

## 375 IMPROVEMENT PROJECT MEETING SUMMARY

<b>SUBJECT</b>	375 Improvement Project Advisory Committee Meetings
<b>MEETING SITE</b>	1300 Lafayette East Cooperative, 1300 E. Lafayette St., Detroit MI 48226
<b>DATE/TIME</b>	August 29, 2017 Government Advisory Committee, 2PM - 4PM (EST) Local Advisory Committee, 5:30PM – 7:30PM (EST)

---

The third set of advisory committee meetings for the I-375 Improvement Project were held on August 29, 2017 at the 1300 Lafayette East Cooperative. In attendance at the meetings were representatives from the community, churches, businesses, and government. The Government Advisory Committee (GAC) was attended by 11, and the Local Advisory Committee (LAC) was attended by 15.

MDOT, the City of Detroit, and the project team were in attendance to present the agenda, including the new MDOT Project Manager Jon Loree. For this set of meetings, the agenda focused on the Alternative Screening which took place over July 2017 and August 2017 and the results of the analysis of existing traffic along I-375.

The discussion on the Alternative Screening, centered on the collaborative scoring that was done in July by the project team. No Practical Alternatives have been selected yet. The results of the scoring were presented and then discussed by the group. Highlights of the discussion include:

- The consideration of traffic severity, speed, and increase in conflict points.
- The impact a boulevard would have on safety for vehicles and non-motorized traffic.
- The elimination of design deficiencies, such as the Jefferson Curve.
- The obligation to retain Alternative 1 in the study as a baseline for the study.
- The possibility of development and roadway isolating Holy Family Church if Alternative 6 is selected.
- negative impacts to street parking for Holy Family Church due to bike lanes proposed in Alternative 5.
- The value of placemaking and potential of each Alternative to fulfill the placemaking criteria. Specifically, the difference between Alternatives 4 and 5 and what the City's preference is.
- Impacts to emergency services if the freeway is removed.
- Mack Ave. and the issue of trucks queuing on the ramps if the Gratiot connector is removed.

The project team identified Illustrative Alternatives 4, 5, and 6, and Interchange Alternative 2 as the highest scoring. They are now working on combining Interchange Alternative 2 with the Illustrative Alternatives, to analyze impacts.

The next agenda item presented on was an update of the traffic analysis. The team has been refining the model to reflect expected changes to traffic. The existing traffic data is available and the future model is in progress with results expected at the next LAC/GAC meetings. Results from the analysis of existing traffic found that the Gratiot Connector level of service was higher than expected. It was also discussed

that Detroit will most likely maintain the closure of the Jefferson and Woodward intersection, as there have been no adverse impacts to traffic. That change will be incorporated into the I-375 Traffic Model.

Lastly, the agenda covered local items for members to share with the whole group. It was reported by SEMCOG that their Long Range Plan is available for public comment. There are meetings across the region, with one in Detroit at the SEMCOG offices on September 20<sup>th</sup>. It was also announced that the City of Detroit will begin restriping Jefferson Avenue in September, taking 1-2 weeks, and adding bollard/delineators for bike lanes, taking 5-6 weeks.

The next set of meetings will be early October.

# **375 IMPROVEMENT PROJECT**

## **GOVERNMENTAL ADVISORY COMMITTEE AGENDA**

**SUBJECT** 375 Improvement Project Governmental Advisory Committee Meeting

**MEETING LOCATION** 1300 Lafayette East Cooperative, 1300 E. Lafayette St., Detroit MI 48226  
Street Parking is available with overflow parking available at Chrysler Elementary

**DATE/TIME** August 29, 2017, 2:00PM-4:00PM

---

### **1. Welcome**

### **2. Introductions of Advisory Committee Members**

- A. New Project Manager, Jon Loree

### **3. Alternative Screening**

### **4. Project Updates**

- A. Traffic Analysis update
  - i. Review Existing
- B. Timing for future model - 2040

### **5. Local Items for Sharing**

- A. Advisory Committee members are encouraged to share items of interest from their respective organization(s) that may impact the 375 Improvement Project or other Advisory Committee members

### **6. Other**

### **7. Next Meeting**

- A. Next Meeting Date and Location TBD
- B. Specific agenda topics to cover for next meeting?

# **375 IMPROVEMENT PROJECT**

## **LOCAL ADVISORY COMMITTEE AGENDA**

**SUBJECT** 375 Improvement Project Local Advisory Committee Meeting #3

**MEETING LOCATION** 1300 Lafayette East Cooperative, 1300 E. Lafayette St., Detroit MI 48226  
Street Parking is available with overflow parking available at Chrysler Elementary

**DATE/TIME** August 29, 2017, 5:30PM-7:30PM

---

### **1. Welcome**

### **2. Introductions of Advisory Committee Members**

- A. New Project Manager, Jon Loree

### **3. Alternative Screening**

### **4. Project Updates**

- A. Traffic Analysis update
  - i. Review Existing
- B. Timing for future model - 2040

### **5. Local Items for Sharing**

- A. Advisory Committee members are encouraged to share items of interest from their respective organization(s) that may impact the 375 Improvement Project or other Advisory Committee members

### **6. Other**

### **7. Next Meeting**

- A. Next Meeting Date and Location TBD
- B. Specific agenda topics to cover for next meeting?



# I-375 Screening Criteria Technical Memorandum

August 2017

## Table of Contents

1	Introduction .....	2
2	Screening Criteria .....	2
3	Screening Methodology .....	2
4	Project Purpose Screening Criteria .....	2
4.1	Addresses deterioration of bridges .....	2
4.2	Addresses deterioration of pavement .....	3
4.3	Addresses existing and future transportation needs for all users of all modes and abilities .....	3
4.4	Improves connectivity to surrounding areas for vehicular traffic.....	3
4.5	Improves connectivity to surrounding areas for non-motorized users .....	4
4.6	Improves access to existing and future transit.....	4
4.7	Accommodates foreseeable changes in mobility technologies, services and demands .....	4
4.8	Enhances walkability and access.....	5
4.9	Enables place-making opportunities envisioned in official land use plans .....	5
5	Project Needs Screening Criteria .....	6
5.1	Safety .....	6
5.2	Pedestrian Access .....	6
5.3	Bicycle Access .....	7
5.4	Community Access Improvements.....	7
5.5	Traffic Access.....	8
5.6	Transit Access.....	8
5.7	Economic Development .....	9
5.8	Environmental .....	9
5.9	Implementation.....	10
6	Summary.....	10

# 1 Introduction

The purpose of this technical memorandum is to document the screening process used to narrow the Illustrative Alternatives developed for the I-375 Improvement Project Environmental Assessment down to a set of Practical Alternatives. The criteria were developed around the Project's Purpose and Need statement developed as part of the 2014 Planning and Environmental Linkages Study (PEL) and amended in 2017 to incorporate comments from the Michigan Department of Transportation (MDOT), the City of Detroit, the project's Government Advisory Committee (GAC) and the Local Advisory Committee (LAC). Input on the Purpose and Need was also obtained from a Community Conversation held on May 17, 2017. Each Illustrative Alternative was screened through the criteria identified below to determine how best they conform to the Purpose and Need of the project. The following sections provide specific details of the screening process.

## 2 Screening Criteria

The screening criteria were developed in a joint effort between the Federal Highway Administration (FHWA), MDOT, the City of Detroit, the LAC, and the GAC. The full matrix is in **Appendix A**. The criteria built upon those developed for the 2014 PEL and the amended Purpose and Need.

## 3 Screening Methodology

To evaluate the six corridor Illustrative Alternatives and the two Interchange Illustrative Alternatives, each criterion was assigned a measurement by which to score it with, pass/fail or a point scale. All Illustrative Alternatives were considered equal at the beginning of the screening process by the project team.

FHWA, MDOT, the City of Detroit and the Southeast Michigan Council of Governments (SEMCOG) collaborated to screen the alternatives. An evaluation was completed separately by each member of the project team and was then calibrated collectively in a technical review session held on July 19, 2017. The purpose of this process was to create a unified outcome with input from all members of the project team.

## 4 Project Purpose Screening Criteria

The screening criteria are organized to measure each alternative against the Purpose and Need of the project. The purpose screening criteria are broken out in further detail in this section. Each of the criteria is directly related to the purpose of the project and are evaluated on a pass/fail basis. The alternatives were all scored using these nine criteria. Given the overarching importance of the purpose criteria, a pass/fail approach (worth 5 points for each criteria) was applied to each of the nine criteria. The project team considered a spectrum of factors to evaluate each individual alternative and ultimately gave them a pass or fail score.

### 4.1 Addresses deterioration of bridges

#### 4.1.1 Source/Assumptions Used to Screen:

The 2014 PEL and the amended Purpose and Need were used as resources to complete this section of scoring.

#### 4.1.2 Pros:

All alternatives received a passing score for this screening criterion. They are all designed to address the deterioration of the bridges, either through reconstruction or the replacement of the bridge with an at-grade connection.

#### 4.1.3 Cons:

There are no cons relative to this criterion, each alternative received a passing score.

## 4.2 Addresses deterioration of pavement

### 4.2.1 Source/Assumptions Used to Screen:

The 2014 PEL and the amended Purpose and Need were used as resources to complete this section of scoring.

### 4.2.2 Pros:

All alternatives received a passing score for this screening criterion. They are all designed to address the condition of the deteriorating pavement.

### 4.2.3 Cons:

There are no cons relative to this criterion, each alternative received a passing score.

## 4.3 Addresses existing and future transportation needs for all users of all modes and abilities

### 4.3.1 Source/Assumptions Used to Screen:

The 2014 PEL and the amended Purpose and Need were used as resources to complete this section of scoring. Evaluation of this criterion considered all modes of travel including non-motorized and vehicular. It also considered both local and long-distance users.

### 4.3.2 Pros:

Alternatives 2-6 include elements that will address existing and future transportation needs for all users of all modes and abilities. Each has elements for improved access for non-motorized users as well as improvements for vehicular traffic. The Interchange Alternatives also both address needs for all users, including a new interchange at Gratiot, and upgrades to bridges and ramps. The Interchange Alternatives do not include specific upgrades for non-motorized users, but the improved interchange will positively impact those users.

### 4.3.3 Cons:

The reconstruction of the freeway as is does not address the existing and future transportation needs for all users, vehicular and non-motorized. The reconstructed freeway will include upgrades for vehicular traffic, such as safety and ramp improvements; however, Alternative 1 does not change the existing infrastructure of I-375 outside of typical improvements related with any reconstruction project, and it does not address access improvements for non-motorized users, such as improved crossing for pedestrians. Therefore, Alternative 1 fails this criterion.

## 4.4 Improves connectivity to surrounding areas for vehicular traffic

### 4.4.1 Source/Assumptions Used to Screen:

Determination was made based on the number of added or removed connections to the current network. The 2014 PEL was used as a resource to complete this section of scoring.

### 4.4.2 Pros:

Alternatives 2-6 improve connectivity by adding at least one new access point to the network. Alternative 2 only adds a connection to the riverfront. Remaining Alternatives 3-6 provide more connectivity to surface streets where the freeway is brought up to grade and a connection to the riverfront. In addition, both the Interchange Alternatives improve connectivity to the study area for vehicular traffic, through new access points.



#### 4.4.3 Cons:

Alternative 1 does not add any new access points to the network. The layout of the freeway will remain essentially the same, therefore not improving connectivity to surrounding areas for vehicular traffic, aside from what presently is in place.

### 4.5 Improves connectivity to surrounding areas for non-motorized users

#### 4.5.1 Source/Assumptions Used to Screen:

Evaluation was made based on the additional connections each alternative provided (if any), variety of potential route choices, and connectivity between substantial destinations or areas of travel origin. Similarly, assessment included real or perceived barriers to access and connectivity.

#### 4.5.2 Pros:

Alternatives 3, 4, and 5 take advantage of the restoration of a surface street network to improve connectivity. Alternative 3 makes use of a shared use path to markedly improve connectivity to the east while Alternative 4 is noteworthy for a high number of street connections to the west. Alternative 5 increases connectivity to areas on either side of the corridor through the routing of both a local surface street and a surface boulevard. Alternative 2 provides improved access to the riverfront for non-motorized users.

#### 4.5.3 Cons:

Alternative 1 provides no improved access for non-motorized users and Alternative 2 provides limited improvement in the number of connections and variety of route choices. The multiple lane one-way pairs in Alternative 6 create a sizable east-west barrier for pedestrians and cyclists. It limits the ability to cross over or access the sunken greenway. Interchange Alternative 1 scored unfavorable; the existing Gratiot Connector would remain, as well as a conflict with high speed vehicular traffic incompatible with north/south non-motorized movements.

### 4.6 Improves access to existing and future transit

#### 4.6.1 Source/Assumptions Used to Screen:

The 2014 PEL was used as a resource for data on added/changed connections to complete this section of scoring. In addition, the evaluation was completed using route and stop data from the Detroit Department of Transportation (DDOT) and the Suburban Mobility Authority for Regional Transportation (SMART).

#### 4.6.2 Pros:

Alternatives 3-6 received a passing score on improving access to existing and future transit. They increase access for transit either by means of improved surface streets connections and new at-grade connections. Improved pedestrian and bicycle access will also enhance accessibility to transit services – which are mostly apparent in Alternatives 3,4, and 5. Interchange Alternatives 1 and 2 provide new access opportunities at Gratiot. It is uncertain how ridership will be impacted; however, increased access points can be a positive influencer.

#### 4.6.3 Cons:

Alternatives 1 and 2 maintain the existing freeway and do not create new access points for transit. They both received a failing score for this criterion.

### 4.7 Accommodates foreseeable changes in mobility technologies, services and demands

#### 4.7.1 Source/Assumptions Used to Screen:

This category is broad and covers a large spectrum of options for future changes in mobility technologies, services, and demands. Therefore, it is assumed that all alternatives could accommodate at least some level of change in the future. Whether the corridor is a boulevard or a freeway, there will be opportunities to incorporate new services and technologies. However, the opportunities will differ depending on the corridor type. The 2014 PEL was used as a resource for this criterion.

#### 4.7.2 Pros:

All alternatives can be retrofitted to address changes in technologies and services. The boulevard options, Alternatives 4, 5 and 6, will better address multiple modes of transportation, transit, vehicular, and non-motorized, economic development, and new technologies in the foreseeable future.

#### 4.7.3 Cons:

As each alternative has the propensity to accommodate new mobility technologies, there are no cons relative to this criterion and each alternative passes this measure.

### 4.8 Enhances walkability and access

#### 4.8.1 Source/Assumptions Used to Screen:

Walkability and access is predicated heavily on block size, adjacent land uses, and adjacent traffic volumes. Long block lengths with few intersecting secondary or tertiary streets, inactive adjacent land uses and/or heavy and fast traffic volumes detract from walkability by creating an undesirable walk environment. This, in turn, lowers local property access options and opportunities. The 2014 PEL was used as a resource for this criterion.

#### 4.8.2 Pros:

Surface street options and options with multiple crossings of the recessed highway, Alternatives 3-6, are generally more inviting to pedestrians and provide better walk access. Alternative 2 enhances walkability and access to the riverfront. Interchange Alternatives 1 and 2 provide enhanced separation from vehicular traffic and improvements to non-motorized safety through the elimination or reduction of the existing Gratiot/I-75 Connector geometrics. Improvements also include enhanced connectivity to Eastern Market and the Dequindre Cut.

#### 4.8.3 Cons:

Alternative 1 does not enable double-sided activity along streets. It continues to place pedestrians adjacent to high volumes of vehicle traffic and provides limited access to the existing street grid, which generally deters from walkability and access goals.

### 4.9 Enables place-making opportunities envisioned in official land use plans

#### 4.9.1 Source/Assumptions Used to Screen:

Various revitalization plans and strategies for the City of Detroit, including the Your! Detroit East Riverfront Study, envision better connections to the riverfront, restoration of Detroit's street grid, increased development along the Detroit River, enhanced rapid mass transit, a network of non-motorized greenways and surface bicycle facilities, and increased safety for all users. Alternatives were evaluated using these local land use and place-making objectives.

#### 4.9.2 Pros:

Alternative 5 is the most in line with the City's land use plans for the I-375 corridor, providing a terminus to downtown, and place-making opportunities on the eastern edge of the corridor. Of the Interchange Alternatives, Interchange Alternative 2 is most in line with Detroit's land use plans. It will provide a better opportunity for improved access to the northwest quadrant of the interchange, a priority for Detroit.

#### 4.9.3 Cons:

Alternatives 1 and 2 maintain the interstate, limiting significant place-making opportunities and land use development along the corridor as desired by the City. Alternative 2 achieves only minimal changes south of Jefferson while Alternative 1 does not support any change in land use or district character, or a connection to the riverfront.

While, Alternatives 3, 4, and 6 do provide opportunities to add place-making, they are not consistent with the Detroit's envisioned land use plans and the visions included in the Your! Detroit East Riverfront Study.

## 5 Project Needs Screening Criteria

The following section details the evaluation of the criteria based on the project Need. The Need criteria could score a maximum of 2 points for each measure. These criteria are broken out further in Appendix A, and are summarized in the sub-sections below.

### 5.1 Safety

#### 5.1.1 Source/Assumptions Used to Screen:

The Road Safety Audit conducted in 2014 and the PEL study were used to do a high-level screening of each Alternative's potential to reduce severity of crashes, reduce high crash areas, and reduce or eliminates existing design deficiencies.

#### 5.1.2 Pros:

Alternatives 3-6 eliminate the Jefferson curve and the weaving maneuver, both of which are listed as focus areas for safety. Alternatives 4, 5, and 6 improve or eliminate multiple high crash areas identified in the 2014 Road Safety Audit by removing or improving the geometric feature identified in the report. They will also decrease speed and are designed to accommodate commercial truck traffic. Interchange Alternative 2 removes ramps that are listed as safety concerns.

#### 5.1.3 Cons:

Illustrative Alternatives 1 and 2 and Interchange Alternative 1 provide minimal to no safety improvement. Alternative 1, 2 and 3 will not decrease identified conflict points contained within the Road Safety Audit. The at-grade interchanges will have more signalized intersections which increase conflict points and accidents, specifically right-angle accidents.

The existing I-75 mainline freeway northbound movement (common to Alternative 1) has outdated geometric design standard that MDOT would like to update to current standards. This movement is not addressed under Alternative 1.

### 5.2 Pedestrian Access

#### 5.2.1 Source/Assumptions Used to Screen:

Major considerations regarding whether the project alternatives address pedestrian access and increase the likelihood of increased pedestrian activity include whether the alternative creates more separation between pedestrians and vehicle traffic. Also, key to this evaluation, is pedestrian connectivity provided to the riverfront and between residential neighborhoods and the central business district (CBD). Anticipated

traffic volumes and speeds, as well as likely vehicle types (e.g. trucks and other large or heavy vehicles) traveling adjacent to pedestrian facilities, were also considered. The 2014 PEL was used as a resource to screen this section.

### 5.2.2 Pros:

Alternatives 3, 4, 5, and 6 include facilities that are fully separated from vehicle movements by landscaped buffers or slopes. These alternatives reduce crossing distances and increase the availability of sidewalks where the surface street network is augmented. All alternatives except Alternative 1 provide direct connections and pedestrian accommodations to the riverfront and across the interstate facility. Alternatives 4 and 5 specifically create pleasant and attractive walking environments. Both Interchange Alternatives provide some improvement for pedestrians at the Gratiot Connector; however, Interchange Alternative 2 improves the north-south crossing at the location of the existing Gratiot connector and thus scores higher.

### 5.2.3 Cons:

Alternative 1 provides no connection to the river, does not improve separation of pedestrian movements from the roadways, and continues to present a major barrier between the central business district and adjacent neighborhoods. The pedestrian buffers included in Alternative 2 are minimal, its riverfront connection may be difficult to access on foot, and the reconstructed freeway continues to be a harsh pedestrian environment. Despite separation of pedestrians and roadway facilities, Alternatives 3 and 6 continue to feature difficult pedestrian environments due to long crossings and large arterial streets. Alternative 3 would also likely have higher vehicle speeds.

## 5.3 Bicycle Access

### 5.3.1 Source/Assumptions Used to Screen:

Like considerations of pedestrian access, bicycle access concerns itself with separation from motor vehicle movements, riverfront connections, neighborhood to CBD connections and the ability to increase bicycle mode share within the study area. The 2014 PEL was used as a resource to screen this section.

### 5.3.2 Pros:

Alternatives 3, 4, and 6 feature well separated shared-use facilities, while Alternative 5 utilizes buffered bike lanes. All alternatives except for Alternative 1 offer a bike lane, at a minimum, along any extension to the riverfront. Alternatives 4 and 5 represent the most positive alternatives from a bicycle access standpoint due to their attractive environments and connections to the larger network. Both Interchange Alternatives provide some improvement for pedestrians at the Gratiot Connector through connectivity to the riverfront via Eastern Market and the Dequindre Cut.

### 5.3.3 Cons:

Bicycle lanes on service drives in Alternative 2 are of limited utility for community cyclists given the continued presence of the service drives and the likely higher vehicle speeds exhibited on such facilities. These bike lanes may not be viable for less confident community riders. These proposed facilities will only moderately improve bikeability within the study area and thus Alternative 2 scored lower.

## 5.4 Community Access Improvements

### 5.4.1 Source/Assumptions Used to Screen:

Location data for recreational facilities, hospitals, clinics, community centers, parks, and grocery stores was utilized to analyze expanded access. Proximity and improved connectivity were considered in the screening process for this section.

### 5.4.2 Pros:

Alternatives 2-6 increase access to the Riverfront for all modes of transportation, which is a priority for the City. Access is also expanded to the Eastern Market and several churches. Interchange Alternatives 1 and 2 both improve access to Eastern Market. While vehicular access was improved in some cases, the bigger improvements will be made for pedestrian and bicyclists, specifically in Alternatives 3-6.

Note: all Illustrative Alternatives under this high-level screening were deemed to perform the same against the expanding access to medical facilities and services criteria. This determination was made on the fact that there were no medical facilities located within the study area, so trying to judge the alternatives against this criterion was deemed N/A for scoring purposes.

### 5.4.3 Cons:

Alternative 1 maintains the existing freeway and does not create new access to recreational, community centers, or other community amenities. Aside from a riverfront connection, Alternative 2 provides no additional access.

## 5.5 Traffic Access

### 5.5.1 Source/Assumptions Used to Screen:

The 2014 PEL level of service maps on page 35-51 of Appendix B: I-375 Traffic Report were used to determine whether each alternative improves vehicular level of service on the primary study area, local roads, and interchange. Additional consideration was given to whether each alternative could accommodate special event traffic.

### 5.5.2 Pros:

Alternatives 3-6 will be more access to the local street grid which can reduce distance travelled. Alternatives 2-6 will improve commercial truck access, increasing the number of direct full access connection, and increasing access to the riverfront. Interchange Alternative 2 has improved ramps and will accommodate commercial truck traffic.

### 5.5.3 Cons:

All the Illustrative Alternatives either maintain the level of service of Alternative 1, or provide a lower level of service than Alternative 1. This can be expected when replacing a freeway with a boulevard, attributed to the operational changes. Some of the alternatives perform slightly better during the morning peak and slightly worse during the afternoon peak, but the difference is not significant enough to indicate that one is better than another. Therefore, these are considered to have a neutral impact.

## 5.6 Transit Access

### 5.6.1 Source/Assumptions Used to Screen:

Route and stop data was used from DDOT and SMART to analyze route impacts and potential for new transit. Key to this evaluation was the potential to improve connectivity to existing transit services. This assumed improvements both for routing and for users to access transit systems.

### 5.6.2 Pros:

Alternatives 3-6 expand access to Jefferson Avenue to improve connectivity for DDOT Route 25 and SMART Route 635. Interchange Alternatives 1 and 2 improve access to Gratiot, expanding opportunities for DDOT and SMART. If the freeway is brought up to grade, there is opportunity for increased connectivity and service along the boulevard, opportunity for improved non-motorized facilities, and improved connectivity for users accessing transit.

### 5.6.3 Cons:

Alternatives 1 and 2 do not improve connectivity for existing transit services. East to west connections remain the same for all the alternatives, aside from improvements to routing on Jefferson.

## 5.7 Economic Development

### 5.7.1 Source/Assumptions Used to Screen:

The 2014 PEL, the Your! Detroit East Riverfront Study, and City of Detroit revitalization preferences were used as resources to complete this section of scoring. It is important to the City to preserve the residential character to the east of 375, to provide access to the riverfront, improve non-motorized facilities, and concentrate vehicular traffic to the west of the corridor.

### 5.7.2 Pros:

Alternative 5 is best aligned with the City's economic development plans. Their preference is to have a boulevard on the west edge of the corridor with development potential shifted to the east edge of the corridor, providing a separation between downtown and the neighborhoods to the east of I-375. Alternative 2,3,4, and 6 improve access and development potential around the Riverfront, consistent with Detroit's East Riverfront Study; however, they are not consistent with the City's vision to separate the downtown area.

Interchange Alternative 1 and 2 improve access to Eastern Market and Gratiot – creating opportunity for future economic development.

### 5.7.3 Cons:

Lacking a riverfront connection, non-motorized improvements, and opportunity for development, Alternative 1 does not align with the City's revitalization plans. There is no new economic development opportunity generated by maintaining the freeway, which is true of Alternative 2 as well. Interchange Alternative 2 may conflict with the City's plans for the Brewster Douglass property on the northwest corner of the interchange, but there is opportunity to mitigate this issue and still pursue this Interchange Alternative, which is most aligned with City of Detroit plans.

## 5.8 Environmental

### 5.8.1 Source/Assumptions Used to Screen:

GIS data for Section 4(f), residential, and business properties were used to analyze environmental impacts, as well as the 2014 PEL Study and the 2000 Environmental Assessment. Considerations used to evaluate this section were high-level impacts to Section 4(f) properties, contaminated sites, historical properties, direct and indirect impacts to residential and business properties, and the reduction of stormwater runoff.

### 5.8.2 Pros:

The project area is majority urbanized with few landscaped areas. The direct impacts to any Section 4(f) property, residential, or business property are low, dependent on the alignment that is used for the Preferred Alternative.

Indirectly, Alternatives 4-6 have the potential to promote development, reconnect neighborhoods, enhance access for transit and emergency vehicles, improve non-motorized access, and improve stormwater runoff with a decrease in impervious surface area. Interchange Alternatives 1 and 2 both increase access to Eastern Market and improve access for residents, enhancing business potential for the market and the Gratiot corridor.

### 5.8.3 Cons:

Alternatives 1-3 do not enhance the opportunity to connect neighborhoods, increase access for non-motorized users, or access for residents and businesses. Alternatives 4-6, pending the alignment, also have a potential impact to Christ Church, a historical site. If there is an alternative to impacting a Section 4(f) property, NEPA requires that action to be taken if available.

Construction impacts for all the alternatives could create potential issues regarding air and noise pollution, materials management, and maintenance of traffic.

## 5.9 Implementation

### 5.9.1 Source/Assumptions Used to Screen:

The 2014 PEL was used as a resource to complete this section. Key to the evaluation of these criteria were capital cost, operational cost, and constructability.

### 5.9.2 Pros:

The impact of implementation varies between the alternatives. It will be simpler to rebuild the freeway as is than to design and construct a new boulevard. Alternatives 4-6 have lower capital costs and reduce the number of bridges, which reduces the operational costs.

Interchange Alternative 1 requires less reconstruction than Interchange Alternative 2 and, therefore, has a lower capital and will be easier to construct.

### 5.9.3 Cons:

Alternatives 1-3 have a higher capital and operational cost, as does Interchange Alternative 2. The ease of implementation for Alternatives 3-6 will require a substantial level of effort, including possibly closing I-375 to complete the work of bringing the existing depressed freeway up to grade.

## 6 Summary

Each Illustrative Alternative was screened individually and equally throughout this process. Overall, converting the freeway to a boulevard performed better throughout the evaluation process than reconstructing the freeway. Those alternatives better address the purpose of the project, safety, community access improvements, transit access, and non-motorized access. However, the freeway alternatives, 1 and 2, better address traffic. Bringing the freeway up to grade will have impacts to vehicular level of service and capacity. These impacts will be studied further during the Practical Alternatives phase.

Interchange Alternative 2 ultimately performed better than Interchange Alternative 1. It scored better on safety, pedestrian access, community access, and traffic, and is more in line with City land use plans. However, Interchange alternative 1 will be slightly easier to implement as it requires less reconstruction of infrastructure.

The results of the screening process are shown in **Appendix A**.

**APPENDIX A: I-375 Improvement Study - Illustrative Alternatives Screening Criteria**

**DRAFT-FOR DISCUSSION PURPOSES ONLY**

**I-75/I-375 Interchange**

Category	Measurement					
	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6
<b>CONSISTENT WITH PROJECT PURPOSE:</b>						
4.1 Addresses deterioration of bridges	5	5	5	5	5	5
4.2 Addresses deterioration of pavement	5	5	5	5	5	5
4.3 Addresses existing and future transportation needs for all users of all modes and abilities	0	5	5	5	5	5
4.4 Improves connectivity to surrounding areas for vehicular traffic	0	5	5	5	5	5
4.5 Improves connectivity to surrounding areas for non-motorized users	0	5	5	5	5	5
4.6 Improves access to existing and future transit	0	5	5	5	5	5
4.7 Accommodates foreseeable changes in mobility technologies, services and demands	5	5	5	5	5	5
4.8 Enhances walkability and access	0	5	5	5	5	0
4.9 Enables place-making opportunities envisioned in official land use plans	0	0	0	0	5	5
<b>ADDRESSES THE FOLLOWING NEEDS:</b>						
<b>5.1 SAFETY</b>						
Reduction in severity of crashes	0	0	0	1	1	2
Reduction of high crash areas	0	0	1	2	2	2
Eliminates or reduces existing design deficiencies	0	0	2	2	2	2
<b>5.2 PEDESTRIAN ACCESS</b>						
Creates more separation from vehicular traffic	0	1	2	2	2	2
Provides direct connections to riverfront area	0	2	2	2	2	1
Increases pedestrian capacity in the study area	0	1	2	2	2	2
<b>5.3 BICYCLE ACCESS</b>						
Provides for separation of bikes and vehicular traffic	0	1	2	2	2	0
Provides direct connections to riverfront area	0	2	2	2	2	1
Increases bicycle capacity within the study area	0	1	2	2	2	1
<b>5.4 COMMUNITY ACCESS IMPROVEMENTS</b>						
Expands access to recreational facilities	0	1	1	2	2	0
Expands access to medical facilities and services	NA	NA	NA	NA	NA	NA
Expands access to community centers and/or amenities	0	1	1	2	2	2
<b>5.5 TRAFFIC</b>						
Improves Vehicular Level of Service (LOS)/Capacity on 375 corridor	1	1	0	0	0	NA
Improves Vehicular Level of Service (LOS)/Capacity on local roads	1	1	0	0	0	NA
Improves operations of I-375/I-75 interchange	1	1	1	1	1	2
Accommodates special event traffic without impacting adjacent neighborhoods	1	1	0	0	0	2
Accommodates commercial truck access	1	1	1	1	1	2
<b>5.6 TRANSIT ACCESS</b>						
Improves connectivity to existing transit services	0	0	1	2	2	1
<b>5.7 ECONOMIC DEVELOPMENT</b>						
Creates the opportunity for future economic development consistent with city plans	0	0	0	1	2	2
<b>5.8 ENVIRONMENTAL</b>						
Impacts Section 4(f) properties	2	0	2	0	2	2
Number of impacted residential properties (direct)	2	2	2	2	2	0
Number of impacted business properties (direct)	2	2	2	2	2	0
Potential for indirect impacts to residential properties	2	1	1	1	1	1
Potential for indirect impacts to businesses/community planning	2	1	1	0	0	1
Reduces stormwater runoff into DWSD facilities	0	1	1	2	2	2
<b>5.9 IMPLEMENTATION</b>						
Capital Cost (\$)	0	0	1	2	2	0
Operational Cost (\$) - (for transportation infrastructure only)	0	0	1	2	2	2
Ease of Implementation/Constructability	2	2	1	0	0	0
	32	59	72	77	85	75
						56
						73

**DRAFT-FOR DISCUSSION PURPOSES ONLY**



# Traffic Modeling Process

This document is intended to provide information to the I-375 Advisory Committees about the framework of the I-375 Traffic Modeling Efforts.

## Model Attributes

### Simulation Timings

The traffic models were run during the following time periods. These time periods were chosen to reflect the period of current congestion in the surrounding area.

- 7:00-9:00 AM (2 hours)
- 3:00-7:00 PM (4 hours)

### Traffic Volumes

Traffic counts were collected in April and May, 2017 on Tuesdays, Wednesdays, and Thursdays. The counts included a distinction between truck and auto data. 15-minute truck and auto volumes were then balanced and integrated into the Traffic Model.

The counts also included bicycle and pedestrian data, which is utilized in other aspects of the project but is not part of the traffic operations analysis.

### Other Data Collection

In addition to the traffic counts, the following data was obtained:

- Real-time speed data was obtained for April and May, 2017.
- Signal data was collected from MDOT and the City of Detroit.
- Speed limit data was obtained from the following sources:
  - SEMCOG's volume map <http://maps.semco.org/TrafficVolume/>
  - Field observations
  - Google Street View

## Model Calibration

Model calibration is a very important step in creating microsimulation traffic models. This step helps to verify that the model has no errors and is operating close to field conditions. The I-375 existing Vissim models were calibrated based on FHWA guidance and reviewed by MDOT. The models are now considered calibrated.

## Operational Results

A common way to analyze the operations of a road network is to use "Level of Service" (LOS) to define how well a segment operates. LOS is measured on an A-F scale, based on density for freeways and delay for intersections. LOS A represents a very low density or delay, and LOS F represents very high density or delay. LOS F conditions are likely to result in stop-and-go traffic. Segments of a network with LOS F are generally considered over-capacity. Table 1 shows the level of service thresholds for freeway segments

and intersections. Basic segments have no merging or weaving traffic conditions (such as on and off ramps), while non-basic segments represent merge, diverge, and weave areas.

**Table 1. Level of Service Thresholds**

LOS	Freeway (pc/mi/ln) <sup>1</sup>		Intersection (sec) <sup>2</sup>	
	Basic	Non-Basic	Signalized	Stop Control
<b>A</b>	≤11	≤10	≤10	≤10
<b>B</b>	11-18	10-20	10-20	10-15
<b>C</b>	18-26	20-28	20-35	15-25
<b>D</b>	26-35	28-35	35-55	25-35
<b>E</b>	35-45	35-45	55-80	35-50
<b>F</b>	>45	>45	>80	>50

1. Freeway LOS is based on density, expressed as passenger cars per mile per lane (pc/mi/ln)  
2. Intersection LOS is based on seconds of delay (sec)

Table 2 shows the freeway segment results of the AM and PM existing Vissim models, and Table 3 shows the intersection delay results of the AM and PM existing Vissim models.

**Table 2. Existing Freeway Levels of Service (LOS)**

Segment No.	Direction	Freeway	Location	AM LOS	PM LOS
1	NB	I-375	Beaubien to Lafayette	A	A
2	NB	I-375	Lafayette to Mullett	A	A
3	NB	I-375	Mullett to Madison	A	A
4	NB	I-375	Madison to I-75 Ramp	A	A
5	NB	I-375	Madison to south of Fisher Freeway	A	A
6	NB	I-375	South of Fisher Freeway to north of Fisher Freeway	A	A
7	NB	I-375	North of Fisher Freeway to Alfred	A	C
8	NB	I-75	Alfred to north of Wilkins	A	C
9	NB	I-75	North of Wilkins to Mack	A	C
10	SB	I-75	Mack to north of Wilkins	A	A
11	SB	I-75	North of Wilkins to Alfred	A	A
12	SB	I-375	Alfred to Fisher Freeway	A	A
13	SB	I-75	Alfred to St Antoine	A	B
14	SB	I-75	St Antoine to John R	A	C
15	SB	I-375	Fisher Freeway to south of Fisher Freeway	A	A
16	SB	I-375	South of Fisher to Madison	A	A
17	SB	I-375	Madison to Mullett	B	A
18	SB	I-375	Mullett to Lafayette	A	A
19	SB	I-375	Lafayette to Beaubien	D	B
20	WB	Gratiot Conn.	Gratiot to Russell	A	A
21	WB	Gratiot Conn.	Russell to I-75	A	A
22	WB	Gratiot Conn.	East of I-375	A	A
23	WB	Gratiot Conn.	St Antoine to John R	A	C
24	SB	I-75	John R to Cass	A	D
25	SB	I-75	Cass to Grand River	A	D
26	NB	I-75	Grand River to Clifford	A	A
27	NB	I-75	Clifford to Woodward	A	A
28	NB	I-75	Woodward to Brush	A	A
29	NB	I-75	Brush to St Antoine	B	B
30	EB	Gratiot Conn.	Brush to I-375	A	A
31	NB	I-75	St Antoine to north of Fisher Freeway	A	C
32	EB	Gratiot Conn.	I-375 to east of I-375	A	A
33	EB	Gratiot Conn.	East of I-375 to Rivard	A	A
34	EB	Gratiot Conn.	Rivard to Gratiot	B	C

**Table 3. Existing Intersection Levels of Service (LOS)**

Intersection No.	Intersection Name	AM LOS	PM LOS
1	Jefferson & Woodward	C	C
2	Jefferson & Randolph	C	D
3	Jefferson & Beaubien	D	E
4	Jefferson Ave EB & Chrysler Service Dr SB	B	C
5	Jefferson Ave WB & Chrysler Service Dr SB	B	E
6	Jefferson & Chrysler Service Dr NB	A	B
7	Chrysler Service Dr SB & Larned	B	E
8	Chrysler Service Dr NB & Larned	C	E
9	Chrysler Service Dr SB & E Lafayette	B	F
10	Chrysler Service Dr NB & E Lafayette	C	D
11	Chrysler Service Dr SB & Monroe	B	B
12	Chrysler Service Dr NB & Monroe	B	C
13	Chrysler Service Dr SB & Macomb	A	A
14	Chrysler Service Dr SB & Gratiot	A	A
15	Antietam & Gratiot	B	C
16	Antietam & Chrysler Service Dr NB	A	A
17	St. Antoine & Madison	B	B
18	St. Antoine & Gratiot	C	C
19	Fisher Service Dr EB & Russell St	A	A
20	Fisher Service Dr WB & Russell St	B	B
21	Fisher Service Dr. EB & Gratiot	A	C
22	I-75/Gratiot Connector & Gratiot	E	F
23	Chrysler Service Dr SB & Mack Ave	B	C
24	Chrysler Service Dr NB & Mack Ave	E	C
25	Fisher Service Rd EB & Brush St	A	B
26	Fisher Service Dr WB & Brush St	A	B
27	Fisher Service Dr EB & Clifford St	A	B
28	Fisher Service Dr WB & Clifford St	B	B
29	Fisher Service Dr EB & 2nd Ave	C	A
30	Fisher Service Dr WB & 2nd Ave	D	C
31	St. Antoine & Congress	A	A
32	St. Antoine & Larned	A	A
33	Monroe & St. Antoine	A	A
34	Lafayette & St. Antoine	C	E
35	Lafayette & Rivard	B	B
36	Rivard & Larned	A	F
37	Rivard & Gratiot	B	A
38	Russell & Gratiot	C	B
39	Madison & Beaubien	B	B
40	Rivard & Jefferson	C	C

## Next Steps

The purpose of building and calibrating existing Vissim models is to give a base for which to test future alternatives. The modeling process includes a “future no-build” alternative, which considers future traffic volumes on the existing network, and a “future build” alternative which considers future traffic volumes on one or more viable build alternatives.

The next steps for the I-375 Traffic Modeling efforts are as follows:

- Complete future no-build traffic forecasting.
- Run future no-build models and analyze results.
- Complete future build traffic forecasting based on the chosen alternative configuration.
- Create and run future build models and analyze results.
- Compare future no-build model results to future build model results.