Port Huron Township and the city of Port Huron. These developed lands include various land uses, including residential, commercial, and recreational.

Undeveloped lands are generally found west of the Lapeer connector in Port Huron Township. Existing undeveloped lands are either wooded or open fields including a large tract of vacant land directly north and west of the MDOT maintenance facility located on I-94/I-69. Existing and planned land uses in the Study Area are very similar with the exception of the proposed Michigan Welcome Center site in the Township. This location is currently open space but is planned for residential use.

3.1.2 How Will the Alternatives Affect Land Use?

No-Build Alternative: The No-Build Alternative would have few impacts on land use policies and decisions within the Study Area. Future land use plans by both the city of Port Huron and Port Huron Township anticipate that the Blue Water Bridge Plaza would continue to function as-is and in its current location.

The increases in local traffic expected by 2030 would likely result in major bottle necks and queues at several intersections which will ultimately cause increased congestion throughout the entire network. This could impact access to local businesses.

Recommended Alternative: Improvements to the plaza will impact existing residential and commercial development within the city of Port Huron. The proposed plaza would encompass the area from M-25 Connector on the west, Hancock Street to the north, 10th Avenue on the east and most of Scott Avenue on the south. Land use categories located in this area include commercial, residential and a church. Residential areas north and south of the plaza would be impacted and would result in relocations. The condominiums east of the Black River and north of the interstate will be

removed for expansion of the Black River Bridge and freeway. In Port Huron Township, existing open space will be converted for use as a welcome center. This land is currently designated for residential use.

The Recommended Alternative is not consistent with current and planned zoning and land uses within the Study Area. This Alternative will affect commercial and residential establishments with the expansion of the existing Blue Water Bridge Plaza down to ground level. The proposed plaza and transportation related land uses would not be compatible with the local plans for the blocks it affects. The city of Port Huron Zoning Ordinance restricts residential properties to 2.5 stories and commercial properties to three stories.

3.2 Economics

The Blue Water Bridge is one of the United State's busiest border crossings for both trucks and cars. In 2007, more than \$40 billion in goods crossed the Blue Water Bridge by truck, more than \$110 million per day. Approximately 12.4 percent of the total truck trade between the United States and Canada crosses the Blue Water Bridge in Port Huron. This section will summarize the economic impacts described in the DEIS and any changes due to the revised plaza.

The movement of people and goods across the Blue Water Bridge affects local, regional, state, national and international markets and economic conditions. The United States Plaza at the Blue Water Bridge is a key part of the Blue Water Bridge border crossing system. The location of the plaza and its ability to efficiently and securely process people and goods entering and exiting the United States will impact all the markets. A new plaza will also require some existing businesses to relocate and will remove land from the tax base of the city of Port Huron.

3.2.1 How Would the No-Build Alternative Affect Businesses, Taxes, Jobs and Trade?

The No-Build Alternative will have minimal effects on existing local businesses and local tax bases. The No-Build Alternative will have negative impacts on trade between the United States

and Canada and between Michigan and Ontario due to increasing levels of plaza congestion causing longer delays for crossings and shipments across the Blue Water Bridge.

Impacts on Existing Local Businesses: The No-Build Alternative will have very minor impacts on existing local businesses. No businesses are relocated and there are no access changes that would affect existing business patterns.

Tax Base Impacts: There is no new right-of-way required for the No-Build Alternative and thus no direct impacts to the property tax base for any community. As the plaza would remain in Port Huron, there would be no impacts to the city income tax collected from plaza employees.

The No-Build Alternative would have long-term negative impacts on the tax bases of the United States, Canada, Michigan, and Ontario to the extent that revenues from international trade are harmed by border congestion. The potential trade and economic impacts of the alternatives are discussed in the following paragraphs.

Job Impacts: As the No-Build Alternative involves no property acquisition or changes in access, it is unlikely to have any direct impacts on local employment. Jobs related to trade and trucking would be negatively affected by a No-Build Alternative to the extent that congestion and backups raise the cost of transporting goods across the border, resulting in negative impacts on trade between the United States and Canada. There are substantial congestion issues at each of the major border crossings between Michigan and Ontario. Cars and trucks will not be able to avoid border congestion by diverting to other crossings.

Other studies have suggested that there will be high job losses unless the Michigan border crossings, including the Blue Water Bridge, are improved. A study completed for the Border Transportation Partnership concluded that approximately 90,000 full time jobs would be lost in the United States and approximately 35,000 full time jobs would

be lost in Canada if improvements are not made to border crossings between Ontario and Michigan¹.

Approximately 11 percent of employed city of Port Huron residents and 16 percent of employed Fort Gratiot Township residents work outside of St. Clair County. Many of these workers will use the roadways in the Study Area as part of their commute to and from work. Approximately 46 percent of employed Fort Gratiot Township residents work in the city of Port Huron or Port Huron Township and 10 percent of employed city of Port Huron residents work in Fort Gratiot. Most of these workers will pass through the Study Area as part of their journey to work each day. Congestion and backups within the Study Area and along I-94/I-69 due to the selection of a No-Build Alternative will lengthen the commute times for Port Huron Area workers traveling through the Study Area.

Trade Impacts: The No-Build Alternative would result in the worsening of traffic backups and congestion on the United States Plaza at the Blue Water Bridge. Future backups and congestion under a No-Build condition would have a negative effect on international trade. Backups and congestion are costly for trucking firms and the traveling public. The costs of backups and congestion include wages for drivers waiting to cross, lost productivity of trucks, and a reduction in the number of daily trips drivers can make across the border. The backups and congestion also cost trucking firms and manufacturers because of the uncertainty they create in the delivery process. Many industries in Ontario and Michigan, especially the auto industry, depend on parts from both sides of the border. Dealing with anticipated delays can be very costly due to production shut downs or the need to have an excess inventory of parts in case of delayed shipment. A detailed delay analysis can be found in **Section 2.3** of this FEIS.

Tax Base Impacts: **Table 3.2.1** lists the local property tax base impacts for the No-Build Alternative and the Recommended Alternative.

¹ *Regional and National Economic Impact of Increasing Delay and Delay Related Costs at the Windsor-Detroit Crossings.* Canada-United States, Ontario-Michigan Border Transportation Partnership, 2004.

Why Does Uncertainty in Border Crossing Time Hurt the Economy?

Many manufacturers rely on parts arriving at their plants just when they need them. They do not want to pay for large warehouses of parts. Uncertainty in the time it takes to cross the border means that parts from factories on the other side of the border may not arrive when they are needed. As a result, manufacturers have to keep and store an extra supply of parts just in case of supply delays or risk having to shut down production. Keeping extra part supplies raises the cost of manufacturing.

Table 3.2.1 Local Property Tax Base Impacts – 2008 Dollars

Alternative	City of Port Huron Current Taxable Value \$794.2 Million		Port Huron Township Current Taxable Value \$295.1 Million	
	Taxable Value Lost \$Millions	Percent of Total Taxable Lost	Taxable Value Lost \$Millions	Percent of Total Taxable Lost
No-Build	\$0.0	0.0%	\$0.0	0.0%
Recommended Alternative	\$12.9	1.6%	\$1.3	0.4%

Source: Raw Property Tax Data provided by city of Port Huron and St. Clair County.

3.2.2 How Would the Recommended Alternative Affect Businesses, Taxes, Trade and Jobs?

The Recommended Alternative will have effects on remaining businesses due to the realignment of Pine Grove Avenue to the west of the new plaza. Additionally, the Recommended Alternative will reduce future congestion at the Blue Water Bridge border crossing, providing positive economic benefits to trucking firms and other companies and individuals involved in cross-border trade.

Impacts on Existing Businesses: The Recommended Alternative relocates 30 businesses, the same amount that was provided in the DEIS. The City West Alternative also eliminates six commercial-zoned vacant properties within the city of Port Huron’s designated Blue Water Gateway Business Area.

The Recommended Alternative will maintain border traffic access to businesses remaining in the vicinity of the existing plaza by provided ramps between the plaza and the realigned Pine Grove Avenue. Travel times for cross-border traffic to access businesses in the vicinity of the plaza, along M-25, and to downtown will improve during periods of high traffic volumes due to plaza improvements.

The Recommended Alternative would also have minimal effect on businesses in downtown Port Huron. The alternative would include direct ramp access between I-94/I-69 and the realigned Pine Grove Avenue. This access will make it easier for eastbound travelers to get to downtown Port Huron and

would help support economic development efforts focused on the area between the plaza and downtown.

The city of Port Huron would lose approximately 1.6 percent (\$12.9 million) of its existing property tax base if the Recommended Alternative is constructed. Based on an average property-tax rate of \$38 per \$1,000 of taxable value for the city of Port Huron, this loss of tax base represents approximately \$490,000 in annual property tax revenue. The property tax base of the city of Port Huron grew approximately 8.62 percent annually between 2005 and 2008. The loss of tax base to the city of Port Huron would be less than one year's annual growth in taxable value. This loss of taxable value would represent a permanent loss to the city of Port Huron's revenue.

The Recommended Alternative may cause changes in the property values and property taxes for homes and business owners that remain in the vicinity of the plaza. It is very difficult to isolate the effect of transportation improvements on the value of particular parcels of land in an urban area. Some parcels may increase in value due to improved access while other parcels may lose value due to noise or visual impacts. A property, which may have lower value as a residential property, may also have a much greater value as a potential commercial site.

It is also difficult to differentiate between the effects of the project and changes in values due to property improvements or changes in the local market. As a result, MDOT does not assess the potential changes in value for individual properties that do not need to be purchased for a transportation improvement project. MDOT also does not directly compensate property owners for potential losses in property values due to the potential of additional value created by the project.

Job Impacts: The Recommended Alternative will relocate the jobs that are connected with the businesses that are displaced. The job relocations for the Recommended Alternative are listed in **Table 3.2.2**. The alternative would displace businesses with a total estimated employment of 400 people. If some of the displaced businesses choose to shut down or

move outside of the Port Huron area, there would be a loss of local jobs. The Recommended Alternative would benefit national employment by decreasing the cost of transporting goods across the border and increasing revenue and efficiency for firms that rely on the border crossing to ship products and parts between the United States and Canada.

The investment of construction dollars for the project will result in the creation of new jobs. When an investment is made in the construction of a new facility, the companies and individuals receiving payment for building the project will in turn spend the money they receive on other goods and services. Companies and individuals receiving benefits in terms of reduced travel time and accident costs would also invest portions of these savings in the local and state economies.

Based on the revised estimated construction cost for the Recommended Alternative of \$325 million, the Study Team estimates that 4,400 jobs will be created over a five-year construction period. Most of these jobs will be short-term construction related positions. Local job benefits from construction of the Recommended Alternative would depend in part on the availability of local materials and workers. MDOT seeks the best possible value from its investments when tendering construction projects and, like any other project, there is no guarantee local firms would be selected or local materials used.

Table 3.2.2 Estimated Local Job Relocations

Alternative	City of Port Huron Job Relocations	Port Huron Township Job Relocations
No-Build	0	0
Recommended Alternative	385	15

Trade Impacts: The Recommended Alternative would result in positive impacts on trade and commerce across the Blue Water Bridge through a reduction in travel times and congestion. Reduced congestion will lead to less uncertainty in border crossings, allowing firms that transport goods across the

border to meet just-in-time delivery schedules with less warehouse inventory required. A delay analysis was conducted for this FEIS and is presented in **Section 2.3** of this FEIS. On average, delay at the border will be reduced to approximately three to four minutes under the Recommended Alternative. Currently the average delay is approximately 20 to 25 minutes. **Table 3.2.3** summarizes the delay results from the analysis.

Table 3.2.3 Delay Analysis Summary

Model Output	Passenger Peak		Commercial Peak	
	Future No-Build	Future Build	Future No-Build	Future Build
Vehicles Processed per hour	814	1110	539	844
Average delay* (min/veh)	31.8	3.4	23.7	3.1
Maximum Queue Cars	1.7 miles	Within Plaza	Within Plaza	Within Plaza
Maximum Queue Trucks	1.5 miles	Within Plaza	Beyond Study Area (>1.8 miles)	Within Plaza
* Delay is the wait time required in addition to the time taken to drive the same distance at free flow speed. It does not include time spent in secondary inspection and only applies to primary inspection wait times.				

3.2.3 Economic Development Assistance

The Michigan Department of Transportation has incorporated several enhancements into the project that are designed to improve economic and community redevelopment opportunities within greater Port Huron. **Section 5.26** of this FEIS describes in more detail this initiative.

Economic Development Plan: MDOT will fund the development of an Economic Development Plan. This strategic plan would build upon existing strategic advantages, international trade opportunities, and the community’s extensive transportation assets that can contribute to a stronger more vibrant economy for the future. The economy of Port Huron and St. Clair County is changing; globalization and new technologies continue to accelerate the rate of that change. With an

Economic Development Plan in place St. Clair County and Port Huron will be better positioned to build on the competitiveness of this region creating a stronger and more prosperous economy by working to achieve common goals and action strategies.

Fund a local visitor center addition: In collaboration with the Greater Port Huron Chamber of Commerce, MDOT will fund an addition to the Chamber's office for the purposes of housing a local visitor center. This facility will be used to disseminate local tourism information and promote the tourism and economic development opportunities which exist within the Port Huron community.

Continue Coordination with Community Assistance Team: MDOT commits to continue coordination efforts with other state and federal agencies to bring additional resources to the greater Port Huron community. Such examples include coordinating with the Michigan Economic Development Corporation, the Michigan State Housing Development Authority, and the Michigan Department of Environmental Quality to determine if any of these agency's existing programs, grants, or resources can be applied to future redevelopment opportunities.

3.3 Air Quality

What is General Conformity Analysis?

General Conformity Analysis is performed to determine if air quality impacts of Federal actions will cause or contribute to a violation of the NAAQS or interfere with the purpose of a State Implementation Plan (SIP).

Section 3.9 of the **DEIS** presented a discussion on the National Ambient Air Quality Standards, (NAAQS) specific pollutants, Mobile Source Air Toxics (MSAT), and air quality status in the Study Area. Since the publication of the DEIS, the U.S. Environmental Protection Agency (EPA) has lowered the NAAQS for ozone from 0.08 ppm to 0.075 ppm. The air quality section of this FEIS presents the results of the General Conformity analysis and the status of Transportation Conformity for the Recommended Alternative.

3.3.1 What is the Current Status of Air Quality?

The Clean Air Act requires each state to have a State Implementation Plan (SIP) to demonstrate how it will attain and/or maintain federal air quality standards.

The Blue Water Bridge Plaza project is located within the Metropolitan Detroit-Port Huron Intrastate Air Quality

Control Region (AQCR #123). St. Clair County is currently in attainment status for five of the seven criteria NAAQS pollutants, and has been classified as being in non-attainment for PM_{2.5} and the eight-hour ozone standard.

The Michigan Department of Environmental Quality Air Quality Division, along with other governmental agencies, operates a network of 45 air monitoring sites around the state of Michigan. One of these monitors is located at 2525 Dove Road in Port Huron. This monitoring site collects data on SO₂, PM_{2.5} and O₃ (ozone).

Annual SO₂ concentrations have declined rather steadily from the 1998 level of 0.012 ppm to the 0.006 to 0.008 ppm range for the last 8 years. These levels are well below the 0.030 ppm NAAQS for SO₂.

The 8-hour O₃ levels at the Port Huron site, during the period from 1999 to 2005, have varied between 0.086 and 0.088 ppm. In 2006 and 2007 the levels dropped to 0.083 and 0.082 ppm, respectively. These levels exceeded the previous NAAQS of 0.08 and presently exceed the revised NAAQS of 0.075 ppm.

The PM_{2.5} concentrations, both annual and 24-hour, like the O₃ levels, have varied from 1999 through 2007 at the Port Huron site. Annual concentrations have varied between 15.09 µg/m³ and 12.04 µg/m³. The highest occurred in 2005 with the second highest concentration in 2000, the second lowest was 2007, and the lowest occurred in 2004. During the 1999 through 2007 time period, none of the three year averages has exceeded the 15 µg/m³ standard. Similar variations also exist in the 24-hour concentration, with a low of 32.2 µg/m³ in 2004 and a high of 47.6 µg/m³ in 2006. In the period from 1999 through 2006, the Port Huron concentrations did not exceed the 65 µg/m³ standard. However, under the new 24-hour standard of 35 µg/m³ (effective December 17, 2006) the standard has been exceeded during both the 2004 – 2006 and the 2005 – 2007 periods with 3-year mean values of 39 µg/m³ for both periods.

What is Transportation Conformity?

Transportation conformity applies to highways and mass transit and establishes the criteria and procedures for determining whether transportation plans, programs and projects funded under Title 23 U.S.C. or the Federal Transit Act conform to the State Implementation Plan and the General Conformity Regulations.

3.3.2 What Impacts from Carbon Monoxide are Anticipated with the Recommended Alternative?

A carbon monoxide (CO) microscale analysis was completed on the City West Alternative in the DEIS. The Recommended Alternative is not significantly different from the City West Alternative in the DEIS. Therefore, the conclusions determined in the DEIS in the CO microscale analysis remain valid for the Recommended Alternative.

The CO microscale analysis in the DEIS focused on the M-25/Hancock Street intersection which is the worst-case location for CO because of the potential for backups at the signalized intersection and its relatively close proximity to the general public. The one-hour maximum concentrations were in the low 4.0 ppm to low 5.0 ppm range. These numbers include the background concentration of 3.4 ppm. These concentrations do not exceed the one-hour NAAQS of 35 ppm. An eight-hour CO analysis was not required because the one-hour total is less than the eight-hour NAAQS standard (9 ppm).

The calculated concentrations are within the NAAQS for CO, so no violations of the standard are anticipated with the Recommended Alternative.

3.3.3 What Impacts from Particulates are Anticipated with the Recommended Alternative?

The Blue Water Bridge is unique in that it has a customs plaza where trucks will idle as they queue for customs inspection at both primary and potentially secondary. With the Recommended Alternative being proposed in this FEIS, a number of steps have been taken to address the potential impact of particulates from the proposed project and they all center on conformity.

The EPA has set air quality standards to protect public health and welfare (referred to as “the Standards”), see **Section 3.9.1** of the **DEIS**. These standards were used as the basis for determining St. Clair County’s area’s air quality designation discussed earlier in this section. A conformity determination takes several forms when applying the Clean Air Act. Under

Section 176(c)(4), the General Conformity Rule plays an important role in helping states and tribal regions improve air quality where the standards are not met. EPA has promulgated two sets of regulations to implement the conformity requirements of the Clean Air Act: (40 CFR 93, subpart A): 1) Transportation Conformity Regulations, which apply to highways and mass transit and establish the criteria and procedures for determining whether transportation plans, programs, and projects funded under title 23 U.S.C. or the Federal Transit Act conform with the State Implementation Plan (58 FR 62188); and, 2) the General Conformity Regulations, which apply to everything else.

The new plaza will have a number of improvements over the existing plaza from an operations standpoint that will mitigate potential air quality issues. The Recommended Alternative will be better equipped to handle trucks that are part of the Free and Secure Trade (FAST) program. This program provides for expedited processing through Primary Inspection and U.S. Customs and Border Protection anticipates enrollment in this program to grow with the construction of the new plaza. More trucks in the program will result in fewer trucks at the other primary booths and less trucks in the secondary inspection area. Another benefit with the new plaza is less truck queues due to the increased number of primary booths (see **Projected Travel Time Delays** in Section 2.3.4). Trucks sent to the secondary inspection area are required to turn off their engines due to security issues. Improved operational efficiencies of the new plaza will be a vast improvement over the current conditions on the existing plaza.

General Conformity: General Conformity *de minimis* (threshold) emission levels for fine particle pollution (PM_{2.5}) have been set to determine when General Conformity requirements apply (40 CFR 93.153). The Blue Water Bridge project, being a transportation project, must comply with transportation conformity rules. Since the plaza also will have idling vehicles as they queue for customs inspection - both primary and, potentially, secondary, these activities have been examined in terms of General Conformity to determine whether *de minimis* levels of 100 tons a year are exceeded for PM_{2.5} during system

operations. The year of highest emissions, 2016, had been analyzed.

Because of the size of the Blue Water Bridge project, the *de minimis* threshold will also be applied to construction activities to determine whether PM_{2.5} levels exceed 100 tons in any construction year.

PM_{2.5} Operation de minimis Levels: The PM_{2.5} *de minimis* analysis considered the Annual Average Daily Traffic Estimate (AADT) entering and exiting the plaza in 2016, the distance traveled through the plaza, including secondary inspection and average delays. The number of vehicles entering the plaza was multiplied by the lengths of the various routes through the plaza to arrive at vehicle miles traveled per day, (VMT). The VMT was multiplied by PM_{2.5} emission factors developed with EPA's MOBILE6.2 to arrive at daily free flow emissions through the plaza. Since each vehicle will stop as it passes through the plaza, the average delay time presented in the Blue Water Bridge Plaza, Technical Memorandum, Delay Analysis was multiplied by the AADT and idle emission factors developed with EPA's MOBILE6.2 to arrive at daily idle emissions. The daily free flow and idle emissions were converted to annual emissions to compare to the 100 ton criteria. The analysis indicated that annual emissions would be in the range of 0.25 tons per year, significantly below the 100 ton per year criteria for general conformity. Therefore, the provisions of 40 CFR 93.153 related to general conformity do not apply.

PM_{2.5} Construction de minimis Levels: The construction of the plaza will take place over approximately four years with numerous contracts for demolition, grading, buildings, paving, etc, sequenced over the period. The PM_{2.5} emissions from these various construction projects were developed based upon a procedure prepared for the EPA and published in the Technical Memorandum, "Develop a National PM₁₀ and PM_{2.5} Inventory from Construction Operations." The basic procedure uses the total cost of a project, in this case the cost for the entire plaza, an area bounded by relocated Pine Grove Avenue, Hancock Street and 10th Avenue, times a cost/acre conversion, the duration of the project, a soil moisture levels factor, a silt content factor, a control efficiency, a PM₁₀ to PM_{2.5}

conversion factor and an emission rate of 0.19 tons PM₁₀/acre/month. Based upon variations in the soil moisture and soil silt content levels, a range of PM_{2.5} representing the best and worst case conditions for particulate emissions were developed. PM_{2.5} emissions using the lowest silt content and highest moisture levels resulted in average annual PM_{2.5} emissions of 0.6 tons. Applying the highest silt content with the lowest soil moisture level produced an average annual PM_{2.5} emission of 55 tons per year. Both of the values were below the 100 ton per year criteria for general conformity. Therefore, the provisions of 40 CFR 93.153 related to general conformity do not apply.

Transportation Conformity: The Clean Air Act requires each state to have a State Implementation Plan (SIP) to demonstrate how it will attain and/or maintain federal air quality standards. The Southeast Michigan Council of Governments (SEMCOG) collaborates with the Air Quality Division of the Michigan Department of Environmental Quality (DEQ) on the work needed to prepare and/or update a SIP. SEMCOG is responsible for mobile source (transportation) emissions in Southeast Michigan. SEMCOG's 2030 Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP) must undergo a quantitative analysis demonstrating that emissions levels associated with implementing planned transportation projects are below designated emissions level limits (budgets) set forth in the SIP. In so doing, SEMCOG is managing and facilitating the transportation air quality conformity process in Southeast Michigan. The Blue Water Bridge project is subject to air quality transportation conformity review through SEMCOG's inclusion of any Blue Water Bridge roadway improvements in its RTP.

Air quality conformity analyses for mobile sources in Southeast Michigan and specifically in St. Clair County, currently involve: ozone (and its precursors, volatile organic compounds and nitrogen oxides) and PM_{2.5}. SEMCOG has completed its regional conformity analysis for the Recommended Alternative and has incorporated the analysis into the 2030 RTP amendment. Final approval was received from the FHWA December 12, 2008.

PM_{2.5} Qualitative Hot-spot Analysis: Hot-spot conformity analyses are designed to evaluate whether there are air quality impacts on a smaller scale than an entire non-attainment or maintenance area. It relates a project to the NAAQS on a more localized basis. Hot-spot conformity for PM_{2.5} is done on a qualitative basis until appropriate methods and modeling guidance are available for quantitative analysis.

The qualitative hot-spot analysis for the Recommended Alternative included a discussion on existing particulate levels in St. Clair County, existing and future traffic queuing at the inspection/toll booth areas, projected trends in heavy-duty diesel vehicle particulate emissions, and a description on the how the proposed project would change particulate emissions based on regional data from SEMCOG. Based on the review by the Interagency Working Group (IAWG) in Southeastern Michigan, it was concluded that the Recommended Alternative meets conformity requirements of 40 CFR 93.116 and 93.123 for the PM_{2.5} air quality standards

3.3.4 Is Any Mitigation of Air Quality Impacts Needed?

Based on the air quality analyses completed for the proposed improvements, this project will not contribute to any violation of the NAAQS. MDOT's 2003 Standard Construction Specification Sections 107.15(A) and 107.19 will apply to control fugitive dust during construction and cleaning of haul roads. No additional mitigation is proposed. However, MDOT and CBP will continue to utilize best management practices such as anti-idling procedures on the plaza particularly at toll booths, inspections stations and when backups occur due to incidents and heavy traffic. Additionally, MDOT will utilize Intelligent Traffic Systems, such as changeable message signs along the I-94/I-69 corridor to most effectively manage traffic operations and reduce long durations of idling where feasible.

3.4 Noise Impacts

The DEIS provides an in-depth discussion of the existing noise levels in the Study Area, the FHWA Traffic Noise Model® (TNM) used to model existing and future design year noise levels, and information on future noise levels for the previous

alternatives. This section of this FEIS will discuss any changes to noise impacts for the Recommended Alternative since the release of the DEIS.

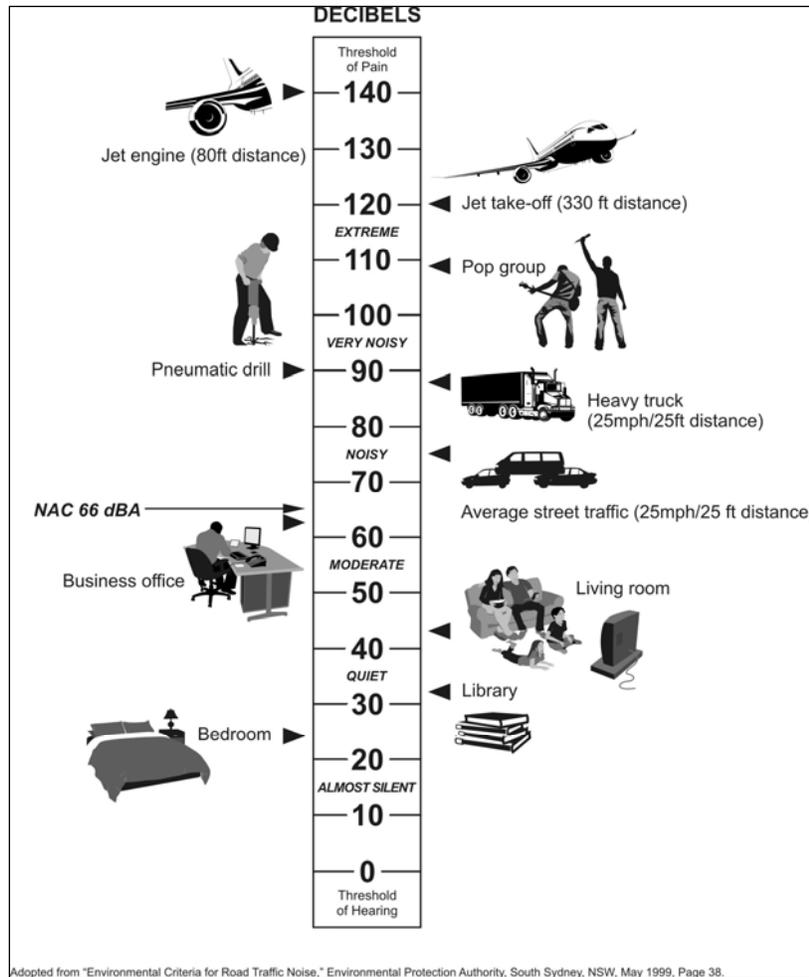


Figure 3.4.1 Illustrated Comparison of Noise Sources

3.4.1 What are the Existing Noise Levels in the Study Area?

The FHWA has established Noise Abatement Criteria (NAC) to consider the noise impacts on certain land uses. These criteria are in the Code of Federal Regulations, Title 23 Part 772. MDOT has a Highway Traffic Noise Analysis and Commission Policy 10136, Noise Abatement, for implementing the NAC.

According to FHWA and MDOT policy, noise abatement measures will be considered when the predicted noise levels approach or exceed those values shown for the appropriate activity category in **Table 3.4.1**, or when the predicted traffic

noise levels substantially exceed the existing noise levels. MDOT defines “approach” as being within 1 dBA less than the noise levels shown in **Table 3.4.1**. MDOT has defined an increase over existing noise levels of 10 dBA or more as being “substantial.” TNM was used to model future peak hour traffic noise levels for the Recommended Alternative, for the year 2030. **Figure E.25** in the **DEIS, Appendix E** provides model noise levels for each receiver location.

Table 3.4.1 Noise Abatement Criteria, Hourly A-Weighted Sound Level in dBA

Activity Category	L _{eq} (1 Hr period)	Description of Activity Category / Land Uses
A	57 dBA (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the lands are to continue to serve their intended purpose.
B	67 dBA (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 dBA (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	---	Undeveloped lands.
E	52 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.
Source: Code of Federal Regulations, Title 23 Part 772, Revised April 2005		

3.4.2 How is the Recommended Alternative different from the Noise Analysis completed for the DEIS?

The design hour noise levels projected for the Recommended Alternative differ slightly from the City West Alternative as described in the DEIS along Hancock St. east and west of relocated Pine Grove Avenue and along 10th Avenue between Pine Grove Avenue and Hancock St. The changes in noise levels occurred as a result of more uniform treatment of traffic operations within the TNM model, as a response to concerns raised during the public comment period. None of these

changes resulted in more properties being exposed to noise levels above the NAC.

The refining of traffic projections along the M-25/Pine Grove Avenue and the lowering of the proposed profile for the M-25 Connector south of Hancock St., as compared to the City West Alternative, resulted in slightly higher noise levels north and south of Hancock St. These changes resulted in 13 additional residences being exposed to design hour noise levels above the NAC west of M-25 connector/Pine Grove Avenue.

No-Build Alternative: Year 2030 No-Build traffic noise levels within the corridor would approach or exceed the NAC at 101 residences, six businesses including one hotel/motel, and at Township Park No. 1.

Recommended Alternative: The Recommended Alternative would cause 2030 design hour noise levels to approach or exceed the NAC at 59 residences and three businesses including one hotel/motel, and at one township park. None of the noise receivers would be exposed to noise levels that “substantially exceed existing” noise levels. Certain areas of the plaza are surrounded by solid security fences, these could be ground mounted or mounted to retaining walls. In areas where these security fences, or retaining walls, are relatively close to local street traffic, along sections of Hancock St., relocated Pine Grove Avenue, and 10th Avenue, these large surfaces will reflect or bounce a portion of the traffic noise back into the community. The theoretical maximum increase in noise levels from a perfectly reflective surface, with the surface abutting the traffic lanes, would approach 3 decibels. Since the security fences will not be a perfectly reflected surface, and none of the security fences directly abut the traffic lanes, the relative increase due to reflection is closer to 1 to 2 decibels above the TNM results presented in **Figure E.25** in **Appendix E** of the DEIS.

3.4.3 How Will the Noise Levels that Exceed the NAC be Mitigated?

Only the construction of noise barriers was reviewed as a mitigation measure of the reflected traffic noise in the area as other measures did not meet the purpose and need of the

project or as in the case of constructing a noise berm, was not feasible.

Under the Recommended Alternative, mitigation of the reflected noise in the area of the security barriers could be accomplished with absorptive facings on the roadway side of the security fences. Depending on the absorption coefficient of the materials and the area covered it is possible that the noise increases created by the reflected noise could be minimized.

3.4.4 Where were Noise Barriers Considered?

Noise barriers for the Recommended Alternative were analyzed at two locations. Noise barriers were modeled west of the M-25 Connector between Hancock Street and the Black River and north of Hancock Street to Garfield Street. In the area from Hancock Street south to the Black River, two alternative noise barriers were modeled.

What is “Reasonableness”?

Noise mitigation will be considered “reasonable” if the construction cost is less than \$38,060 or less (in 2007 dollars) per benefiting dwelling unit.

The results of the barrier analysis, including barrier location, future hourly Leq noise levels without and with a barrier, barrier length and height, estimated cost, the number of residential units benefited, the noise reduction provided by the barrier and the cost per residential unit are presented in **Table 3.4.2**. All of the noise barriers analyzed meet MDOT’s feasibility criteria. However, none of the noise barriers (Noise Barriers 7, 7a, and 8) meet MDOT’s definition for “reasonableness”.

There are other areas along the I-94/I-69 corridor where individual receptors exceed the NAC, such as Receivers 1, 3 and 4 which extend along the right-of-way for approximately 1,400 feet. However, it is impossible to design a barrier for single receptors that would meet MDOT’s cost criterion of \$38,060. There are additional locations along the improved local streets in Port Huron where receptors exceed the NAC. In these areas, local cross streets and driveway access prohibit the construction of feasible noise barriers.

3.4.5 Are There Considerations for Preventing Future Development from Being Adversely Affected by Noise?

As part of the noise modeling effort, a “setback” distance was calculated for undeveloped lands. The setback distance along

the I-94/I-69/M-25 corridor was calculated as 340 feet for the Recommended Alternative. Noise levels within this distance, measured perpendicular to the centerline of the nearest lane of the roadway, was modeled to be 66 dBA or greater. This setback distance was calculated to assist local planning authorities in developing a land use management plan for future business opportunities along the project in an attempt to prevent future development that would be incompatible with traffic noise.

What is “Setback Distance?”

The distance from the highway to a point where the noise levels will be below the Noise Abatement Criteria

3.4.6 What will the Effects from Construction Noise be and How would they be Mitigated?

The major construction elements of this project are expected to be demolition, hauling, grading, paving, and bridge construction. General construction noise impacts for passersby and those individuals living or working near the project can be expected particularly from demolition, earth moving and paving operations. Considering the relatively short-term nature of construction noise, and the fact that construction will only take place from dawn to dusk, impacts are not expected to be substantial. The ability of buildings to reduce indoor noise levels to acceptable levels is believed to be sufficient to moderate the effects of intrusive construction noise.

3.4.7 What are the Next Steps in Addressing Noise Impacts?

MDOT does not recommend the installation of noise barriers for the Recommended Alternative. **Table 3.4.2** and **Appendix E, Figure E.24** of the **DEIS**, stated that a noise wall would be constructed, however, after further analysis, this noise wall does not meet criteria based on state noise policy. If final design results in substantial changes in roadway design from modeled conditions, noise abatement measures will be reviewed. During the design phase the feasibility and reasonableness of the noise barriers are reviewed in greater detail.

Table 3.4.2 Acoustical Mitigation Noise Barrier Locations Analyzed

Barrier Number	Locations	Existing Leq(1h) Noise Levels, dBA	Range of Future Leq(1h) Noise Levels, dBA		Noise Reduction (dBA)	Barrier Characteristics		Cost ¹⁾	Number of Units Attenuated	Cost/Unit	Feasible and Reasonable
			w/o Barrier	Barrier		Length (ft)	Height (ft)				
Recommended Alternative											
7	West of M-25, between Hancock Street and Black River	59 – 73	60 - 72	55 – 62	5 - 12	2,522	12 – 19	\$1,649,702	42	\$39,279	No
7a	West of M-25, between Hancock Street and Elmwood Street	60 – 69	62 – 68	57 – 60	5 – 10	1,399	14 – 20	\$928,444	24	\$38,685	No
8	West of M-25, between Garfield Street and Hancock Street	66 -68	65 – 68	56 – 61	5 – 11	800	9 – 12	\$391,287	9	\$43,476	No

3.5 Community and Neighborhood Impacts

This section discusses how the Recommended Alternative will affect the local residents, neighborhoods, and community facilities. A full discussion of who lives in the community, how they travel, and where schools and other community facilities can be located in the DEIS. The following paragraphs will discuss the changes since the release of the DEIS on existing neighborhoods and community facilities. Many of the potential effects of the Recommended Alternative on neighborhoods such as relocations, noise, air quality and visual appearance are discussed in detail in other sections of this FEIS. These affects will be mentioned briefly here and readers will be directed to the other sections of this document.

3.5.1 How Will the Alternatives Affect Neighborhoods?

No-Build Alternative: The No-Build Alternative will affect the neighborhoods surrounding the existing plaza as increased congestion will make it more difficult to live near the plaza. Without improvements, local residents can expect increased back-ups and congestion leading to increased noise and air quality issues.

With the No-Build Alternative, Pine Grove Avenue and Hancock Street will not be improved. Increased congestion on these local roads will make it more difficult for local residents to access local businesses. Heavily congested roads will also continue to serve as barriers between the neighborhoods surrounding the plaza.

The No-Build Alternative does not relocate any homes in existing neighborhoods or any businesses that would serve these neighborhoods.

Recommended Alternative: The DEIS stated that the Recommended Alternative would displace 129 residences and 30 businesses. As a result of feedback MDOT received regarding the size of the plaza and the number of relocations, the plaza footprint was reduced. See **Section 2.2** for a discussion on the process used to determine the reduced plaza size. By reducing the plaza size residences and businesses were no longer needed from the area directly south of the new

plaza and the displacement numbers were reduced. However, upon further evaluation it was concluded that the neighborhood located north of the relocated Pine Grove Avenue and south of the new plaza would experience adverse impacts due to separation and isolation from their core neighborhood. As a result, the residences and businesses located in this area have been added back into the impacted area of the project. See **Section 3.7 Relocations** for a complete discussion of relocation impacts.

Four residences on the south side of Scott Avenue near Riverside Avenue are no longer required for construction of the Recommended Alternative.

The Recommended Alternative will require the relocation of 13 homes along Church Street, Elmwood Street, and 10th Street in the neighborhood northeast of the existing plaza. Some of the homes along Elmwood Street are already vacant or have been changed to office use.

The Recommended Alternative turns Pine Grove Avenue into a boulevard allowing it to remain a principle north-south street for the entire Port Huron Area along with 10th Avenue. The Recommended Alternative would require 30 businesses to be displaced. These businesses include gas stations, restaurants, and offices that serve the local community as well as border crossing traffic. With the plaza expansion in Port Huron, many of these businesses may want to find new sites near the plaza. This may create new pressures to convert homes in the nearby neighborhoods to business sites. There will likely be a period of time, after the businesses are displaced, when local residents will have to travel further to get to local businesses. Residents in the neighborhoods surrounding the plaza that walked to the nearby restaurants or filled-up at the nearby gas stations will have to travel a few extra blocks to get the same services. Impacts to businesses are discussed further in **Section 3.2 Economics**.

The new plaza for the Recommended Alternative will still divide the community from north to south and from east to west as the impact area is very similar to the plaza shown in the DEIS. The neighborhoods to the west of the plaza would be isolated from neighborhoods to the south and east of the

plaza. Although the new plaza is smaller north to south, the perception remains that the plaza is a barrier that splits the community in half.

3.5.2 How Will the Alternatives Affect Community Services and Facilities?

The alternatives would have little effect on community services. There are no community agencies located in the Study Area and no community service providers would be relocated. The Recommended Alternative would affect schools, churches, parks, and private community facilities. These effects are discussed below.

No-Build Alternative: The No-Build Alternative would not affect any schools, churches, parks, and public or private community facilities. Long-term congestion from backups on the plaza onto I-94/I-69 would affect the speed of school bus traffic across the Black River Bridge.

Recommended Alternative: The Recommended Alternative will displace the First Free Methodist Church at the corner of Elmwood Street and 10th Street. This alternative will also require some property from the Port Huron Area School District located at the southwest corner of the interchange between the Lapeer connector and I-94/I-69. No school buildings or facilities would be acquired.

Construction of the Recommended Alternative will lead to short-term traffic congestion and detours that would affect school bus traffic and emergency services. All detours will be discussed with local officials before they are put in place. The Recommended Alternative will ultimately improve the flow of local traffic.

The Recommended Alternative will impact one private recreational business. The Port Huron Lanes Bowling Alley, located at the corner of Hancock Street and the M-25 Connector would be relocated.

3.5.3 How Will the Alternatives Affect Public Parkland and Potential Section 4(f) or 6(f) Properties?

No-Build Alternative: The No-Build Alternative would not affect any public parklands or Section 4(f) or 6(f) properties.

Recommended Alternative: Minor property acquisition is required from Port Huron Township Park No. 1 for the construction of the freeway and interchange at Water Street as part of the Recommended Alternative. Access to the park may be altered during construction but the playground equipment, pavilion and service building, and fishing access will not be affected by the construction.

The E.C. Williams House would be acquired and relocated for the construction of the Recommended Alternative to accommodate a larger plaza area. Further discussion of the impacts on parkland and historic sites is located in **Section 3.15 Cultural Resources** and in **Chapter 4 Section 4(f) and 6(f) Evaluation**.

3.5.4 How Will the Alternatives Affect Emergency Services?

Both the No-Build Alternative and the Recommended Alternative do not require the relocation of any hospitals, fire, police, or other emergency service facilities. The Recommended Alternative will require changes in emergency access routes and response times.

3.5.5 How Will the Alternatives Affect Pedestrians and Cyclists?

No-Build Alternative: The No-Build Alternative will not have any affect on Pedestrian and Cyclists' use of roads and paths within the Study Area.

Recommended Alternative: Sidewalks will be maintained on roadways which currently feature sidewalks. New sidewalks will be provided on affected roadways that do not currently have sidewalks if there is a demonstrated need for pedestrian accommodation and/or a need to maintain or improve pedestrian connectivity between the neighborhoods affected by the proposed project. All sidewalks will be constructed in

compliance with the Americans with Disabilities Act (ADA) of 1990. The ADA compliant sidewalks will provide curb cuts at all crosswalks and ramps that do not exceed maximum grades. The goal is to remove and replace all physical barriers within the public right-of-way that inhibit people with disabilities from accessing programs, services, activities and public accommodations.

MDOT has incorporated several enhancements into the design of the Recommended Alternative which improve non-motorized access and circulation between the city of Port Huron and Port Huron Township, and connectivity with other existing non-motorized systems. These enhancements were developed as part of continued coordination efforts with the city of Port Huron, Port Huron Township, and St. Clair County.

MDOT will construct a 14-foot non-motorized crossing on the south side of the newly expanded I-94/I-69 Black River Bridge. This will be a multi-directional facility and will be designed to accommodate both pedestrians and cyclists. The path will connect with the existing sidewalks along Water Street and the newly constructed non-motorized facilities along relocated Pine Grove Avenue. All replacement facilities would meet Americans with Disabilities Act Guidelines.

For pedestrian accessibility at the roundabout, a signalized pedestrian crossing could possibly be provided a few car lengths from the roundabout. The crossing would provide a signal to stop traffic on demand for pedestrians by pushing a crossing button which would activate the signal. The exact configuration of the intersections and pedestrian crossing will be determined during the design phase of the project.

3.5.6 How Will MDOT and FHWA Reduce and Compensate for the Neighborhood and Community Impacts?

MDOT and FHWA continue to work with the community on measures to mitigate or compensate for the negative effects of the project throughout the environmental clearance process and the design and construction of a new plaza. **Chapter 5 Mitigation** discusses the ways that MDOT will mitigate the negative effects of the project.

What is the Americans with Disabilities Act (ADA) supposed to do?

It is intended to make America more accessible to people with disabilities. To do so, guidelines are provided on buildings, sidewalks, street crossings, and the like. Curb cuts for wheelchairs and limits to how steep sidewalks can be are two examples.

3.6 Environmental Justice

This section discusses changes that have occurred since the release of the DEIS regarding the potential adverse and excessive environmental and human health impacts the proposed project may have on low-income and minority communities. A full discussion on Environmental Justice can be found in **Chapter 3 Section 3.3** of the **DEIS**.

3.6.1 What is Environmental Justice?

Environmental Justice is an attempt to identify, address, and avoid disproportionately high and adverse human health or environmental impacts that projects funded by the federal government may have on minority and low income populations. The current Environmental Justice analysis requirements were created through Executive Order 12898 by the President of the United States in 1994. The President directed all federal agencies to make Environmental Justice part of their missions and to identify and address the effects of their programs, policies and activities on minority and low-income populations. Environmental Justice built on Title VI of the 1964 Civil Rights Act which prohibits discrimination on the basis of race, color, sex, and national origin in programs and activities receiving federal financial assistance. Environmental Justice is a policy that has three major parts: Environmental Justice policy has three major parts:

- Avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects of the project, on minority populations and low-income populations
- Ensure the full and fair participation by all potentially affected communities in the transportation decision making process
- Ensure minority and low-income populations receive their equal share of the benefits from the project

The Environmental Justice analysis was performed using a set of guidelines provided by the Federal Highway Administration (FHWA) and in consultation with MDOT officials responsible for Environmental Justice issues. The Study Team tailored the general principles and procedures of

Title VI of the 1964 Civil Rights Act:

Prohibits discrimination on the basis of race, color, sex and national origin in programs and activities receiving federal financial assistance.

What Does Executive Order 12898 Cover?

The Order states: "...each federal agency shall make achieving Environmental Justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations."

the guidelines to the unique character of the community and the alternatives being studied.

3.6.2 Groups Included in Environmental Justice/Title VI Analysis

At the beginning of the NEPA process, the Environmental Justice analysis begins by determining if a minority population group or low-income population group is present in the Study Area. In order to determine if a minority population group or low-income population group is present in the Study Area, MDOT reviewed census tracts from the 2000 Census. MDOT also reached out to community leaders and groups, tribal governments, and local officials by conducting public information meetings and workshops (**Section 6** of this **FEIS**), which helped identify Environmental Justice population groups in the Study Area. The community outreach also helped to identify individuals who may be limited in English proficiency (LEP) in the Study Area. Based on the information provided by the census data (2000) and outreach efforts it was determined that there was not a need for translation services for the Blue Water Bridge Plaza Study.

3.6.3 What are the Effects of Each Alternative on Environmental Justice Populations?

Potential Environmental Justice effects are defined as the unavoidable negative effects of the project that would be mostly experienced by minority and low-income populations or are higher than the negative effects that would be suffered by non-minority and/or non-low-income populations. The analysis has determined that there are no disproportionately high and adverse human health or environmental impacts on minorities and/or low-income populations by the No-Build or the Recommended Alternative.

All negative impacts to environmental resources, such as air quality, noise, and public services will be avoided, minimized, or rectified to the extent possible. MDOT will provide purchasing and relocation assistance and advisory services for any member of the community whose property was needed for the project. MDOT will inform individuals, businesses and

non-profit organizations of the impacts of the project on their property.

All residents of the Study Area including minorities and lower income groups will benefit from positive impacts of a potential new Blue Water Bridge Plaza. Potential beneficial impacts include relief of local traffic congestion, increased border safety and security, job creation, and improved economic conditions for businesses that depend on trade.

The Recommended Alternative will not have a disproportionately high and adverse effect on minority and low-income population groups. Approximately 9.4 percent of the residents surrounding the existing Blue Water Bridge Plaza would be considered part of a minority group. This percentage is smaller than the minority population percentage for the entire city of Port Huron, which is 15.5 percent. The minority group with the greatest representation of its total population located within the blocks affected by the Recommended Alternative is American Indian/Alaskan Natives peoples. Approximately five percent (12 total residents) of Port Huron's total American Indian/Alaskan Native population live in the impacted blocks.

The Recommended Alternative will affect Environmental Justice populations in a similar manner to the general population. All of the impacts for the Recommended Alternative discussed in **Chapter 3 The Environment: What's There Now and Project Effects** will affect various segments of the general population based on their proximity to the project and their use of the existing roads and border crossing in the Study Area. The Recommended Alternative would require the acquisition of 129 acres of land in order to accommodate the new plaza, local road configuration and the new welcome center. The 125 residences that will be relocated for the Recommended Alternative include some minority, low-income, and elderly households. The potential relocation of 30 businesses currently operating in the Study Area will also affect low-income, minority, and elderly households. The relocation effects of the Recommended Alternative are further discussed in **Section 3.7 Relocations**.

Neighborhood cohesion in the blocks surrounding the existing plaza would be divided as a result of plaza expansion at the existing location. Several local businesses will be relocated. This could present a challenge to the local low-income population to find sufficient alternatives to these departed businesses if comparable types of businesses are not located in the remaining commercial area as they may be limited in personal transportation and public transit service to outlying areas. As discussed in **Section 3.5.5**, non-motorized access will be provided to facilitate access and movement around the plaza. Additionally, the local street network of Hancock, 10th Avenue and relocated Pine Grove Avenue will provide sufficient mobility options for these neighborhoods.

Neighborhood effects created by the Recommended Alternative will be the same for all persons regardless of race, income, or age. Environmental Justice populations will experience the same changes in access, emergency service routes and minor transit re-routing. Changes in noise levels, as discussed in **Section 3.4 Noise**, will also affect low income, minority, and elderly households. The aesthetic and visual impacts of expanded plaza facilities, discussed in **Section 3.9 Aesthetic and Visual Impacts**, will affect Environmental Justice populations in the same manner as the general population. The Recommended Alternative will also result in the reduction of the local tax base which will be felt by all Port Huron and Port Huron Township residents regardless of income, race, or age.

Environmental Justice populations and border crossers will share in the potential benefits of the Recommended Alternative. There will be traffic congestion relief resulting in reduced travel times for border crossings and travel on local roads. As discussed in **Section 3.4 Economics** of the **DEIS**, excess border congestion is costly to local, state, and national economies. Border crossing improvements may lead to more jobs and reduced transportation costs, with widespread benefits to the general population including minorities and low-income persons in the United States and Canada. These groups will also share in the benefits of improved border security.

3.7 Relocations

Residential relocations are homes that must be purchased including single family homes, duplexes, apartments, and condominiums. Commercial relocations are businesses that must be purchased including stores, offices and restaurants. This section will discuss any changes that have occurred since the release of the DEIS and summarize the key impacts. For a complete discussion on the relocation analysis, see **Section 3.6 Relocations** of the **DEIS**.

No-Build Alternative: The No-Build Alternative would not require any relocations.

Recommended Alternative: Through the development of this FEIS, MDOT has developed the Recommended Alternative in a manner which reflects a “worst-case” scenario when it comes to affected properties. This approach means that if a parcel is significantly impacted, MDOT has assumed a total acquisition will be required.

During the design phase, MDOT will further refine the specific property requirements associated with the Recommended Alternative along both the corridor and the plaza. As a result there is a possibility that relocations identified within this FEIS may be reduced. For example, if during the design phase it is determined that only a small corner of a property is required, then it is likely not to require relocation.

The DEIS stated that the Preferred Alternative would displace 129 residences and 30 businesses. As a result of feedback MDOT received regarding the size of the plaza and the number of relocations, the plaza footprint was reduced. See **Section 2.2** of this **FEIS** for a discussion on the process used to determine the reduced plaza size. By reducing the plaza size residences and businesses were no longer needed from the area directly south of the new plaza and the displacement numbers were reduced.

After further social, economic, and environmental impact analysis, the Blue Water Bridge Study Team determined these remaining 17 residences and four businesses if left to remain in their current location would be:

- **Segregated** from other existing land uses and would result in the creation of its own defined area;
- **Separated** from adjacent properties and would result in the creation of a non-complimentary mixed land use; and
- **Isolated** from other residences and business in an area that becomes difficult to accommodate both vehicular and pedestrian movements.

Additionally the areas south of the plaza (Mansfield, Scott Avenue and relocated Pine Grove Avenue properties) will be utilized for maintenance of traffic and construction staging purposes during the construction phases. This area may also be utilized for storm water detention areas. A decision of whether this property will be utilized for storm water drainage purposes will be made during the design phase of the project.

Table 3.7.1 Relocation Impacts by Community

Alternatives/ Community		Residential			Business				Community Facilities		
		Single-Family	Multi-Family	Residential Total	Service	Retail	Business Total	Vacant Sites for Sale/Rent	Churches	Other Community Facilities	Community Facilities Total
Recommended Alternative	City of Port Huron	98	24	122	15	13	28	6	1	-	1
	Port Huron Township	3	-	3	1	1	2	-	-	-	-
	Alternative Total	101	24	125	16	14	30	6	1	-	1

The Study Team determined the same case cannot be made for the 4 residences along Riverside Drive. These properties remain shown as no longer relocations within this FEIS (see **Figure 2.3.1** and **Table 3.7.1**).

As a result of the changes made to the plaza footprint and the Preferred Alternative the Recommended Alternative will now require 125 residential, 30 business, and one church relocation(s).

MDOT will compensate homeowners that are relocated and assist with the relocation process. All relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Resources will be made available without discrimination to all residential and business owners who are relocated. Under the requirements of this Act no relocations can occur until it is shown that comparable housing is available in the area for relocation purposes. Comparable replacement housing must meet decent, safe and sanitary requirements in accordance with Federal Law. Typically, community facilities that are relocated by a project require rebuilding rather than relocation. Every effort will be made, through relocation assistance, to assure property owner rights are upheld in the highest professional means possible.

The relocation estimates are based on a worst-case scenario of acquiring all structures on parcels whose land is required for the Recommended Alternative. Most of the homes that may be relocated are owner occupied. Some multi-unit rental property relocations are required; a few of the relocations are single family home rentals. There is a multi-unit condominium property whose residents will need to be relocated for the Recommended Alternative. Analysis of census data and community information indicates that the residential displacements would include a small percentage of minority and low-income households. Impacts to minority and low-income households are discussed further in **Section 3.6 Environmental Justice**.

The business relocations for the Recommended Alternative would also require the relocation of a number of jobs. An estimate of the jobs connected with the business relocations is presented in **Table 3.7.2**. These estimates were made through contacting the businesses that would be potentially relocated. In instances where an employment count for a business was unavailable, an estimate was made based on similar businesses in the Study Area.

The Recommended Alternative will require relocation of the commercial businesses in the Blue Water Gateway Area, Pine Grove Avenue mixed-use corridor. Businesses to be relocated are small to medium sized establishments (generally 25 people or fewer). The retail/service businesses should be able to find comparable new locations relatively easily. Few long-term job losses are expected with this alternative as it relocates businesses that are not highly dependent on their current locations. Approximately 75 percent of the businesses relocated by this alternative own their property.

Table 3.7.2 Estimated Job Relocations*

Alternative	Number of Estimated Commercial/ Industrial Relocations	Estimated Total Jobs Relocated
Recommended Alternative	30	370
<p>* These estimates do not include the employees who work on the plaza and would be relocated from the city of Port Huron to Port Huron Township under the Township Alternative. The impact of those job relocations is discussed in Section 3.2 Economics.</p>		

The Recommended Alternative requires relocations along Hancock Street, Pine Grove Avenue, 10th Avenue, 11th Avenue, 12th Avenue, Church Street, Elmwood Street, Harker Street, Mansfield Street, Scott Avenue, Riverside Drive, Water Street, and Maywood Drive. The overall exhibits of the Recommended Alternative, **Figure 2.3.1** shows the relocations for this alternative.

Availability of Replacement Property: Replacement property should be of a similar size and pricing of the original home. No relocations can occur until it is shown that comparable housing is available. Comparable replacement housing must meet decent, safe, and sanitary requirements in accordance with Federal law. Port Huron has a wide variety of neighborhoods with schools and parks including homes with a range of values that should provide adequate housing for those that are required to relocate. See the Conceptual Relocation Plan in **Appendix A** for more information on replacement property potential in the area.

3.8 Public Safety and Security

This section summarizes impacts to fire, law enforcement, emergency medical, and plaza security services for the Blue Water Bridge Plaza Study Area. As owners of the plaza, MDOT has an agreement with the city of Port Huron to provide first responder police, fire, ambulance, and other related emergency services for the plaza and bridge. There is also a reciprocal agreement between MDOT and Canadian officials to provide back-up emergency services, if needed. For a full discussion on the Public Safety and Security analysis see **Section 3.5** of the **DEIS**.

3.8.1 General Design Considerations and Criteria

Potential security threats to the border crossing include, but are not limited to:

- Vehicular crashes
- Emergency medical incidents
- Hazardous/Flammable material spills
- Breach of the perimeter at the plaza or corridor
- Criminal or terrorist attack at the plaza, or attempted entry by an individual with hostile intent

The Recommended Alternative will include the following security and emergency design elements:

- Provide a controlled gate access on the north side of the proposed plaza
- Improve the internal access to all areas of the plaza
- Provide a dedicated emergency access lane along the plaza entrance road off of Pine Grove Avenue
- Consider locating a first-responder station at or adjacent to the proposed plaza

Customs and Border Protection (CBP) also recommended the following security measures:

- Provide an eight-foot high perimeter barrier that would effectively keep people and vehicles out of the secure plaza area

- Locate facilities to allow visual observation of traffic and pedestrian movements on the plaza

3.8.2 Effects of the Alternatives on Public Safety and Security

No-Build Alternative: The No-Build Alternative will not change the current access points for emergency service providers. The main impact of this alternative on emergency services will be delays due to congestion in responding to emergency calls on the plaza or in the vicinity of the plaza. This is due to projected traffic backups on the Black River Bridge and along major north-south streets such as Pine Grove Avenue and the M-25 connector.

The No-Build Alternative does not include any specific security improvements to the existing plaza. CBP has discussed the likelihood of some security improvements over time, as funding permits. These improvements would not include the same security features as the Recommended Alternative.

Recommended Alternative: Security measures proposed for the Recommended Alternative must take into consideration the threat risk, cost, and effectiveness. A reasonable combination of measures should be provided to deter a reasonable threat.

The Recommended Alternative provides two controlled access points for emergency service personnel. One access will occur on the north side of the plaza from Hancock Street, and the other on the south side of the plaza via the relocated Pine Grove Avenue. Emergency service access to the plaza from the west will be similar to the No-Build Alternative via the I-94/I-69 approach. Most of the plaza would be at ground level.

The following security design elements are proposed for the Recommended Alternative:

1. Eight-foot high perimeter barriers at strategic locations along the perimeter of the plaza. The use of landscaping, bollards, planters, grading, etc. can soften the visual impact of the perimeter barriers. The design details for the

perimeter barrier will be addressed at the final design phase of the project.

2. Controlled access points into the secure plaza located at the north and south boundaries of the plaza, for emergency service personnel.

The Recommended Alternative would have little or no effect on emergency service response times to and from the plaza, with response times similar to current response times.

There are two major north-south roadways through this area, 10th Avenue and Pine Grove Avenue. This alternative would relocate Pine Grove Avenue to the west from its intersection with 10th Avenue and tie into the M-25 Connector. This will eliminate the portion of Pine Grove Avenue that runs under the plaza. Emergency service responders will be able to access the neighborhoods and businesses north and south of the plaza via 10th Avenue and Pine Grove Avenue.

Emergency service along I-94/I-69 would be improved with better separation of local and plaza traffic.

Currently, the Blue Water Bridge Plaza is a major hazardous materials crossing and will continue to be. The existing plaza has an emergency spill containment area. This feature will also be incorporated into the Recommended Alternative.

MDOT currently provides an annual payment to the city of Port Huron of \$200,000 for emergency response services on the plaza. MDOT also pays Port Huron Township \$5,400 annually as a secondary emergency responder on the plaza.

In order to address the possibility of increased risk associated with future traffic increases coming across the expanded plaza, MDOT commits to annually reimburse the city of Port Huron \$300,000 for emergency services provided on the expanded plaza (assuming the city remains the primary first responder). MDOT will index this payment to the Consumer Price Index or a similar index for a period of ten years to account for inflammatory factors. MDOT also will commit to annually reimburse Port Huron Township \$8,500 for emergency services provided on the expanded plaza as a

secondary emergency responder (assuming the Township remains the secondary emergency responder). An agreement will be developed between each of these agencies and the agreement shall be reanalyzed after ten years to address future discrepancies or changes between service calls and emergency service payments.

3.9 Aesthetic and Visual Impacts

The Federal Highway Administration's (FHWA) Technical Advisory (TA) T6640.8A dictates that whenever a potential for visual impacts exists from a proposed transportation project, the environmental study should identify the potential visual impacts to the adjacent land uses as well as measures to avoid, minimize, or mitigate these potential visual impacts.

One way to mitigate visual impacts, is by using the Context Sensitive Solutions (CSS) process. The CSS process focuses on how to develop a facility that fits its physical setting meanwhile, preserving scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility.

The CSS and visual assessment process consists of four study components. These include:

- Determining the existing Landscape Viewshed
- Analyzing the Landscape Character and Experience
- Predicting Baseline Impacts
- Identifying Mitigation Options

The visual assessment conducted for the DEIS provides an analysis of the landscape character for the Study Area. It was used to determine the type and degree of visual impact for various viewers, such as the interstate/plaza user, the recreational tourist and the local resident. This section will summarize the aesthetic and visual impacts and any changes that have occurred since the release of the DEIS.

Although significant preliminary engineering has occurred to develop the Recommended Alternative, the exact appearance of the alternative is still considered conceptual.

3.9.1 What does the Existing Study Area Look Like?

There are a few key land uses within the Study Area that contribute to the visual identity of the area. The most significant of these are the Black River, adjacent marinas and parks. A public campground, owned and operated by Port Huron Township, is located on the north side of the freeway west of the Water Street interchange. Residences are an important land use near the existing plaza. Their view includes an elevated plaza approximately 24-feet high with associated buildings and traffic.

3.9.2 What are the Visual and Aesthetic Effects of a New Plaza on the Surrounding Area?

No-Build Alternative: Under the No-Build Alternative, the existing plaza would remain as is and the visual landscape would not be changed from its current situation.

Recommended Alternative: The exact appearance of the Recommended Alternative is only conceptual at this time. The ultimate appearance of the facility will have a dramatic effect on the visual quality of the area. Through meetings held with the city of Port Huron and St. Clair County officials, MDOT has committed to working with its federal, state and local stakeholders to develop an Aesthetic Design Guide (ADG) for the project.

The ADG will identify the proposed aesthetic treatments to be considered during the design and construction phases and will provide an overall design direction for both the corridor and plaza project areas to assure an overall continuity is achieved between these two work elements. The ADG will define an overall theme as well as specific community characteristics that can be incorporated in the corridor and plaza architectural elements to assure these infrastructure improvements reflect the Blue Water Community. See **Section 5.4** of this **FEIS** for more Aesthetic Design Guide details.

3.9.3 What are Potential Light Pollution Effects?

The effects of artificial lighting provided for nighttime activities at the plaza facility and project roadways are a

notable concern raised by stakeholders on this project. The provision of artificial lighting needs to balance the security needed for visual recognition of persons, goods and vehicles in the plaza with the environmental and quality-of-life impacts that come from the lighting at night.

The General Services Administration (GSA) guide notes:

- Placement of lights should consider glare and contrast to allow for better night vision. Illumination must not allow light to “trespass” off of the building property. GSA recommends a minimum 80-degree cutoff of light fixtures to achieve this.
- Lighting levels need to consider surveillance technology to avoid areas that are too bright or are in shadows. Lower levels of light in specific locations may be desirable for safety reasons or to accommodate certain types of camera technology.

Port Huron Township has its own light guidelines as part of its zoning ordinance:

- Any operation or activity which produces glare shall be conducted so that direct and indirect illumination from the source of light does not exceed one-half (1/2) of one (1) footcandle when measured at any point along the property line of the site on which the operation is located. The relocated Welcome Center will need to conform to these requirements.

No-Build Alternative: The No-Build Alternative already produces substantial illumination in the Study Area and it is presumed that the lighting would remain as it is today, with no new areas of effect or changes in the brightness or desired/undesired light levels that currently impact the Study Area.

Recommended Alternative: The Recommended Alternative may have a substantial impact on remaining adjoining properties throughout the Study Area, as discussed in greater detail in **Section 3.7 Relocations**. The impacted areas include businesses and residential properties on 10th Avenue and Hancock as well as relocated Pine Grove Avenue. However, one benefit from the relocations associated with Recommended Alternative is that there would be a greater

buffer distance between the plaza and nearby residential properties on the south side, along Scott Avenue. As part of the development of the Aesthetic Design Guide, directional lighting at the plaza and creative berm concepts and along the highway corridor and the relocated Welcome Center will be evaluated.

3.10 Groundwater, Drainage, and Water Quality

As discussed in **Section 3.11** of the **DEIS**, both the No-Build Alternative and the Recommend Alternative would have no impacts on groundwater resources and minimal impacts to surface water quality. Stormwater from the proposed plaza would discharge into Port Huron’s storm/sewer system or through vegetated controls toward the Black River. The proposed ditch flow patterns for run-off in the areas west of the Water Street interchange will incorporate a design to match the existing conditions where feasible, flowing towards Stocks Creek.



Stocks Creek at the Black River

In accordance with state and federal laws, the stormwater detention basins construction will control the rate of water discharged to match the existing discharge quantities. MDOT will coordinate with the city of Port Huron, MDEQ and St. Clair County during the design phase to identify and design the appropriate stormwater detention facilities.

3.11 Floodplains

The floodplain is divided into two parts, the floodway which carries most of the flow during a flood event, and the floodway fringe which is an area of very slow moving water or “slack water.” The floodway is the high hazard area during times of flooding. **Section 3.12** of the **DEIS** contains a complete discussion of floodplains and the project’s impacts on them.

3.11.1 Floodplains in the Study Area

The Study Area contains 64.6 acres of land within the 100-year floodplains of the Black River and Stocks Creek.

What is a 100-year flood?

A flood which has a one percent chance of occurring any given year.

The Black River floodplain located within the Study Area contains some scattered low-quality wetlands and habitat, but those wetlands are mostly valued for stormwater control and pollution filters. On the east side of the Black River there is urban development and a local roadway (Riverside Drive) located adjacent to the river. On the west side of the river, south of the freeway, there is a private marina, while on the north side of the freeway there is a local park. The parkland is mostly located within the floodplain and provides marginal wildlife habitat and limited plant diversity. There are no migratory bird-nesting sites on the parkland.

Stocks Creek is a tributary of the Black River and is not navigable. Stocks Creek at the I-94/I-69 crossing west of the Lapeer connector has an associated floodplain and an upstream drainage area of 6.9 square miles. At this location, the Stocks Creek floodplain is mostly low-lying emergent wetlands.

3.11.2 Impacted Floodplains

No-Build Alternative: The No-Build Alternative would have no effects on the 100-year floodplain.

Recommended Alternative: Efforts have been made to minimize impacts to the floodplains and any impact to the 100-year floodplain will be offset by providing additional compensatory storage for flood waters.

The proposed Black River Bridge improvements will be at or above the existing elevations (which are at least 8 feet above the 100-year flood elevation) and, therefore, will be protected from water flooding over the roadway/bridge in the event of a 100-year flood. The new bridge design will also increase the opening under the bridge helping to offset any proposed fill in the 100-year floodplain.

As a result, there will be no impacts on natural and beneficial floodplain values, there will be no change in flood risks, and there will be no increase in potential for interruption or termination of emergency service or emergency evacuation routes.

The Recommended Alternative over the Black River: The Recommended Alternative requires the replacement of the Black River Bridge. The existing bridge is a 10-span, 766 feet long, 64 feet wide, steel I-beam structure built in 1950. The proposed bridge will be a 12-span, 1,369 feet long, 206 to 254 feet wide, precast concrete I-beam structure. Due to clearance issues, box beams will be used over Riverside Drive. The waterway piers will remain in their current location based on direction received by the U.S. Coast Guard.

This widening will require the placement of fill material within the 100-year floodplain west of the Black River Bridge along both sides of I-94/I-69. Lengthening the bridge over the Black River will provide compensatory storage to ensure that the new bridge will not impact the 100-year floodplain elevations. Fill for the longer bridge will be required at the Water Street ramp locations, which will be above the 100-year floodplain elevations.

Floodplain analysis for the Black River indicates that the proposed water surface elevation immediately upstream would be 0.01 feet lower than the existing for the 100-year storm event. Immediately downstream of the structure the existing and proposed water surface elevations would be the same with no adverse impacts.

The Recommended Alternative over Stocks Creek: Stocks Creek runs from south to north and crosses under I-94/I-69 perpendicularly through 210-foot long, twin 10.5x6 foot elliptical concrete culverts. The new Stocks Creek structure will be a 214 feet long, 30 feet wide, 10 feet tall, open bottom concrete culvert. A hydraulic analysis has concluded that the proposed single-span structure would not create an adverse effect on the hydraulic capacity and efficiency of the Stocks Creek crossing.

3.12 Wetlands

What is Wetland Delineation?

The process used to determine the size and type of a wetland.

An extensive study of the potential effects to wetlands in the Study Area was completed for the DEIS (see **DEIS Section 3.13**). Wetland delineations and assessments were conducted in the Study Area to identify locations and sizes of wetlands, assess the functions associated with each wetland, and identify

the potential wetland impacts of each alternative. The majority of the wetlands within the Study Area are located west of Water Street along I-94/I-69. It was determined that there would be no impact to any wetland under the No-Build Alternative.

The majority of the wetlands within the Study Area are located west of Water Street along I-94/I-69 (**Figure E.26** in **Appendix E** of the **DEIS**). The eastern portion of the Study Area is more urban with wetlands located primarily along the Black River. Invasive plant species dominate these wetlands and contain significant amounts of garbage and debris. However, these types of wetlands, adjacent to rivers, lakes and streams, can provide higher water quality functions, erosion control, and wildlife habitat.

Two wetland areas adjacent to Stocks Creek represent the highest quality and largest wetlands within the Study Area. These wetlands are located on the north and south side of I-94/I-69, just west of the Lapeer connector. Both of the wetlands border Stocks Creek and provide flood storage, water filtration, nutrient uptake and erosion control functions, in addition to wildlife habitat. It is likely that these two wetlands were historically one complete wetland complex that was fragmented at the time I-94/I-69 was initially constructed.

3.12.1 How Many Acres of Wetlands will the Recommended Alternative Impact?

As stated in the DEIS the proposed improvements for the Recommended Alternative would impact a total of 3.24 acres of emergent, scrub-shrub, and open water wetlands, and 1.12 acres of forested wetlands for a total of 4.36 acres of wetland impacts. These wetlands have relative low value, function, and floristic significance. **Chapter 5, Mitigation** discusses measures to offset potential wetland impacts.

3.13 Plants, Wildlife, and Threatened and Endangered Species

An analysis of plants, wildlife, and threatened and endangered species was conducted for the DEIS (see **DEIS Section 3.14**). It was determined that the Recommended

Alternative would not have significant impacts on plants and wildlife. The analysis found no threatened and endangered species in the Study Area.

3.13.1 What Methods were Used?

What is habitat?

An area that provides an animal or plant with adequate food, water, shelter, and living space.

The identification of plants, wildlife, and threatened and endangered species consisted of record searches and field investigations. Based on information received from the Michigan Department of Natural Resources and the Michigan Natural Features Inventory, the study did identify specific target species and target habitats. Field inspections included a minimum of two qualified biologists visually inspecting all of the Study Area and recording all observations of plant and animal species present.

3.13.2 What does the Existing Environment Look Like?

What are macroinvertebrates?

Macroinvertebrates are invertebrates visible to the naked eye, such as insects, crayfish, and worms. Macroinvertebrate studies provide a good environmental indicator of stream health because many species are either tolerant or intolerant of pollution.

Habitat, Wildlife, Threatened and Endangered Species, and Plants: The habitat types located in the Study Area are typical for Southeastern Michigan. Based on field surveys, the plant communities in the Study Area support some animal species found in Southeastern Michigan. Two animal species, the spotted turtle (*Clemmys guttata*) and round hickory-nut mussel (*Obovaria subrotunda*), were identified as having potential to exist within the Study Area but none were found during field investigations.

Fish and Aquatic Biota: Results of Black River surveys indicated poor water quality conditions with degraded habitats and poor macroinvertebrate communities. No spawning occurs within the Study Area, but does occur in upstream reaches, where hard, gravel and cobble bottom substrates are present. The habitat quality associated with Stocks Creek is good to excellent. However, fish and macroinvertebrate communities are indicative of a stream with lower water quality.

3.13.3 Will the Project Impact any Plants, Wildlife, or Threatened and Endangered Species?

No-Build Alternative: The No-Build Alternative would have little or no impact on the plants, wildlife or threatened and endangered species within the Study Area.

Recommended Alternative: The Recommended Alternative would have the following impacts on plants, wildlife and threatened and endangered species within the Study Area.

Wildlife: Because the impacted areas of the Recommended Alternative are near existing roads and developed areas, the plant communities that would face elimination are not suitable wildlife habitat. Wildlife species that are common in the surrounding area are tolerant of noise and visual disturbances, and may relocate to similar adjacent habitat.

Threatened and Endangered Species: No state or federally listed threatened and endangered animal species appear to exist within the Study Area.

Plants: Impacts are not expected to be major with the Recommended Alternative. No unique or special plant communities exist within the Study Area and any species that would be affected are common to urbanized areas in the vicinity of the Study Area.

Fish and Aquatic Biota: Overall impacts to the fish and aquatic biota within the Black River and Stocks Creek should be minimal.

3.14 Potential Contaminated Sites

The Study Team performed two contaminated site surveys of the areas surrounding the existing Blue Water Bridge Plaza. The purpose of these surveys was to locate and identify potential contaminated sites within or near to the potential areas of construction. Such sites would contain Recognized Environmental Conditions (RECs). For a complete discussion see **Section 3.16** of the **DEIS**.

The contaminated sites search included a review of regulatory databases on known contaminated sites, a review of the history of land uses in the area, a walkover, and discussions with the companies that provide power, water, and sewer services.

A total of 20 RECs were identified during the assessment of existing conditions. The No-Build Alternative would not

Recognized Environmental Conditions (RECs)

The presence of or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or material threat of a release of any hazardous substances or petroleum products.

affect any of these RECs. Eighteen of these sites could be affected by construction as part of the reconstruction of the existing plaza under the Recommended Alternative. Impact to two sites would occur by reconstruction of the Water Street interchange.

A methane collection system is present and impacts to the contamination sites will be further addressed in the design phase.

Chapter 5, Mitigation, discusses measures necessary for potential contaminated sites.

3.15 Cultural Resources

Since the publication of the DEIS in August of 2007, the layout of the Recommended Alternative has been changed to address responses to the document. **Section 3.15** of the **DEIS** fully discusses impacts to cultural resources for the Blue Water Bridge Plaza Study. The DEIS stated that the Recommended Alternative would acquire the block on which the E.C. Williams House resides. This remains true, although the proposed plaza layout has been changed. The E.C. Williams house is eligible for the National Register of Historic Places and as a result is protected under Section 106 and Section 4(f).

No-Build Alternative: The No-Build Alternative will have no effect on the E.C. Williams House.

Recommended Alternative: The Recommended Alternative would directly affect the E.C. Williams House property. Currently, the E.C. Williams House is more than a full block away from the existing bridge plaza. The Recommended Alternative would acquire the block that buffers the house from the existing plaza and the block on which the E.C. Williams House resides. The northern and eastern boundaries of the plaza will remain Hancock Street and 10th Avenue. The houses and businesses located on the south side of Hancock Street, on the north side of Church Street, and on the west side of 10th Avenue would be acquired and the block would be converted to both green space and visitor parking for those interested in signing up for the FAST and NEXUS programs.

What are Cultural Resources?

Any historical or archaeological resource, regardless of significance



Front View E.C. Williams House



Side View E.C. Williams House

These activities would take place in a space located in the commercial secondary building (shown in **Figure 3.15.1**).

Based on the direct impact to the house, MDOT has received concurrence from the State Historic Preservation Office (SHPO) on March 15, 2007 that the Recommended Alternative will adversely affect this property. See **Chapter 4.0 Section 4(f) and 6(f) Evaluation** and **Chapter 5.0 Mitigation** for more information. The Memorandum of Agreement (MOA) is included in **Appendix B**. MDOT proposes to relocate the E.C. Williams House.

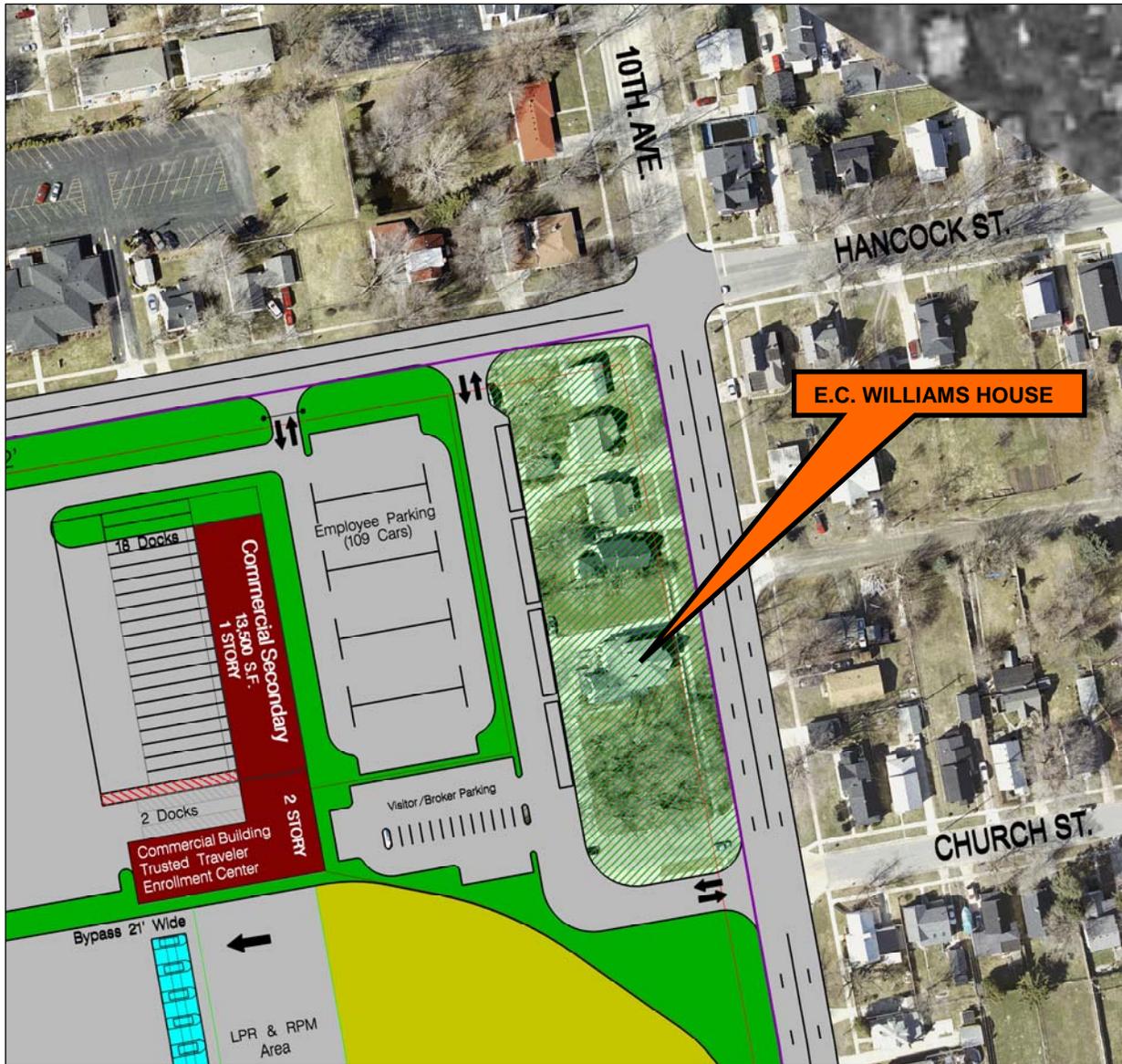


Figure 3.15.1 Recommended Alternative near 10th and Hancock

3.16 Traditional Cultural Properties

Traditional cultural properties are most frequently associated with Native North American sacred places. They are defined as being eligible for listing on the National Register because of the association with the traditional practices or beliefs of a living community. Those beliefs are rooted in that community's history. They are important to maintaining the continuing cultural identity in that community.

Early coordination letters were sent to the 12 federally recognized Tribes of Michigan. No traditional cultural properties, sacred sites or other significant properties were located within the area of potential effect by the Study Team or any of the Tribes of Michigan. However, in the event of accidental discovery of Native American cultural properties during construction, Tribes of Michigan will be contacted for consultation in accordance with the appropriate federal and state laws, rules and regulations regarding such finds.

An unanticipated finds plan will be developed to provide detailed procedures to deal with significant historic resources which may be identified during project implementation. This plan will establish procedures to evaluate and treat these resources. The procedures include stopping work, examining findings, determining eligibility and documenting results.

3.17 Construction Impacts

Construction mitigation contained within this section is a commitment that MDOT must follow during the implementation phases of this project. The local office responsible for construction oversight, schedule inquiries, and project complaints will be the Port Huron Transportation Service Center (TSC).

3.17.1 What are the Construction Impacts of the Alternatives?

No-Build Alternative: The No-Build Alternative would create construction noise and vibration during routine maintenance of existing roadways and the plaza. The No-Build Alternative would not affect water, sanitary sewer, gas, telephone, or



MDOT will develop plans to keep traffic moving during construction.

electrical transmission lines other than during temporary maintenance activities.

Recommended Alternative: The Recommended Alternative would have temporary and short-term impacts on plaza users and the local community during construction. MDOT and FHWA plan to construct the project in phases. This will reduce the construction related impacts that occur at any one time to smaller parts of the Study Area. Temporary changes to existing travel patterns due to road closures and detours would likely impact traffic on local roads in the vicinity of plaza improvements. While these impacts are unavoidable, reducing the temporary impacts to motorists, pedestrians, and residents would be a key part of the construction staging and plans for traffic flow and detours during construction. Although specific detour routes are unknown at this stage of the study, there should be no lengthy detour routes for the Recommended Alternative. Potential detour routes may vary; however, no two adjacent parallel routes would be closed at the same time.

Traffic Flow Impacts: Temporary delays to existing traffic due to construction will occur on I-94/I-69 and other local roadways under the Recommended Alternative. MDOT and the City recognize the importance of minimizing the traffic impacts to the local community as a result of this project, to the greatest extent possible. MDOT and FHWA will stage construction so that there are no total closures of I-94/I-69. Local roadways may experience some temporary closures. The goals of the Maintenance of Traffic (MOT) plan are to minimize delays, minimize congestion, maintain the required access, and complete the project in a reasonable timeframe.

Below is a summarized list of preliminary planning goals for the project construction staging:

- Provide two lanes of I-94/I-69 traffic in each direction
- All Plaza operations will be maintained throughout construction with the aid of temporary connections
- Minimize Water Street and Lapeer connector ramp closures
- Maintain Water Street traffic over I-94/I-69 throughout construction

- Complete the upgraded Black River Bridge prior to beginning construction on the plaza
- Maintain two lanes of Pine Grove Avenue traffic in each direction
- Maintain access to businesses and minimize delay to thru traffic

Under the Recommended Alternative, traffic interruptions would occur at locations where the new or reconstructed roadway connects with existing roadways and where bridge and interchange improvements are proposed. At bridge locations where the Recommended Alternative passes over existing roadways, temporary lane closures and construction equipment access drives may be required. For bridge replacements at Water Street and the Lapeer connector, temporary road closures and detours may be required until the new bridges are fully open to traffic.

Minimizing delays, congestion, and access restrictions would be a priority during construction. MDOT will make every effort to reach agreement with the City and County Road Commission engineering staffs on final goals and implementation of strategies, prior to the beginning of construction.

MDOT will maintain public awareness throughout the project by providing specific information such as duration and location of detours, lane closures, alternative routes, upcoming activities, and anticipated construction deadlines.

Security and Disruption of Plaza Operations During Construction:

The existing plaza performs an essential role in protecting the national security of the United States. The Recommended Alternative will have some construction-period effects on portions of the existing plaza as it will require the reconstruction of the existing plaza in its current location. Construction will occur in stages to maintain security. In addition, construction staging will also have to work around the existing activities on the site.

MDOT will coordinate actively with Blue Water Bridge Canada and the U.S. Customs and Border Protection to ensure that construction is as minimally disruptive as possible.

Construction Impacts to Businesses and Neighborhoods: The Recommended Alternative will temporarily disrupt access to some local businesses and neighborhoods in the vicinity of the existing plaza and at the Water Street interchange.

Contractors will be required to maintain access to businesses at all times to the extent possible. Contractors will coordinate with business owners continuously throughout the project. In neighborhoods impacted by construction, MDOT and the contractor will coordinate with residents regularly.

As part of the maintenance of traffic (MOT) planning, MDOT will make every effort to minimize access disruptions to local businesses. MDOT will work closely with the city of Port Huron and the St. Clair County Road Commission to finalize these plans prior to the beginning of construction.

Construction Impacts to Emergency Services: The Recommended Alternative will impact emergency vehicle routes due to temporary road closures, detours, and traffic congestion/delays. As part of the MOT planning, MDOT will make every effort to minimize impacts to critical north-south routes and emergency service access.

MDOT will coordinate with emergency service providers prior to the beginning of construction and at the beginning of new phases of construction and maintain communication throughout construction. Adjustments to emergency response plans will be developed based on project activity.

Construction Noise and Vibration Impacts: The noise generated by construction operations and equipment would vary greatly, depending on the equipment type and model, mode and duration of operation, and specific type of work in progress. Individuals living or working near the project can expect general construction noise impacts from demolition, earth moving, construction and paving operations. Since construction will take place in phases, different homes and businesses would be affected by construction noise at different times. Construction could create vibrations that would pose a temporary disturbance to people and animals, and could affect nearby structures. Considering the relatively short-term nature of construction noise and the fact that construction will only

take place from dawn to dusk, impacts should not be substantial.

Section 5.6 of the **DEIS** documents MDOT's best practices for minimizing noise impacts during construction. Construction activities will be limited to dawn to dusk, unless the city/township requests changes to this policy to expedite construction duration periods. Much of the construction under the Recommended Alternative would be located within the boundaries of the existing plaza and along I-94/I-69. While a number of nearby residential and commercial properties would be acquired, there would still be properties close to the plaza that would be impacted by noise and vibrations.

Construction noise would be minimized by requiring that construction equipment have mufflers, that portable compressors meet federal noise-level standards, and that all portable equipment be placed away from or shielded from sensitive noise receptors, if at all possible.

Care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is anticipated, basement surveys would be conducted before construction begins to document any damage caused by highway construction. Contingent upon property owner approval, MDOT in consultation with the selected construction contractor will make an assessment as to which structures will have basement surveys completed. MDOT's contractor will be responsible for the costs associated with the required basement surveys. These surveys will be completed at the on-set of the construction phase.

Construction Water Quality and Resources Impacts:

Construction-related erosion, siltation, and riverbed disturbance may be the short-term construction effects. Temporary increases in sedimentation and turbidity levels of surface waters may occur during construction depending on how close excavated areas are to rivers and how often storms occur.

Proper sediment and erosion control will minimize these impacts. Groundwater is not expected to be impacted because appropriate erosion and sediment control measures will be implemented.



MDOT would use proper sediment and erosion control measures during construction.



Construction activities would have temporary visual impacts.

Construction Air Quality Impacts: The Recommended Alternative would have a temporary air quality impact due to construction equipment pollutants, traffic emissions, and dust from areas where soil is exposed or traveled on by construction equipment. **Section 5.4** of the DEIS documents MDOT's best practices for minimizing air pollution and particulate matter during construction.

Disruption of Utility Services: The Recommended Alternative may affect utilities that are adjacent to or crossed by the project. These include: electrical, cable, street lighting, gas pipelines, sewers, watermains, and phone service. Even if utilities do not require permanent relocation or adjustment, service to the project area may experience a temporary interruption during short periods of construction. For the most part, the effects on utilities will go unnoticed.

MDOT and its contractors will coordinate with the utilities and affected communities prior to beginning construction or implementation of new phases. The coordination will be maintained throughout the project.

Visual Impacts from Construction Activities: For residences and businesses located near construction sites, there will be temporary visual impacts associated with construction work, particularly from earthwork operations, storage of materials/equipment, and removal of buildings. To the greatest extent possible, MDOT will require that any construction staging area that abuts a residential neighborhood or active commercial businesses be fenced so that views to the interior of the site are screened.

3.18 Indirect and Cumulative Impacts

An extensive study of the potential indirect and cumulative impacts of the proposed project was completed for the DEIS (**Section 3.7**). This section will summarize the indirect and cumulative effects of the Recommended Alternative on land use, traffic patterns, farmland and wetlands, as they have the greatest potential to be affected, indirectly or cumulatively, by the project.

3.18.1 What are the Indirect Impacts?

No-Build Alternative: The No-Build Alternative does not involve any expansion of the existing plaza or improvements along I-94/I-69. There will likely be some plaza changes to improve the operation of the plaza over the long term, but the plaza size would not change.

Under this alternative, traffic backups would likely increase over time along the streets and at intersections near the plaza, which may have an indirect effect on the travel patterns of people living in the vicinity of the plaza and on adjacent land uses.

No indirect effects on farmlands or wetlands are anticipated as a result of the No-Build Alternative.

Overall, the No-Build Alternative would not have a significant indirect impact on land use, traffic patterns, farmland or wetlands.

Recommended Alternative: The relocated Pine Grove Avenue provides new frontage access to existing vacant or underutilized business locations north of Hancock Street. This may be an attractive location for new or relocated businesses, providing some revitalization to the blocks north of the plaza. Most of this area is currently zoned for business use; however, the induced business growth could promote the conversion of more of this area to commercial use provided local zoning was changed to allow it. In addition, new business growth could also occur along 10th Avenue and along Pine Grove Avenue south of the project. This business growth could influence the community to convert the first block of neighboring houses to commercial use as well, provided local zoning was changed to allow it.

The Recommended Alternative may indirectly affect traffic patterns by allowing people the option to take alternate routes, such as the rerouted Pine Grove Avenue or 10th Avenue, around the plaza facility. However, this affect should be minor.



Traffic backup on I-94/I-69



Pine Grove Avenue commercial corridor



Water Street off-ramp

The Recommended Alternative will likely have a positive indirect effect on the Canadian side of the border crossing, in Sarnia, Ontario. By reducing traffic backups and associated law enforcement oversight on Highway 402, stress on Canadian resources, in particular, the Ontario Provincial Police, will also decrease.

The Recommended Alternative may have minor indirect impacts due to reduced access for border crossing traffic at Water Street and increased access between the interstate and Lapeer Road via the enhanced Lapeer connector. These minor changes to the road network are unlikely to cause major changes in development and use or indirect impacts to farmland, wetlands, and other natural resources.

The proposed improvements to I-94/I-69 may cause some motorists heading to Canada to bypass the services currently available at the Water Street interchange. Motorists headed to Canada will be directed into separated lanes that lead directly to the Blue Water Bridge prior to Water Street. This should reduce traffic conflicts between local traffic and border crossers. Border crossing traffic will still have the option to access the Water Street interchange via the lanes for local traffic and could then use Pine Grove Avenue to access the bridge plaza. However, motorists unfamiliar with this particular border crossing would be unaware of this option to access Water Street. There will still be full access to Water Street for local traffic and border crossers coming from Canada in the same manner that exists today. As a result, the indirect effect on development at Water Street would be minor.

The minor traffic pattern changes caused by the Recommended Alternative should have minimal affects on land use patterns and development at the potentially affected interchanges along I-94/I-69. The Recommended Alternative does not increase access to or direct large traffic volume to locations with undeveloped land. As a result of the minor traffic pattern changes, a small number of drivers may switch the location for their gas or meal purchases between the various interchanges in the vicinity of the I-94/I-69 corridor but there is unlikely to be enough change to sustain new businesses or development. No indirect impacts on land uses,

wetlands, farmland, and other natural resources are expected with the Recommended Alternative.

3.18.2 Does the Project have any Transboundary Effects?

The Recommended Alternative will likely have a positive indirect effect on the Canadian side of the border crossing, in Sarnia, Ontario. The alternative may reduce stress on Canadian resources, in particular, the Ontario Provincial Police, by reducing traffic backups and associated law enforcement operations on Highway 402. The Recommended Alternative will also reduce delay for Canadians waiting to enter the United States.

The Recommended Alternative will not affect environmental resources in Canada but could result in reduced localized air quality impacts and use of fuel due to less congestion on the Canadian side of the bridge from cars and trucks waiting to enter the United States.

3.18.3 How did the Study Team Determine if the Recommended Alternative would have Cumulative Effects?

Environmental regulations require the evaluation of the cumulative effects for a proposed action or project. In general, a particular action or group of actions would be included in the cumulative analysis, provided:

- The impacts occur in a common area
- The impacts are similar in nature
- The impacts are long-term

Comprehensive plans for the townships of Port Huron and Fort Gratiot, and the city of Port Huron were reviewed to identify future actions that could have cumulative impacts. Also, the 2030 Long Range Transportation Plan, prepared by the St. Clair County Transportation Study, was reviewed for any major transportation projects that may have cumulative effects.

3.18.4 Are There any Cumulative Effects?

Upon reviewing potential projects to be included in the cumulative analysis, the Study Team determined that the only projects with long-term cumulative effects are the various plaza and related improvements over time.

No-Build Alternative: The No-Build Alternative would not result in a cumulative impact on the community and neighborhoods.

Recommended Alternative: The proposed relocations, in combination with past relocations since 1980 and the proposed relocations due to the I-94/I-69 corridor project would result in a significant cumulative impact. There is also a cumulative impact to the tax base of the city of Port Huron.

3.19 Permanent and Lasting Commitments of Resources

Permanent commitments of resources occur when you convert something like wildlife habitat to a transportation project. Lasting commitments of resources are the money, materials, and labor put into a project. Some of these resources, like materials, could possibly be recycled. Others would be gone forever.

No-Build Alternative: Permanent commitments of the No-Build Alternative include the money, time, and personal hardship related to increasing congestion on the plaza and local roadways and the inability of the current plaza to meet the security and operational needs of Customs and Border Protection. As the plaza deteriorates over time, there would be increasing costs for energy and the time required for business travel and personal driving. As traffic delay and operational inefficiencies increase, air pollution, noise pollution, and crashes would affect the local environment to a greater extent than exists today.

Recommended Alternative: Construction of the Recommended Alternative would utilize considerable amounts of fossil fuels, labor, and construction materials such as cement, stone, and asphalt materials. Such a resource use would be generally

permanent, although it would be possible to retrieve and reuse these resources to a limited extent. Any construction would also require a substantial one-time expenditure of both state and federal funds which are irretrievable.

The commitment of these resources is based on the concept that residents in the local region around the Blue Water Bridge Plaza, the State of Michigan and Province of Ontario, and the United States and Canada will benefit from these improvements.

3.20 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

As discussed in the DEIS, the money, labor, and construction materials used to construct the project will be substantial. Based on all of the improvements included in the project, the ultimate benefits should justify the initial costs. These costs and benefits are not limited to the spending of public dollars, but also include hard-to-quantify items such as improved security, improved border processing, economic development benefits, etc.

For this discussion, "short-term" refers to the immediate direct consequences of the project while "long-term" refers to its direct or indirect effects on future generations.

No-Build Alternative: The No-Build Alternative will have fewer short-term uses of the human environment above and beyond existing or planned activities at the plaza. Existing land uses would remain as they are today, and the existing plaza would continue to follow the same long-term trends for processing international border crossings. Over the long term, congestion and delay at the plaza will likely increase as international traffic grows and requirements for Homeland Security measures increase in magnitude and complexity.

Recommended Alternative: In the case of the Recommended Alternative, short term uses of the environment would include:

- Temporary air, noise, water pollution, and visual effects caused by reconstruction of roadways
- Temporary air, noise, water pollution, and visual effects caused by reconstruction of the existing plaza into new uses
- Increased cost to motorists in time and fuel efficiency because of construction delays and detours
- Disturbances to businesses, homes, and institutions because of construction
- Conversion of open space, agricultural land, woodlands, and wetlands to transportation or Homeland Security use
- Relocation of people and businesses, including expenses that would be incurred as these people and businesses are compensated
- Reduction in property tax revenues resulting from relocation of people, businesses, and other land uses
- Use of public funds to build the highway and plaza infrastructure

Under the Recommended Alternative, there will be long-term benefits including:

- An improved level of security and the economic and social benefits that come with the higher security
- Improvements in both domestic and international driver convenience, safety, travel time, and energy use
- Economic development opportunities from improved access and local opportunities for contractors in the region
- Reduction of air pollution and noise due to more efficient processing of vehicles on the plaza

The improvements to the Blue Water Bridge plaza, local roads, and I-94/I-69 are consistent with the long range transportation plans of Southeast Michigan Council of Governments and the Michigan Department of Transportation.