

## INNER LOOP SCOPING REPORT ATTACHMENTS

- A. Go/No Go Traffic Assessment
- B. Safety Considerations, Accident History and Analysis
- C. I-490 Ramp Evaluation and Analysis
- D. Main Street Alternatives
- E. Minimum Lane Requirements
- F. Hazardous Waste
- G. Endangered Species
- H. Probable Cost and Benefit/Cost Assessment
- I. Memorandum of Understanding - Draft

## A. Go/No Go Traffic Assessment

**Stantec**

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To: John Thomas  
City Of Rochester

From: William C. Holthoff  
Rochester (2250) NY Office

File: Inner Loop 192500170

Date: January 13, 2009  
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This document has been revised based on New York State Department of Transportation and Monroe County Department of Transportation comments (attached).

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## **Raising the Eastern Portion of the Inner Loop Go/No Go Analysis**

### **Introduction**

The possibility of raising the eastern portion of the Inner Loop from Main Street to Monroe Avenue/Chestnut Street, to an at-grade boulevard or arterial was first considered and recommended in the "Vision 2000 Plan" prepared in the early 1990's. Since then, a number of additional studies have been completed to assess the potential of raising various segments of the Inner Loop to grade, and the land use implications resulting from such a modification to the City's street grid. The current study is scoped to determine the feasibility of raising the eastern section of the Inner Loop to grade, including a detailed analysis of transportation benefits, possible environmental and social impacts, the life cycle costs of maintaining the existing Inner Loop and its service roads, as well as safety and structural analysis of the retaining walls, bridges and pavement that make up this section of the Inner Loop and the service roads.

Prior to undertaking this costly analysis using public funds, it is prudent to at least undertake an initial traffic analysis to determine if there is a feasible alternative that can maintain or improve traffic operations in the study area if the Inner Loop is reconstructed to an at-grade boulevard or arterial. In addition, whether or not these roadway network changes will have any significant impacts outside the immediate study area should be determined. Thus, this initial study is being completed in order to be able to make a Go/No Go decision on whether to proceed with the significantly detailed and costly study. This memo addresses these issues and provides the supportive analysis and information needed to make a determination on whether to proceed with the more detailed study.

In summary, this memo is intended to address two (2) items:

1. Will raising the eastern portion of the Inner Loop to grade have transportation impacts beyond the existing Inner Loop and adjacent intersections?

2. Is there at least one feasible alternative that would allow the eastern portion of the Inner Loop to be raised to grade without having severe transportation impacts within and around the immediate transportation network, now and in the future?

### **Summary of Findings**

1. The traffic impacts of raising the eastern portion of the Inner Loop will be limited to the eastern Inner Loop area and adjacent intersections;
2. Future growth in traffic in the area will be traffic generated by proposed new developments or redevelopments within the Rochester CBD to the year 2014. After 2014 traffic is forecasted to increase by +0.625% per year, without raising the Inner Loop and if the Inner Loop is raised +0.75% per year (the larger value to reflect redevelopment of land vacated by raising the Inner Loop);
3. Construction of the I-490 Western Gateway Project, underway when most of the updated traffic counts were obtained, had little if any notable impact on travel patterns and traffic volumes in the eastern Inner Loop Area;
4. That Level of Service (LOS) on the existing portion of the eastern Inner Loop and adjacent intersections are and will remain (through the year 2035), LOS of "C" or better with no individual movements below LOS "D";
5. That raising most of the eastern Inner Loop between the Monroe/Chestnut intersection to the East Avenue Intersection to two (2) through travel lanes in each direction, plus a separate left turn lane at major intersections, will maintain the high levels of traffic operations that would exist, if the eastern Inner Loop was not raised;
6. There are at least two (2) alternatives that would maintain high levels of traffic operations if the eastern Inner Loop was raised to grade at Main Street. However, to achieve these levels of traffic operations, the Inner Loop on/off ramp to Main Street would need to be widened from 5 lanes to 8 lanes and the section of University Avenue between South Union Street and Main Street would need to be widened from 5 lanes to either 7 or 8 lanes, depending on the alternative;
7. Due to the proximity of intersections, vehicle storage for the section of University Avenue between South Union Street and Main Street is an issue now, and will remain so into the future, for the existing Inner Loop or a raised Inner Loop.
8. That some of these widening and storage issues at the intersections near Main Street and University Avenue may be reduced by further refinements, acceptance of lower levels of traffic operations, or possibly by using Roundabouts. These and other alternatives will be explored given a Go decision.

9. That accident rates on the mainline section of the Inner Loop do not exceed the statewide average for accidents on this type of highway. However, eight (8) of the eleven (11) adjacent intersections exceed the statewide average and ten (10) of the eleven (11) exceed the Monroe County Accident rate for an at-grade intersection, with a number of these intersections having a high rate of right angle accidents that might be corrected by replacing these intersections with a Roundabout or other alternative improvements.
10. A new I-490 westbound off-ramp to the Inner Loop could:
  - a. Be designed and constructed with a design speed of 25 MPH, 5% super elevation and posted for 20 MPH;
  - b. Would sever the existing pedestrian connection between Monroe Avenue and the South Wedge.
  - c. May attract 300 to 450 vehicles during the morning peak hour. The majority of this traffic (200 to 300) would divert from the I-490 off-ramp to Goodman Street. This traffic uses Broadway to reach this section of the Inner Loop. The remaining traffic would divert from the Clinton Avenue off-ramp;
  - d. The majority of this additional traffic is already traveling within the Inner Loop area. Analysis of this additional traffic on a raised Inner Loop would indicate that levels of traffic operations would remain acceptable (overall LOS "C" with no individual movements below "D");
  - e. That analysis of possible traffic impacts to I-490 (e.g. ramp spacing, decision sight distance, traffic operations) as a result of constructing this ramp, if any, will be identified after the Go decision;
  - f. The cost of constructing this ramp is approximately \$2.6 million;
11. The current estimated construction cost (including professional design and construction inspection services) of raising the eastern Inner Loop to grade between Chestnut/Monroe Avenue to Main Street is \$33.3 million (excluding the new I-490 off-ramp).

## **Recommendations and Conclusions**

Based on the analysis, the following recommendations should be considered related to further study of raising the Inner Loop:

1. **Inner Loop between Chestnut/Monroe and East Avenue** – The analysis did not identify any major travel disadvantages of reconstructing this section of the Inner Loop with a 5 lane arterial or boulevard. Thus, it is recommended that a GO decision be made and allowing a more detail analysis of this section to progress.

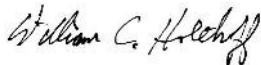
2. **Inner Loop at Main Street** – Analysis indicates two traditional intersection alternatives that would maintain reasonable traffic operations if the Inner Loop was brought to grade at Main Street. Both alternatives, however, would require significant road widening to the existing Inner Loop Main Street ramps and the section of University Avenue between Main Street and South Union Street.

If undertaken, this would free up a significant amount of developable land, however, the impacts of widened streets in this area may not be acceptable. It is recommended that the concept of raising the Inner Loop at Main Street be carried forward into the next phase to determine whether other alternatives, such as Roundabouts, or diverting University Avenue traffic to the Scio Street interchange, may reduce these impacts to a more acceptable level. If not, consideration of raising the Inner Loop at Main Street should be documented and dropped from further consideration.

3. **Westbound I-490 off-ramp to the Inner Loop** – Review of this ramp indicates that it could be constructed; however, it would need to operate at a very low speed and sever a pedestrian connection between portions of the city. If this ramp is still considered an important addition to the highway network, then an analysis to determine any possible impacts of this low speed ramp to the I-490 mainline should be undertaken. If these impacts are acceptable, then discussions with FHWA should be undertaken to determine whether they will consider construction of this low speed ramp from the Interstate highway.

The remainder of this memo documents the process, analysis and findings in much greater detail.

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## **Raising the Eastern Inner Loop – Go/No Go Analysis**

### **Background**

The concept of the Inner Loop was developed in the 1960s. The concept and eventual implementation was to assist in distributing traffic in and around the Rochester Central Business District (CBD) as a result of construction of the I-490 expressway, as well as the future extension of I-390 to the CBD area. Since that time, the Inner Loop was constructed, as was I-490; however, the extension of I-390 to the CBD has not and never will be constructed. While many sections of the Inner Loop have served their purpose (i.e. distributing traffic in and around the Rochester CBD) and are valid links to maintain reasonable traffic operations in this area, the lightly used eastern portion of the Inner Loop that consists of 10 to 12 travel lanes associated with both the Inner Loop and the service roads that parallel it, has not.

This lightly used section of the Inner Loop is most likely the result of not extending I-390 to the Rochester CBD. Thus the question, should this section, which serves little, if any, transportation purpose and creates a barrier for pedestrian, bicyclist and motor vehicles, continue to exist? Also, the costs required to maintain 10 to 12 lanes of highway, four bridges, 8 traffic lights and as well as the opportunity costs of the land in the area that could be developed for other purposes should be considered.

### **Inner Loop Study Area**

Concerns have been raised as to what traffic impacts might result from raising the eastern end of the Inner Loop on other area highways. In particular, on the expressway system and other arterials serving the Rochester Central Business District (CBD). If traffic increased significantly on other highway segments as a result of raising the Inner Loop, then the study area for this project would need to be enlarged to address any traffic impacts that resulted.

To address this concern, the Genesee Transportation Council (GTC) Regional Travel Forecasting Model was employed. The forecasting model was run with and without the Inner Loop being raised for the year 2014, the year being used to analyze all the different proposed land use changes within the CBD. The resulting forecasted travel volumes were then compared at major segments of the highway system, with the Inner Loop being raised and without raising it, to determine any major traffic volume changes away from the Inner Loop that would occur.

The analysis, presented in Attachment A, compared segments of the expressway system, major arterials and Genesee River Bridge Crossings. The analysis found any traffic impact resulting from raising the Inner Loop to be in the immediate area adjacent to the section of Inner Loop being raised. Raising the Inner Loop will have no notable traffic impacts to the expressway system, their interchanges, or on major arterials surrounding or serving the Rochester CBD. Thus, the study area for determining the traffic impacts is at intersections with the Inner Loop and those immediately adjacent to them.

### **Growth in Traffic - 20 Years after Reconstruction**

Review of the travel patterns generated by the GTC Regional Forecasting model for the years 2005 to 2014 reflects all the planned land use changes in and around the Rochester Central Business District (CBD). While change in traffic between 2005 and 2014 does vary depending on what roadway section was reviewed, at most it shows an increase of 10%. Traffic growth along most roadway sections is less than 5% (or 0.625 per year) during the 8 year period forecasted.

Thus, to determine Inner Loop travel at ETC+20 or for the year 2035, the following was done:

1. The base traffic counts taken in 2008 were used to forecast future traffic volumes to 2035;
2. MCDOT created a future (2014) traffic file to reflect all the land use changes proposed for the CBD. These projections were used to forecast traffic to 2014;
3. The 2014 traffic forecasted by MCDOT was then increased by 0.625% per year to 2035 (ETC+20) using a straight percentage increase for traffic using the existing Inner Loop (without it being raised)
4. For a raised Inner Loop, a higher percentage was used (0.75% per year) to forecast traffic using a raised Inner Loop to the year 2035. The higher percentage increase used for a raised Inner Loop reflects additional traffic from development of the lands available by removing the Inner Loop.

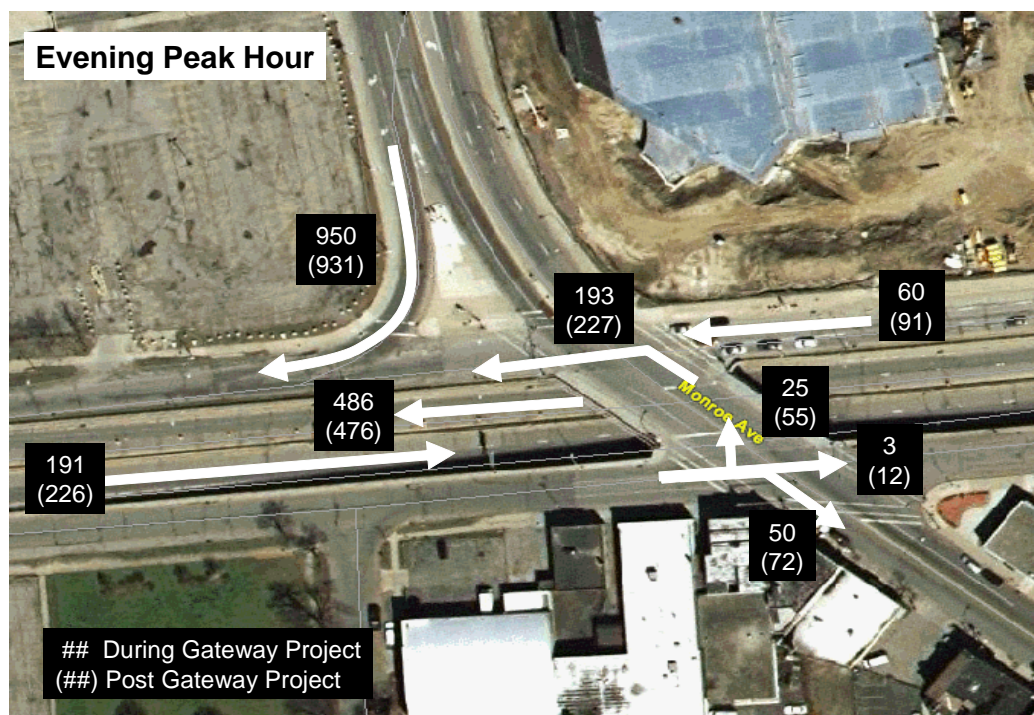
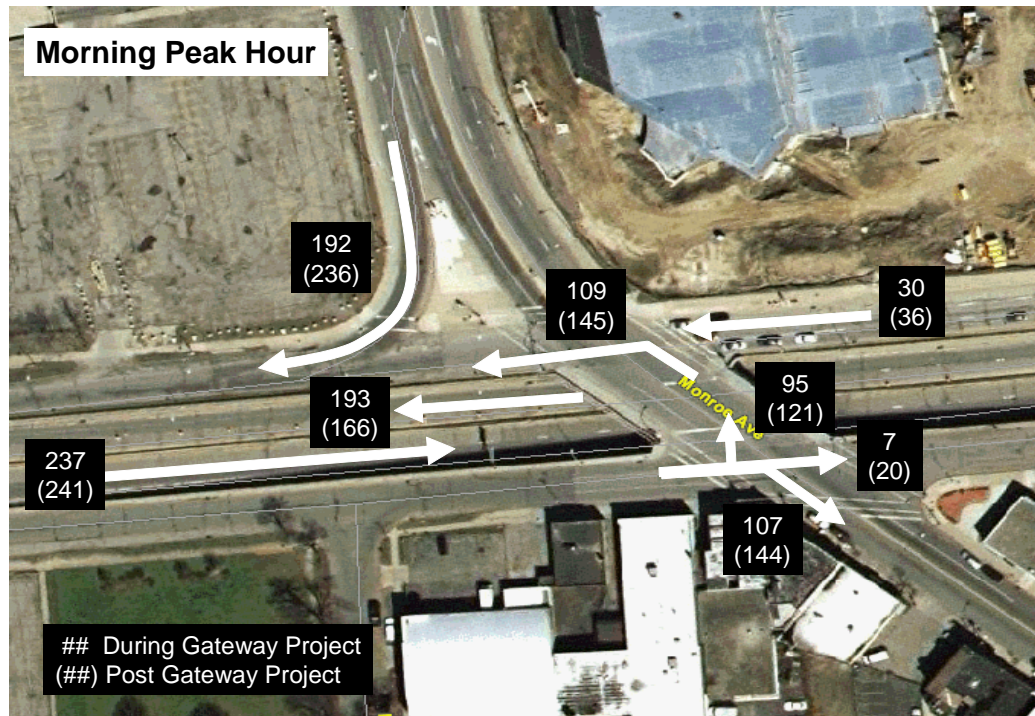
This method of forecasting future travel for the Inner Loop was presented, reviewed and accepted by the Steering Committee.

### **Impact of Western Gateway Project (I-490 Reconstruction)**

The traffic counts used to analyze the potential traffic impacts were obtained during the summer of 2008 while the I-490 Western Gateway Project was under construction, which had various restrictions and lane as well as ramp closures. To determine the possibility that the Western Gateway Project may have changed travel patterns of vehicles using the eastern Inner Loop and as such would affect the results, additional traffic counts were taken at the Monroe/Chestnut interchange with the Inner Loop, including the Inner Loop Main Line. These counts were taken after all I-490 Western Gateway Project lanes and ramps were reopened to traffic. The counts were taken on Thursday, 12/4/08 and the results were compared to counts taken during the months of June and August of 2008. Minor differences of traffic getting on or off the Inner Loop at Monroe/Chestnut were found, however there was little notable change in traffic using the Inner Loop itself. As a result, the traffic volumes using the Inner Loop and adjacent intersections analysis were adjusted to reflect the higher, but minor changes in traffic volumes.



The following figures compare the intersection turning movement counts taken while construction was occurring on the I-490 Western Gateway Project and those counted after all sections of I-490 were open to traffic. Overall, the comparison shows that the I-490 Western Gateway Project, which was under construction at the time many of the traffic counts were obtained, had little notable impact on travel behavior in the eastern portion of the Inner Loop.



## **Present and Future Traffic Operations**

### **2008 Traffic Operations**

Updated (2008) traffic turning movement counts were obtained during the weekday morning and evening peak travel hours along the eastern Inner Loop and adjacent intersections. Heavy vehicle data was also obtained at each of the locations and reflected in the analysis. This information was then used to determine current operating conditions. The analysis found that the Level of Service at all Inner Loop and adjacent intersections are operating well; all with Level of Service (LOS) of "C" or better with no turning movement below LOS "D".

### **2035 Future Traffic Operations**

Again, all intersections were found to provide of LOS "C" or better with no turning movements below LOS "D".

### **Traffic Operations - Raised Inner Loop**

In order to be able to make a Go Decision, at least one alternative layout needs to be identified. This alternative will maintain reasonable levels of operation in the area (LOS "D" for intersection and turning movements). For this level of analysis, a reasonable alignment was chosen (generally following Union Street corridor). Using this corridor alignment, two (2) options were explored. The first option includes raising the Inner Loop from Monroe/Chestnut to East Avenue only (Option 1). The second option extends raising the Inner Loop to Main Street with two (2) sub-options; one without re-connecting University Avenue (Option 2), the other with the re-connection of University Avenue (Option 4).

The analysis shows LOS "C" or better could be maintained with no turning movements below LOS of "D" for all alternatives and sub-options, provided additional improvements are made at Main Street and University Avenue.

To achieve these levels of traffic operations would require:

- Generally, two (2) through lanes on the raised Inner Loop portion between Monroe Avenue and University Avenue with separate left turn lanes at intersections. These improvements are consistent for all alternatives.
- If the Inner Loop is not raised at Main Street, then no further improvements would be required at the intersection of Main Street and at the South Union Street Intersection with University Avenue.
- Raising the Inner Loop to grade at Main Street, however, would require the Inner Loop on/off ramp to be widened from 5 lanes to 8 lanes for either alternative considered. While no improvement would be required to east/west Main Street, the section of University Avenue between South Union Street and Main Street would need to be widened from 5 lanes to 7 lanes if the two sections of

University Avenue are not reconnected. If University Avenue is reconnected, a 4 lane new road connection would be needed.

The following 5 figures present the lane configuration needed to maintain LOS at each key intersections. Note that some of these widening and storage issues may be reduced by further refinement, acceptance of lower levels of traffic operations, or possibly by using Roundabouts.

**Chestnut/Monroe/Raised Inner Loop  
(Option 1, 2 and 4)**



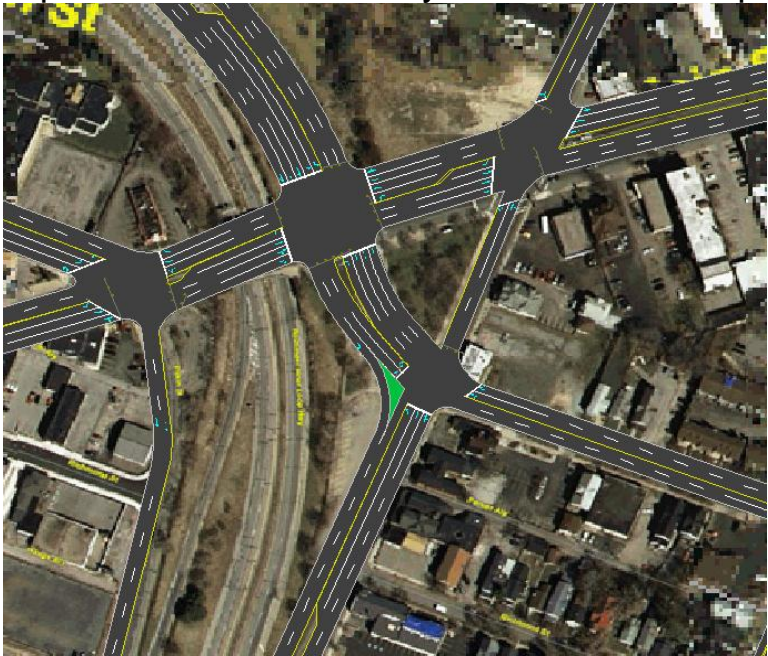
**East Avenue, Broad Street/Raised Inner Loop  
(Option 1, 2 and 4)**



Option 1 - Main/University-Inner Loop **Not** Raised



Option 2 - Main/University-Raised Inner Loop



### Option 4 - Main/University-Raised Inner Loop Re-Connected University Avenue



The following table summarizes the overall intersection results. A detailed LOS by turning movement is presented in Attachment C, and the Synchro analysis files are contained in the attached CD.

#### **Intersection Queuing Analysis**

While each individual intersection was found to provide a reasonable LOS, the possibility that these levels of operation could not be achieved because of the lack of vehicle storage between intersections, or the various vehicle turning lanes, was also explored. Overall, the queue lengths were found to be less than the available storage lengths available for 2008 conditions and 2035 conditions for both the existing Inner Loop and for most options under a raised Inner Loop. The area with the least amount of vehicle storage between intersections, however, is on University Avenue between Main Street and South Union Street. A queuing analysis table is presented in Attachment C.

**Overall Level of Service**

Intersection	2008								2035							
	AM				PM				AM				PM			
	Existing	Option 1	Option 2	Option 4	Existing	Option 1	Option 2	Option 4	Existing	Option 1	Option 2	Option 4	Existing	Option 1	Option 2	Option 4
Monroe Avenue & Inner Loop EB Ramps	<b>B</b>	INTERSECTION REMOVED			<b>A</b>	INTERSECTION REMOVED			<b>B</b>	INTERSECTION REMOVED			<b>A</b>	INTERSECTION REMOVED		
Monroe Avenue & Inner Loop WB Ramps	<b>A</b>	<b>B</b>	SAME AS OPTION 1		<b>A</b>	<b>B</b>	SAME AS OPTION 1		<b>B</b>	<b>B</b>	SAME AS OPTION 1		<b>A</b>	<b>B</b>	SAME AS OPTION 1	
Monroe Avenue & Union Street	<b>B</b>	SAME AS EXISTING			<b>A</b>	SAME AS EXISTING			<b>B</b>	SAME AS EXISTING			<b>B</b>	SAME AS EXISTING		
Union Street & Broad/Court Street	<b>C</b>	<b>A</b>	SAME AS OPTION 1		<b>B</b>	<b>A</b>	SAME AS OPTION 1		<b>C</b>	<b>A</b>	SAME AS OPTION 1		<b>B</b>	<b>A</b>	SAME AS OPTION 1	
Pitkin Street & Broad/Court Street	<b>A</b>	INTERSECTION REMOVED			<b>B</b>	INTERSECTION REMOVED			<b>A</b>	INTERSECTION REMOVED			<b>B</b>	INTERSECTION REMOVED		
Union Street & East Avenue	<b>A</b>	<b>B</b>	SAME AS OPTION 1		<b>A</b>	<b>B</b>	SAME AS OPTION 1		<b>A</b>	<b>B</b>	SAME AS OPTION 1		<b>B</b>	<b>C</b>	SAME AS OPTION 1	
Pitkin Street & East Avenue	<b>B</b>	INTERSECTION REMOVED			<b>B</b>	INTERSECTION REMOVED			<b>B</b>	INTERSECTION REMOVED			<b>B</b>	INTERSECTION REMOVED		
University Avenue & Union Street	<b>A</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>
Main Street & Union Street	<b>B</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>
Main Street & Inner Loop Ramps	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>
Main Street & University Avenue/Pitkin Street	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>

### **Measure of Effectiveness**

Synchro traffic analysis software provides a number of performance measures for comparison of network alternatives. Some of these measures include vehicle stops, delay, travel time, average speed and emissions. It should be noted that these measures represent the entire network evaluated including the free flow expressway traffic as well as the at grade signalized and unsignalized intersections. Performance measures, which are presented in the following table, were obtained on a simulated traffic network (60 minutes) during each peak hour for each alternative considered. The table shows that some network performance measures are better for some alternatives than for others. In some cases better than can be achieved under the No-Build option. This, in spite of the fact that raising the Inner Loop would result in higher traffic volumes generated by new adjacent development and that free flow traffic on existing Inner Loop would now have to travel through three (3) or four (4) at-grade traffic signal controlled intersections.

**SimTraffic MOE's (60-minute Interval)**

	<u>AM Peak Hour</u>					<u>PM Peak Hour</u>				
	Overall Inner Loop Area					Overall Inner Loop Area				
	Existing Conditions - 2008	No Build - 2035	Raised Inner Loop - Option 1 2035	Raised Inner Loop - Option 2 2035	Raised Inner Loop - Option 4 2035	Existing Conditions - 2008	No Build - 2035	Raised Inner Loop - Option 1 2035	Raised Inner Loop - Option 2 2035	Raised Inner Loop - Option 4 2035
Total Delay (hr)	132.8	170.8	191.3	336.3	472.2	162.1	311	<b>255.1</b>	385.6	432.6
Delay / Veh (s)	143.7	155.7	171.2	289.5	434.1	548	602.7	<b>452.3</b>	643.8	847.3
Stop Delay (hr)	108.6	136.6	152.8	298.3	432.4	126.5	263.3	<b>202.7</b>	331.6	373.9
Stop Delay / Veh (s)	117.6	124.5	136.7	256.8	397.5	427.5	510.1	<b>359.4</b>	553.7	732.3
Total Stops	13887	17691	18928	19463	21258	17571	22779	24151	24615	28271
Stop / Veh	4.18	4.48	4.7	4.65	5.43	16.5	12.26	<b>11.89</b>	<b>11.42</b>	15.38
Travel Dist. (mi)	3700.1	4438	4820.4	4668.8	4626.8	4938.3	5112	5680	5405.3	5463.5
Travel Time (hr)	271.7	335	367.9	509.1	644.5	345.2	497	<b>466.5</b>	587.6	637.4
Avg Speed (mph)	14	13	<b>14</b>	13	10	14	12	12	12	9
Fuel Used (gal)	175.7	210.3	226	251.1	282.3	227.6	266.2	270.8	291.3	302.3
Fuel Eff. (mpg)	21.1	21.1	<b>21.3</b>	18.6	16.4	21.7	19.2	<b>21</b>	19.1	18.1
HC Emissions (g)	2401	2818	3316	3581	3909	2418	2515	2716	<b>2493</b>	2536
CO Emissions (g)	78934	89440	95334	95621	101307	86888	87009	88298	<b>81856</b>	<b>81739</b>
NOx Emissions (g)	7656	8948	9839	9125	9270	8450	8707	9312	<b>8700</b>	<b>8660</b>

**NOTE:** - Bold represents the more efficient option in comparison to 2035 No-Build geometry.



## **Inner Loop Accident Analysis and Major Non-Standard Features**

The existing Inner Loop consists of a number of non-standard highway features that could contribute to accidents within the corridor. These are:

1. What might be considered diamond interchanges at the Inner Loop with the intersections of East Avenue, Broad Street and Chestnut/Monroe Avenue (short section two traffic signals);
2. Blind slip ramps to the Inner Loop between Broad Street and Chestnut /Monroe Avenue;
3. The merge, weave section from the two lane on-ramp from southbound Chestnut Street to the two lane Inner Loop to reach the loop ramp to South Clinton Avenue, I-490 eastbound and I-490 westbound.

To determine if this is true for the eastern Inner Loop, an accident analysis was undertaken and the detailed analysis and accident diagrams are contained in Attachment B and summarized in the following table.

The table shows the locations experiencing accidents above state or county wide accident rates. These locations are highlighted in red for those exceeding the State-wide rates.

The detailed analysis of eastern Inner Loop mainline sections found the overall accident rate to be 2.48 accidents per million vehicle miles (acc/mvm), which is lower than the statewide accident rate of 2.72 acc/mvm for Principal Arterial Expressway. The majority of these accidents were found to occur along the horizontal curve between East Main Street and East Avenue. Thus, these sub-standard features do not appear to be causing an accident rate that would exceed those expected to be found on a Principal Arterial Expressway

Of the eleven (11) at-grade adjacent intersections examined in this analysis, only 3 intersections had an accident rate below the statewide accident rate and only 1 below the Monroe County average accident rate (East Main Street at University/Pitkin Street).

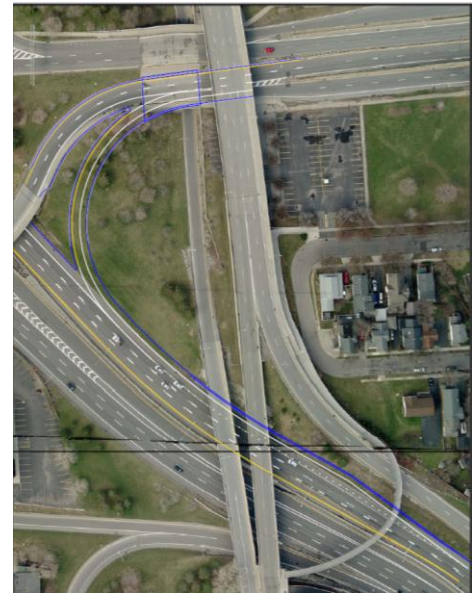
Further study will be required to determine if raising the Inner Loop will assist in reducing these intersection accidents, in particular the high proportion of right angle accidents on South Union Street at the intersections with Monroe Avenue, East Avenue and University Avenue. Consideration of the use of a Roundabout at the raised Inner Loop intersection, rather than traffic signal controlled intersections, would assist in eliminating right angle accidents at these intersections.

**ACCIDENT RATES**

<b>Intersection</b>	<b>Number of Accidents</b>	<b>State/County Rate</b>	<b>Actual Rate</b>	
<b>Intersection Rate (excludes midblock accidents)</b>				
East Main Street @ <i>University/Pitkin</i>	7	0.26 / 0.46	0.33	ACC/MEV
East Main Street @ <i>Inner Loop/University</i>	40	0.26 / 0.46	<b>0.96</b>	ACC/MEV
East Main Street @ <i>Union Street</i>	23	0.26 / 0.46	<b>0.83</b>	ACC/MEV
Pitkin Street @ <i>East Ave</i>	8	0.34 / 0.22	<b>0.44</b>	ACC/MEV
Pitkin Street @ <i>Broad Street</i>	4	0.34 / 0.22	<b>0.66</b>	ACC/MEV
Union Street @ <i>University Ave</i>	14	0.34 / 0.22	<b>0.65</b>	ACC/MEV
Union Street @ <i>East Ave</i>	17	0.34 / 0.22	<b>1.13</b>	ACC/MEV
Union Street @ <i>Broad St</i>	3	0.19 / 0.22	<b>0.71</b>	ACC/MEV
Monroe Avenue @ <i>Inner Loop/ Pitkin St.</i>	7	0.34 / 0.22	<b>0.26</b>	ACC/MEV
Monroe Avenue @ <i>Howell St.</i>	5	0.34 / 0.22	<b>0.34</b>	ACC/MEV
Monroe Avenue @ <i>South Union St.</i>	20	0.34 / 0.22	<b>1.12</b>	ACC/MEV
<b>Link Rate</b>				
<b>Inner Loop - 940T</b>				
<i>Rt. 490-E. Main St.</i>	30	2.72	2.48	ACC/MVM
<b>I-490</b>				
<i>W.of River -E. of Clinton</i>	47	2.72	1.08	ACC/MVM

## **New I-490 Westbound Off-Ramp to the Inner Loop Traffic Volumes**

Currently, westbound I-490 traffic has two alternatives to reach the east side of the Rochester CBD. First, is to use the Clinton Avenue northbound ramp directly into the heart of the CBD. Second, is to exit at Goodman Street and use Broadway Street and then South Union Street to reach the eastern Inner Loop area. For this second alternative, traffic using the Goodman Street off-ramp, will pass through five (5) traffic signal controlled intersections to reach this area. One of the alternatives to be considered under this study is to create an additional I-490 off-ramp, leading directly to the Inner Loop, which would divert traffic off of Broadway and South Union Street and provide a more direct access to the eastern CBD area.



To determine the volume of traffic that might use this new off-ramp, existing routes and future traffic volumes were reviewed. They show the following results:

### Broadway to Union to the Eastern Inner Loop Area

Review of northbound traffic on Broadway Street would indicate that possibly around 200 to 300 might be from I-490 westbound during the morning peak hour and these vehicles might use a new westbound I-490 exit ramp to reach areas in the eastern Inner Loop Area (200 northbound through vehicles and 77 left turning vehicles onto Monroe Avenue). During the evening peak travel hour possibly around 150 to 200 vehicles might use this new ramp (100 northbound and 85 turning left to Monroe Avenue).

The traffic impact of this possible change is already included in the base analysis, except at the intersection of Monroe/Chestnut with the Inner Loop. This traffic already passes through or distributes itself to intersections on the northern section.

### Diversion from South Clinton Avenue I-490 Westbound Exit

This ramp in the morning peak travel period accommodates over 2,000 vehicles per hour. The only real opportunity for this ramp to service traffic on the east side of the Inner Loop is to either turn right onto Woodbury Avenue or right onto Court Street (which provides access to both the Xerox and Midtown parking garages). The majority of parking that serves developments on the east side of the Inner Loop is located east of Chestnut, along Broad and Scio Streets. Thus, most of this traffic that might use a new I-490 eastbound off-ramp to the Inner Loop would most likely

travel on Clinton Avenue, turn right on Court Street, travel eastbound past Chestnut Street. The morning peak hour traffic making this movement is 234 vehicles, not all of which would be expected to be from Clinton Avenue. Thus, a rough estimate of traffic that is currently using the I-490 westbound off-ramp to Clinton Avenue that might be diverted to a new westbound off-ramp to the Inner Loop would most likely be in the neighborhood of 100 vehicles during either the morning or evening peak travel hour.

#### Total Diversion to a New I-490 westbound off-ramp to the Inner Loop

Based on the above rough analysis of possible peak hour diversions to a new I-490 off-ramp to the Inner Loop, this new ramp would be roughly estimated to attract between 300 to possibly 450 vehicles during the morning peak travel period and 300 to 400 vehicles during the evening peak travel hour.

Analysis of this traffic on a raised Inner Loop found that it would not have a notable impact. All intersections were found to continue to operate at LOS "C" with no turning movement below LOS "D".

#### **Attachments**

A – Inner Loop Study Area Analysis Memo, 9/23/08

B – Detailed Level of Service Table

C – Queuing Analysis Table

D – Accident Summary Memo 12/17/08

E – Synchro Analysis Files on CD

F – Agency Comments and Response



MEMORANDUM  
DEPARTMENT OF TRANSPORTATION

TO: Marvin Kleinberg  
FROM: David Goehring, Regional Traffic Engineer  
SUBJECT: **Comments on Raising the Eastern Portion of the Inner Loop**

DATE: February 24, 2009

We have reviewed the January 13, 2009 memo and supporting documents for Raising the Eastern Portion of the Inner Loop from William Holtoff of Stantec. For the Go/No Go decision on whether to proceed with a more detailed study, we have the following comments.

In regards to the recommendations and conclusions made, we agree with the Go decision for the Inner Loop between Chestnut/Monroe and East Avenue, and with the Go decision for the Westbound I-490 off ramp to the Inner Loop. However we recommend a No Go decision for the Inner Loop at Main Street.

Our No Go decision for a raised Inner Loop at Main Street is based on the following.

1. As stated in the analysis, vehicle storage in the area of University Avenue/South Union Street/Main Street is an issue now and will remain so into the future for the existing Inner Loop or raised Inner Loop. Since this is a problem now, this project does not justify the need to add more points of conflict, reduce the storage lengths, and add more traffic to an area that already has issues. This option will increase delays and potentially decrease safety. We should not be adding lanes and introducing complex traffic signal phasing to address new problems.
2. For some approaches lane utilization is an issue that will significantly increase queue lengths which presents some safety concerns. Queue lengths are likely to extend into adjacent intersections or extend beyond storage lengths. This is apparent through a review of SimTraffic and the Inner Loop approaches to Main Street.
3. We have concerns regarding a highway with relatively high speeds entering an area that is congested with long queue lengths. Since sight distance approaching Main Street from the Inner Loop may be restricted, this also may become a safety issue with increases in high speed rear end accidents.
4. With the introduction of more intersections and lanes, it will be significantly more difficult for pedestrians to traverse through this area.

In general we have the following comments regarding the supporting documents.

1. In the areas of the Inner Loop at grade, what restrictions on access are proposed? Is a raised median proposed or will some sections be right-of-way without access?
2. At a traffic signal where there are three or more through lanes opposing a left turn movement, the left turn movement is generally controlled by a protected only left turn arrow.
3. In the SYNCHRO analysis, the lost time adjustment should be zero, the percentage of heavy vehicles is much greater than the default value of 2 percent and as stated above the lane utilization will differ on certain approaches to an intersection. Each of these inputs will impact the capacity of an intersection.
4. We agree with the consideration of a roundabout alternative at each intersection.



# Department of Transportation

Monroe County, New York

**Maggie Brooks**  
*County Executive*

**Terrence J. Rice, P.E.**  
*Director*

March 3, 2009

Mr. James R. McIntosh  
City Engineer  
City Hall  
30 Church Street  
Rochester, NY 14614

RE: **INNER LOOP STUDY, PHASE II, E. MAIN ST. TO I-490 - GO/NO GO ANALYSIS**

*Jim*  
Dear Mr. McIntosh:

We have completed our review of the draft Go/No Go analysis report dated January 13, 2009 for the above referenced project and we offer the following comments.

## General Comments

1. We agree with the report's conclusions that further study of the Inner Loop between Monroe Avenue/Chestnut Street and East Avenue, of the Inner Loop at Main Street, and of the proposed new westbound I-490 off ramp to the Inner Loop is appropriate.
2. The two at-grade alternatives shown in the report for the Inner Loop at Main Street do not appear to be practical due to the number of lanes shown. The excess width may not create a suitable pedestrian environment, and the accident analysis indicates an existing problem with sideswipe/overtaking accidents, which would be aggravated if more lanes were added. Therefore, we believe that other options should be explored beyond those identified in the report.
3. We believe that the proposed I-490 westbound off-ramp to the Inner Loop is a desirable alternative to improve access for I-490 westbound traffic. The report should include sketches of the proposed layout, similar to those contained in the January 22, 2009 meeting handout.
4. NYSDOT guidelines stipulate that roundabouts should be considered first before signalization. Have roundabouts been considered for the Inner Loop intersections with Main Street/University Avenue, Chestnut Street/Monroe Avenue, Broad Street, and East Avenue?
5. Although the grade separated eastern portion of the Inner Loop does not have the level of volumes as the remainder of the Inner Loop, it does not follow that this section of road has no purpose, as was stated on Page 5. It serves as a connecting route between the east side of downtown and I-490 to/from the west. However, the lack of a direct connection from I-490 westbound limits the usefulness of this section of road, and we would agree that that this section of the Inner Loop would not be likely to attract more traffic if it was raised to grade without any modifications to the access from I-490 westbound.
6. The options are identified as #1, #2, and #4. They should either be renumbered or an explanation should be provided concerning what option #3 was and why it is not further discussed in the report.

## INNER LOOP STUDY, PHASE II, E. MAIN STREET TO I-490 - GO/NO GO ANALYSIS

March 3, 2009

Page 2

### Technical Comments

7. Pg 6 – The report should explain how the traffic volumes were adjusted to account for the road closures associated with the I-490 Western Gateway.
8. Pg 9 – In the top figure, the intersection of Chestnut/Monroe/Raised Inner Loop should show two (2) receiving eastbound lanes, and the eastbound approach should consist of a left, thru, and shared thru/right lane, so that eastbound through vehicles do not get trapped.
9. Pg 9 – In the bottom figure, the East Ave/Inner Loop intersection does not show left turn lanes on East Avenue. We anticipate that dedicated left turn lanes will be needed to handle the projected traffic volumes and to provide adequate line of sight for opposing left turning vehicles.
10. Pg 9 – The bottom figure shows Broad Street intersecting the Inner Loop as a six lane roadway. The volumes do not justify such a cross section, and its narrowing is being studied as part of the City's Broad/Court/Chestnut project. Additionally, consideration should be given to extending Broad Street to the east of Union Street.
11. Pg 12 – The Level of Service table should include information for each approach and lane group.
12. Pg 14 – The existing average speeds shown in the table would be too low for a grade separated facility. The report should clarify that the existing network included the mainline, the frontage roads, and some adjacent signalized intersections.
13. Pg 12 & Attachment B – Some discrepancies were found between the LOS tables and the Synchro files, specifically in the 2035 PM scenario.
14. Attachment C – The queue analysis table attached includes several table cells containing a “?”. Please add the missing information.
15. Attachment D – The “Inner Loop Accident Data” section appears to include linear sections for both the Inner Loop frontage roads and the Inner Loop main line. The main line and frontage roads are very different in character and should be discussed separately. Given their different character, comparing both to the same statewide accident rates for “principal arterial expressways” does not seem appropriate.
16. Please confirm that only reportable accidents were used to calculate the accident rates. Although the report states that this was the case, it seems unusual that so many intersections would substantially exceed the average accident rates.
17. Attachment D – We recommend separating the accident plot diagrams into one diagram for each year so that the accident trends over time for a given location can be visually recognized.
18. Attachment D – For the East Main Street corridor discussion, please add that a portion of Main Street east of Union St was studied by MCDOT as part of a PIL in July 2006, resulting in traffic signal timing changes that improved the progression on East Main Street.
19. Attachment D – The report should include a discussion about any notable accident patterns that were identified in the collision diagrams, such as the northbound/eastbound right angle accident patterns shown at both Monroe Avenue/Union Street and East Avenue/Union Street.



## INNER LOOP STUDY, PHASE II, E. MAIN STREET TO I-490 - GO/NO GO ANALYSIS

March 3, 2009

Page 3

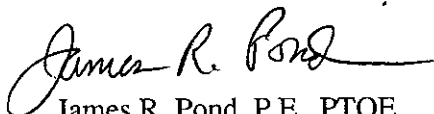
20. Attachment D – The sections of I-490 shown in diagrams 7, 8, and 9 were under construction during some of the years studied in the accident analysis. This should be clearly identified and discussed in the report.
21. Chestnut/Woodbury, Monroe/Inner Loop, and Broad/Inner Loop – The analysis should use a 100 second cycle length in the AM, show each signal as coordinated, and include all pedestrian timing requirements to ensure that there is enough split time being provided for pedestrians to cross the street.
22. Union/University – For safety reasons, the proposed southbound dual lefts on Union Street at University Avenue should be modeled as a protected only left turn.
23. Main/University/Pitkin – The westbound left turn lane on Main Street at Pitkin Street/University Avenue should be included in all models.

### Grammatical Comments

24. Pg 2, # 4. – Replace “turning movements” with “individual movements” to better describe the Level of Service results.
25. Attachment A – Please correct the many grammatical errors in Inner Loop Study Area Analysis Memo. Also, the Inner Loop Volume Comparison Locations (2014) map should read “Raised” not “Raise”.
26. Attachment A – For better clarity, we suggest saying “due to random variations within the model” instead of “the result of running the model twice”.

We look forward to reviewing a revised report with the above comments addressed. If you have any questions or require additional information, please contact me at 753-7755.

Sincerely,



James R. Pond, P.E., PTOE  
Associate Traffic Engineer

JRP:mlp

xc: T. Rice  
S. Leathersich  
M. Partelow  
D. Goehring, NYSDOT  
J. Hoffman, Stantec

## Memo

DRAFT



Stantec

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To: John Thomas  
From: Paula Benway  
Rochester, New York  
File: Inner Loop 192500170  
Date: April 24, 2009

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A draft Go/No Go Analysis for Raising the Eastern Portion of the Inner Loop was prepared and documented in a memo to the City of Rochester dated January 13, 2009. This memo was shared and reviewed by the technical advisory committee. Formal comments were received as follows:

- Monroe County Department of Transportation, March 3, 2009
- New York State Department of Transportation, February 24, 2009

This memo serves to address the comments received. A copy of the correspondence from MCDOT and NYSDOT are attached.

### **Monroe County DOT**

MCDOT Comment 1: We agree with the report's conclusions that further study of the Inner Loop between Monroe Avenue/Chestnut Street and East Avenue, of the Inner Loop at Main Street, and of the proposed new westbound I-490 off ramp to the Inner Loop is appropriate.

*Response: no response necessary.*

MCDOT Comment 2: The two at-grade alternatives shown in the report for the Inner Loop at Main Street do not appear to be practical due to the number of lanes shown. The excess width may not create a suitable pedestrian environment, and the accident analysis indicates an existing problem with sideswipe/overtaking accidents, which would be aggravated if more lanes were added. Therefore, we believe that other options should be explored beyond those identified in the report.

*Response: Initial attempt was to determine if an option to bring the Inner Loop up to grade at Main Street was possible; as documented. Additional alternatives at Main Street will be developed and evaluated to minimize some of the concerns noted as part of the next phase of the project.*

MCDOT Comment 3: We believe that the proposed I-490 westbound off-ramp to the Inner Loop is a desirable alternative to improve access for I-490 westbound traffic. The report should include sketches of the proposed layout, similar to those contained in the January 22, 2009 meeting handout.

*Response: A concept sketch will be included.*

MCDOT Comment 4: NYSDOT guidelines stipulate that roundabouts should be considered first before signalization. Have roundabouts been considered for the Inner Loop intersections with Main Street/ University Avenue, Chestnut Street/Monroe Avenue, Broad Street, and East Avenue?

One Team. Infinite Solutions.

*Response: Alternative refinement, including consideration and modeling of roundabouts at each of the intersections is part of the next phase of the project.*

MCDOT Comment 5: Although the grade separated eastern portion of the Inner Loop does not have the level of volumes as the remainder of the Inner Loop, it does not follow that this section of road has no purpose, as was stated on Page 5. It serves as a connecting route between the east side of downtown and I-490 to/from the west. However, the lack of a direct connection from I-490 westbound limits the usefulness of this section of road, and we would agree that this section of the Inner Loop would not be likely to attract more traffic if it was raised to grade without any modifications to the access from I-490 westbound.

*Response: so noted.*

MCDOT Comment 6: The options are identified as #1, #2, and #4. They should either be renumbered or an explanation should be provided concerning what option #3 was and why it is not further discussed in the report.

*Response: so noted.*

MCDOT Comment 7: Pg 6- the report should explain how the traffic volumes were adjusted to account for the road closures associated with the I-490 Western Gateway.

*Response: The text has been edited to clarify how the volumes were adjusted.*

MCDOT Comment 8: Pg 9 – In the top figure, the intersection of Chestnut/Monroe/ Raised Inner Loop should show two (2) receiving eastbound lanes, and the eastbound approach should consist of a left, through, and shared thru/right lane, so that eastbound through vehicles do not get trapped.

*Response: The synchro analysis was adjusted accordingly.*

MCDOT Comment 9: Pg 9 – In the bottom figure, the East Avenue/Inner Loop intersection does not show left turn lanes on East Avenue. We anticipate that dedicated left turn lanes will be needed to handle the projected traffic volumes and to provide adequate line of sight for opposing left turning vehicles.

*Response: Preliminary analysis indicates this intersection to operate at good levels today and in the future. Due to the relatively tight ROW with existing buildings on the southeast and northeast corners, the feasibility of opposing left turn lanes without impacts to adjacent properties is low. This will be considered in the next phase of the project as other alternatives or refinements will be further evaluated.*

MCDOT Comment 10: Pg 9 – The bottom figure shows Broad Street intersecting the Inner Loop as a six lane roadway. The volumes do not justify such a cross section, and its narrowing is being studied as part of the City's Broad/Court/Chestnut project. Additionally, consideration should be given to extending Broad Street to the east of Union Street.

*Response: Updated information on the Broad/Court/Chestnut project is appreciated. Subsequent analysis of this intersection will show the reduced number of lanes on the Broad Street approach.*

MCDOT Comment 11: Pg 12 – The Level of Service table should include information for each approach and lane group.

*Response: A detailed level of service table by approach/lane group is provided in Attachment B.*

MCDOT Comment 12: Pg 14 – The existing average speeds shown in the table would be too low for a grade separated facility. The report should clarify that the existing network included the mainline, the frontage roads, and some adjacent signalized intersections.

*Response: Correct, the average speeds shown on the table are inclusive of all roadways and intersections within the study area; clarification will be provided.*

MCDOT Comment 13: Pg 12 & Attachment B – Some discrepancies were found between the LOS tables and the Synchro files, specifically in the 2035 PM scenario.

*Response: The level of service tables has been updated.*

MCDOT Comment 14: Attachment C – The queue analysis table attached includes several table cells containing a “?”. Please add the missing information.

*Response: The table has been updated.*

MCDOT Comment 15: Attachment D – The “Inner Loop Accident Data” section appears to include linear sections for both the Inner Loop frontage roads and the Inner Loop main line. The main line and frontage roads are very different in character and should be discussed separately. Given their different character, comparing both to the same statewide accident rates for “principal arterial expressways” does not seem appropriate.

*Response: The accidents reported in this category occurred on the Inner Loop mainline only. Accidents on the frontage roads were not included in the linear accident rate calculation.*

MCDOT Comment 16: Please confirm that only reportable accidents were used to calculate the accident rates. Although the report states that this was the case, it seems unusual that so many intersections would substantially exceed the average accident rates.

*Response: Only reportable accidents were used to calculate the accident rates.*

MCDOT Comment 17: Attachment D – We recommend separating the accident plot diagrams into one diagram for each year so that the accident trends over time for a given location can be visually recognized.

*Response: With such a large study area, providing collision diagrams per year would triple the number of diagrams needed. Instead, a summary report from the database that shows how many accidents occurred per location per year is provided. This may assist in determining an increase or decrease in crashes from year to year.*

MCDOT Comment 18: Attachment D – For the East Main Street corridor discussion, please add that a portion of Main Street east of Union St was studied by MCDOT as part of a PIL in July 2006, resulting in traffic signal timing changes that improved the progression on East Main Street.

*Response: Update on the PIL investigation result has been added.*

## **Stantec**

April 24, 2009

Response to Agency Comments

Page 4 of 6

MCDOT Comment 19: Attachment D – The report should include a discussion about any notable accident patterns that were identified in the collision diagrams, such as the northbound/eastbound right angle accident patterns shown on both Monroe Avenue/Union Street and East Avenue/Union Street.

*Response: A discussion of the accident patterns at these intersections is on page 3 and 4.*

MCDOT Comment 20: Attachment D – The sections of I-490 shown in diagrams 7, 8, and 9 were under construction during some of the years studied in the accident analysis. This should be clearly identified and discussed in the report.

*Response: This clarification has been added to the report.*

MCDOT Comment 21: Chestnut/Woodbury, Monroe/Inner Loop, and Broad/Inner Loop – The analysis should use a 100 second cycle length in the AM, Show each signal as coordinated, and include all pedestrian timing requirements to ensure that there is enough split time being provided for pedestrians to cross the street.

*Response: The analysis has been updated.*

MCDOT Comment 22: Union/University – For safety reasons, the proposed southbound dual lefts on Union Street at University Avenue should be modeled as a protected only left turn.

*Response: The analysis has been updated.*

MCDOT Comment 23: Main/University/Pitkin – the westbound left turn lane on Main Street at Pitkin Street/University Avenue should be included in all models.

*Response: The analysis has been updated.*

MCDOT Comment 24: Pg 2, #4 – Replace “turning movements” with “individual movements” to better describe the Level of Service results.

*Response: so noted*

MCDOT Comment 25: Attachment A – Please correct the many grammatical errors in Inner Loop Study Area Analysis Memo. Also, the Inner Loop Volume Comparison Locations (2014) map should read “Raised” not “Raise”.

*Response: so noted*

MCDOT Comment 26: Attachment A – for better clarity, we suggest saying “due to random variations within the model” instead of “the result of running the model twice”.

*Response: so noted*

### **New York State DOT**

NYSDOT Comment 1: As stated in the analysis, vehicle storage in the area of University Avenue/South Union Street/Main Street is an issue now and will remain so into the future for the existing Inner Loop or raised Inner Loop. Since this is a problem now, this project does not justify the need to add more points of conflict reduce the storage lengths, and add more traffic to an area that already has issues. This option will increase delays and potentially decrease safety. We should not be adding lanes and introducing a complex traffic signal phasing to address new problems.

*Response: no response necessary.*

NYSDOT Comment 2: For some approaches lane utilization is an issue that will significantly increase queue lengths which presents some safety concerns. Queue lengths are likely to extend into adjacent intersections or extend beyond storage lengths. This is apparent through a review of SimTraffic and the Inner Loop approaches to Main Street.

*Response: So noted, efforts have been made to adjust lane utilization factors as much as possible to resemble actual operations.*

NYSDOT Comment 3: We have concerns regarding a highway with relatively high speeds entering an area that is congested with long queue lengths. Since sight distance approaching Main Street from the Inner Loop may be restricted, this also may become a safety issue with increases in high speed rear end accidents.

*Response: Both issues noted would normally be identified and addressed in a later phase of the project. Future consideration will be given to these items.*

NYSDOT Comment 4: With the introduction of more intersections and lanes, it will be significantly more difficult for pedestrians to traverse through this area.

*Response: As the number of travel lanes increase the more difficult it can be for a pedestrian, however, as the project alternatives are refined the introduction of refuge islands where applicable or other pedestrian friendly amenities will be considered to minimize this concern.*

#### **New York State DOT – Supporting Documents**

NYSDOT Comment 1: In the areas of the Inner Loop at grade, what restrictions on access are proposed? Is a raised median proposed or will some sections be right-of-way without access.

*Response: At this point, no definitive recommendation has been made related to the level of access that will be provided along the Inner Loop at grade sections. This will be identified and discussed in later phases of this project.*

NYSDOT Comment 2: At a traffic signal where there are three or more through lanes opposing a left turn movement, the left turn movement is generally controlled by a protected only left turn arrow.

*Response: The analysis has been updated.*

NYSDOT Comment 3: In the SYNCHRO analysis, the lost time adjustment should be zero, the percentage of heavy vehicles is much greater than the default value of 2 percent and as stated above the lane utilization will differ on certain approaches to an intersection. Each of these inputs will impact the capacity of an intersection.

*Response: The analysis has been updated to reflect zero lost time. Actual heavy vehicles percentages obtained during the traffic counts have been used in the analysis.*

NYSDOT Comment 4: We agree with the consideration of a roundabout alternative at each intersection.

*Response: Roundabout feasibility and analysis will be performed in the next step of the project.*

**Stantec**

April 24, 2009

Response to Agency Comments

Page 6 of 6

**STANTEC CONSULTING SERVICES INC.**

Paula Benway

Associate, Transportation

[Paula.Benway@stantec.com](mailto:Paula.Benway@stantec.com)

Attachments: MCDOT, March 3, 2009  
NYS DOT, February 24, 2009

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