Appendix A-6
Access Modification Report

Appendix A-6

Access Modification Report (AMR)

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1. INTRODUCTION

1.1. Purpose of the Investigation and Proposed Action

The purpose of this Access Modification Report (AMR) is to document how the proposed modifications to the interstate system are in accordance with the FHWA policy on Access to the Interstate System. The I-81 Viaduct Project is located in the City of Syracuse, Onondaga County, New York, and would include modifications to three interstate highways (I-81, I-690, and I-481) and numerous adjacent local streets and arterials. This document presents an evaluation of the proposed changes and how these changes would safely and effectively collect, distribute, and accommodate traffic on the interstate facilities, ramps, freeways, and local street network.

The Project Area is within the City of Syracuse and the Towns of DeWitt, Salina, and Cicero (refer to **Figure 1-1)**. The purpose of the Project is to address the structural deficiencies and non-standard[1] highway features while creating an improved corridor through the City of Syracuse that meets transportation needs and provides the infrastructure to support long-range planning efforts. The project would address the following identified needs: the need to improve traffic flow and safety; the need to address aging infrastructure; the need for transportation infrastructure to support long-range planning efforts; and the need to improve pedestrian and bicycle infrastructure. The Final Design Report/Final Environmental Impact Statement (FDR/FEIS) describes the reasonable alternatives that were evaluated as part of the project, including the potential alternatives that were considered and dismissed from further consideration and those that were advanced for further study.

The AMR focuses on the interstate highway access changes that are proposed under the Community Grid Alternative, the project's Preferred Alternative. The Community Grid Alternative would require addition, modification, or removal of ramps that provide access to the interstate highways that traverse the Project Area. These changes include the de-designation of a portion of I-81 that extends through the City of Syracuse and then re-designate the highway as Business Loop 81 (BL 81). Also included is the re-designation of the portion of I-481 between existing I-81 Interchanges 16A and 29 as I-81. Re-designating I-481 as I-81 requires the reconfiguration of the existing I-481/I-81 interchanges (existing Exits 16A and 29, or the south and north interchanges), as well as other improvements along the existing I-481 corridor. The project would include reconstruction of the portions of I-690 from Leavenworth Avenue to Beech Street, including the I-690/BL 81 interchange, would also include the reconfiguration/construction of several other exit and entrance ramps in the downtown Syracuse area. Refer to **Section 3.3** for a detailed description of the proposed modifications.

[1] A non-standard feature is a design element that does not meet one of the ten controlling criteria as designated by FHWA for design of projects on the National Highway System.

1.2. FHWA Policy Statement

The statement below has been prepared by applying the outline in the Federal Highway Administration (FHWA) ***Policy on Access to the Interstate System*** and following the Considerations and Requirements provided therein.

1. An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections (refer to traffic data and analysis in **Attachment 5**). The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (Title 23, Code of Federal Regulations (CFR) Paragraphs 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, should be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access should include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request should also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 CFR 109(d) and 655.603(d)).
2. The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access, such as managed lanes (e.g., transit or high occupancy vehicle and high occupancy toll lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)). In rare instances where all basic movements are not provided by the proposed design, the report should include a full-interchange option with a comparison of the operational and safety analyses to the partial-interchange option. The report should also include the mitigation proposed to compensate for the missing movements, including wayfinding signage, impacts on local intersections, mitigation of driver expectation leading to wrong-

way movements on ramps, etc. The report should describe whether future provision of a full interchange is precluded by the proposed design.

Chapter 1, Introduction, of the FDR/FEIS, describes the limitations and deficiencies, both structural and functional, of the project's transportation infrastructure, including the aging I-81 viaduct and other elevated bridges within the downtown Syracuse area. The majority of the I-81 and I-690 bridges are elevated through downtown Syracuse. The I-81 and I-690 interchange and viaducts comprise 33 highway bridges, with 17 more bridges located along the interchange approaches. These bridge structures were constructed primarily in the 1960s, and many of their components are nearing the end of their design service life. Over time, these structures have experienced varying levels of deterioration from exposure to weather, de-icing salts, and heavy vehicle use. Bridges are particularly susceptible to wear and tear because many of their structural elements are directly exposed to weather conditions. The bridges within the Project Area would need major rehabilitation or replacement by 2050. An assessment focused on the Project Area compared the cost effectiveness of rehabilitation versus bridge replacement and identified the need to replace all of the I-81 viaduct and I-81/I-690 interchange bridges within the area.

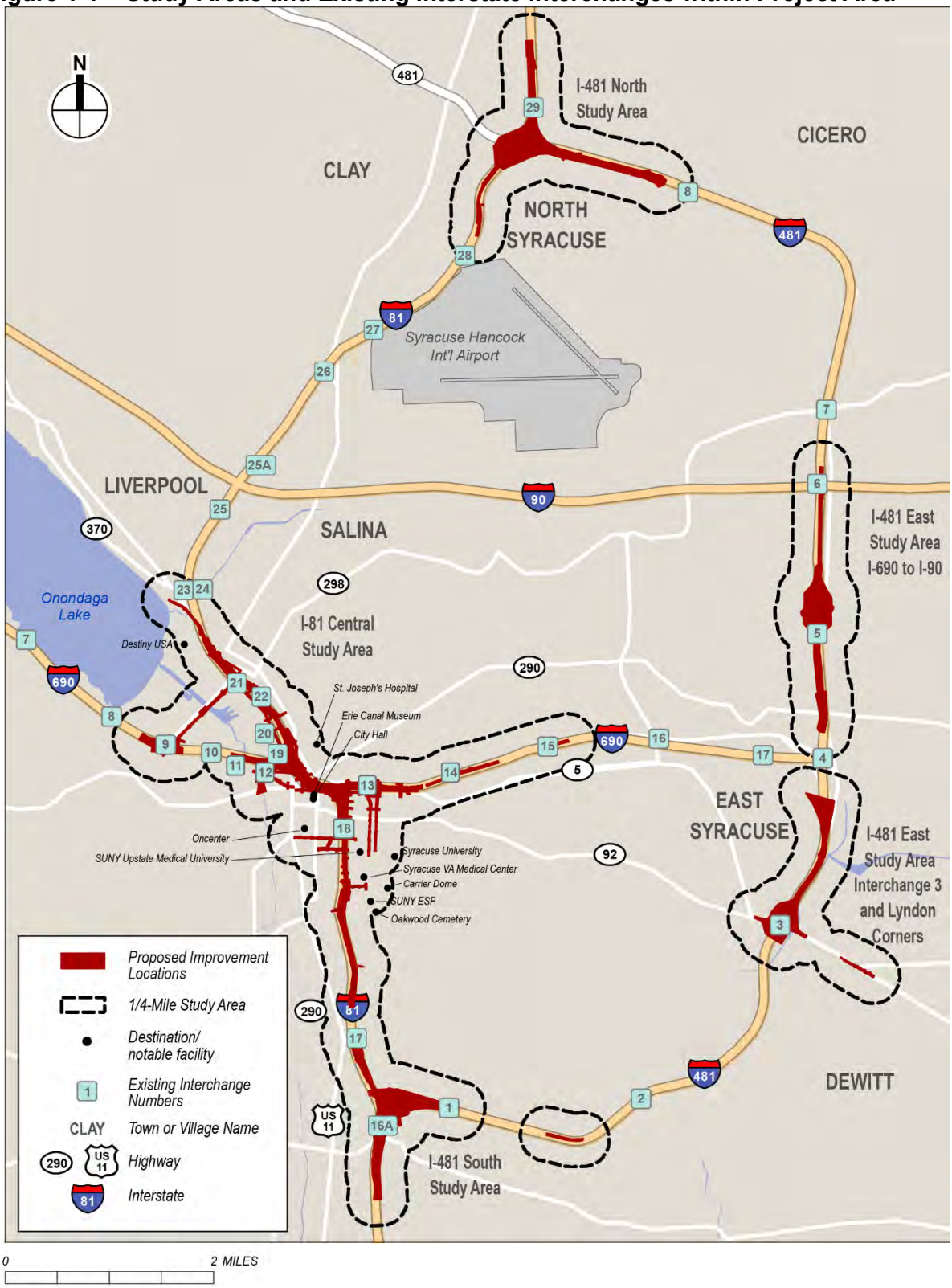
1.3. Project Study Areas

To aid in evaluation of the existing conditions, the proposed alternatives, and the social, economic, and environmental considerations, the Project Area was divided into four subareas (see **Figure 1-1**):

- The largest subarea is the **Central Study Area**, which refers to the section of I-81 between East Brighton Avenue and Hiawatha Boulevard and the portions of I-690 approximately between Leavenworth Avenue and Beech Street and between Hiawatha Boulevard West and Bear Street. It also includes some local roads in proximity to I-81 and I-690 in Syracuse.
- The **I-481 South Study Area** is located around the I-481 southern interchange with I-81. The majority of the I-481 South Study Area is located in the City of Syracuse; however, the easternmost reach is in the Town of Onondaga.
- The **I-481 East Study Area** includes the segments of I-481 where auxiliary lanes would be added or street improvements may occur, which is approximately from Interchange 3 (New York State Routes 5 and 92) to Interchange 6 (I-90) in the Town of DeWitt.
- The **I-481 North Study Area** includes the I-481 northern interchange with I-81 in the Town of Cicero and the Village of North Syracuse.

Interchanges that would be modified, added, or removed under the Community Grid Alternative are described in detail in **Section 3.3**. In most cases, an interchange includes several individual ramps or connections. The proposed interstate access modifications that are part of the Community Grid Alternative include interchanges along the I-81, I-690, and I-481 corridors. The evaluation of the changes in access include geometrics, traffic capacity, safety, and control of access.

Figure 1-1 – Study Areas and Existing Interstate Interchanges within Project Area



I-81 Viaduct Project

2. PROJECT SETTING

2.1. Project Identification

I-81 is a north-south interstate highway extending 850 miles from Tennessee to the Canadian border. As the primary north-south interstate highway through Central New York, I-81 serves the communities of Binghamton, Cortland, Syracuse, and Watertown and provides access to many of the Syracuse region's destinations and employment centers. In the City of Syracuse, I-81 connects with I-481, an auxiliary interstate route that bypasses the city to its east; I-690, an auxiliary route that connects I-90 (New York State Thruway) to I-481 through Downtown Syracuse; and I-90 (New York State Thruway). Beyond the city core, I-81 along I-481 and 1-690 serves many major employers, retail centers, and entertainment destinations in the Syracuse Metropolitan Area. As mentioned earlier, the I-81 Viaduct Project is located within Onondaga County, New York.

I-481, bypassing the City of Syracuse to the east, extends from south to north, beginning at I-81 in the Outer Comstock neighborhood (City of Syracuse) and following a northeasterly alignment to New York State Route 5 (Interchange 3) in the Town of DeWitt. It continues as a north-south roadway to East Taft Road in North Syracuse where it turns northwesterly to meet I-81 and New York State Route 481 in North Syracuse.

I-690 is an east-west interstate highway extending approximately 14 miles from I-90 in the Town of Van Buren to I-481 in the Town of DeWitt in the Central Study Area.

Including the north and south I-81/I-481 interchanges and the I-81/I-690 interchange, there are 27 interchanges along the three interstate routes discussed above. (See **Figure 1-1** and **Table 2-1**.)

The downtown Syracuse street network generally consists of a grid of east-west and north-south streets. Erie Boulevard/West Genesee Street (NY 5), East Genesee Street (NY 92), State Street/Salina Street/Wolf Street (US 11), James Street (NY 290), Court Street/Bear Street (NY 298), Harrison Street, Adams Street, and West Street are among the major routes through this part of the city.

TABLE 2-1

EXISTING INTERSTATE INTERCHANGES WITHIN THE PROJECT AREA

INTERSTATE 81 (FROM SOUTH TO NORTH)					
Interchange Number	**Interchange Name**	**Northbound Exit**	**Northbound Entrance**	**Southbound Exit**	**Southbound Entrance**
16A	I-481	✓	✓	✓	✓
17	State Street/Salina Street/Brighton Avenue	✓	✓	✓	✓
N/A	Colvin Street		✓		
18	Harrison Street/Adams Street	✓	✓	✓	✓
N/A	Eastbound I-690	✓		✓	✓
N/A	Westbound I-690	✓	✓		✓
19	N. Clinton Street / Salina Street		✓	✓	
20	Franklin Street / West Street / Butternut Street		✓	✓	
21	Spencer Street / Catawba Street			✓	✓
22	NY 298 / Court Street / Bear Street	✓	✓		✓
22	NY 298 / Bear Street (to Westbound I-690)			✓	
23	Park Street / Hiawatha Boulevard	✓	✓		
23A	Hiawatha Boulevard			✓	
23B	Destiny USA Drive			✓	
24A	Old Liverpool Road – Liverpool	✓			✓
24B	NY 370 (Onondaga Lake Parkway)	✓			✓
25	7th North Street	✓	✓	✓	✓
25A	I-90 (NYS Thruway)	✓	✓	✓	✓
26	NY 11 (Mattydale)	✓	✓	✓	✓
27	Airport Boulevard (Syracuse Airport)	✓	✓	✓	✓
28	Taft Road	✓	✓	✓	✓
29	Northbound I-481/NY-481	✓	✓	✓	✓
29	Southbound I-481/NY-481	✓	✓	✓	✓
INTERSTATE 690 (FROM WEST TO EAST)					
Interchange Number	**Interchange Name**	**Eastbound Exit**	**Eastbound Entrance**	**Westbound Exit**	**Westbound Entrance**
8	Hiawatha Boulevard	✓			✓
9	Bear Street (to & from I-81)	✓			✓
10	Geddes Street		✓	✓	
11	West Street	✓	✓	✓	✓
12	West Genesee Street (NY 5) - Downtown Syracuse	✓			
N/A	Northbound I-81		✓	✓	✓
N/A	Southbound I-81	✓	✓	✓	
13	Townsend Street/McBride Street – Downtown Syracuse		✓	✓	
14	Teall Avenue	✓	✓	✓	✓
15	Midler Avenue	✓	✓	✓	✓
16	Thompson Road	✓	✓	✓	✓
17	Bridge Street	✓	✓	✓	✓
N/A	Northbound I-481	✓	N/A	N/A	✓
N/A	Southbound I-481	N/A	✓	✓	N/A
INTERSTATE 481 (FROM SOUTH TO NORTH)					

I-81 VIADUCT PROJECT FREEWAY ACCESS MODIFICATION REPORT

Interchange Number	Interchange Name	Northbound Exit	Northbound Entrance	Southbound Exit	Southbound Entrance
N/A	I-81 (Southern I-81/I-481 Interchange)	✓	✓	✓	✓
1	Brighton Avenue/Rock Cut Road	✓	✓	✓	N/A
2	Jamesville Road	✓	✓	✓	✓
3	NY5 / NY92 – DeWitt, Fayetteville	✓	✓	✓	✓
4	I-690	✓	✓	✓	✓
5	Kirkville Road	✓	✓	✓	✓
6	I-90 (New York State Thruway)	✓	✓	✓	✓
7	NY 298 – Bridgeport	✓	✓	✓	✓
8	Northern Boulevard	✓	✓	✓	✓
9	Northbound I-81 (Northern I-81/I-481 Interchange)	✓	✓	✓	✓
9	Southbound I-81 (Northern I-81/I-481 Interchange)	✓	✓	✓	✓

2.2. Existing Safety Considerations, Crash History, and Analysis

A crash analysis was performed in accordance with the Highway Design Manual Chapter 5 using police crash reports compiled from NYSDOT for the three-year period, from July 1, 2010 through June 30, 2013. The crash history was analyzed for I-81 from Interchange 16A to Interchange 29, I-690 from Interchange 9 to the I-481 interchange, and I-481 between the southern and northern interchanges with I-81. Since the original crash data is several years old, crash data (September 1, 2014 through August 30, 2017) was reviewed to determine if crash frequencies and patterns identified from the original data set are still valid and appropriate for use in this report. Similarly, a more recent review of crash data (September 1, 2017 to August 30, 2020) was reviewed to determine if crash frequencies and patterns identified from the previous evaluations are still valid and appropriate for use in this report. For most locations, the frequency and types of crashes were found to be consistent between the original and newer data sets. Therefore, the discussion that follows is based on the original data, unless otherwise noted. For additional information, refer to crash summaries and individual crash details can be reviewed in Appendix C-4 of the FDR/FEIS**.**

2.3. Other

For Project Evolution and Project and Corridor Needs, refer to Chapter 1 of the FDR/FEIS. For Construction Means and Methods, refer to Chapter 4 of the FDR/FEIS. For Transportation Conditions, Deficiencies, and Engineering Considerations, refer to Chapter 5 of the FDR/FEIS. For Right-of-Way impacts and needs, refer to Chapter 6 (Section 6-3-1, Land Acquisition, Displacement, and Relocation) of the FDR/FEIS. For Project Schedule, refer to **Table S-2** in the Executive Summary of the FDR/FEIS, and for Project Costs, refer to Appendix A-5, Alternative Cost Estimates, of the FDR/FEIS.

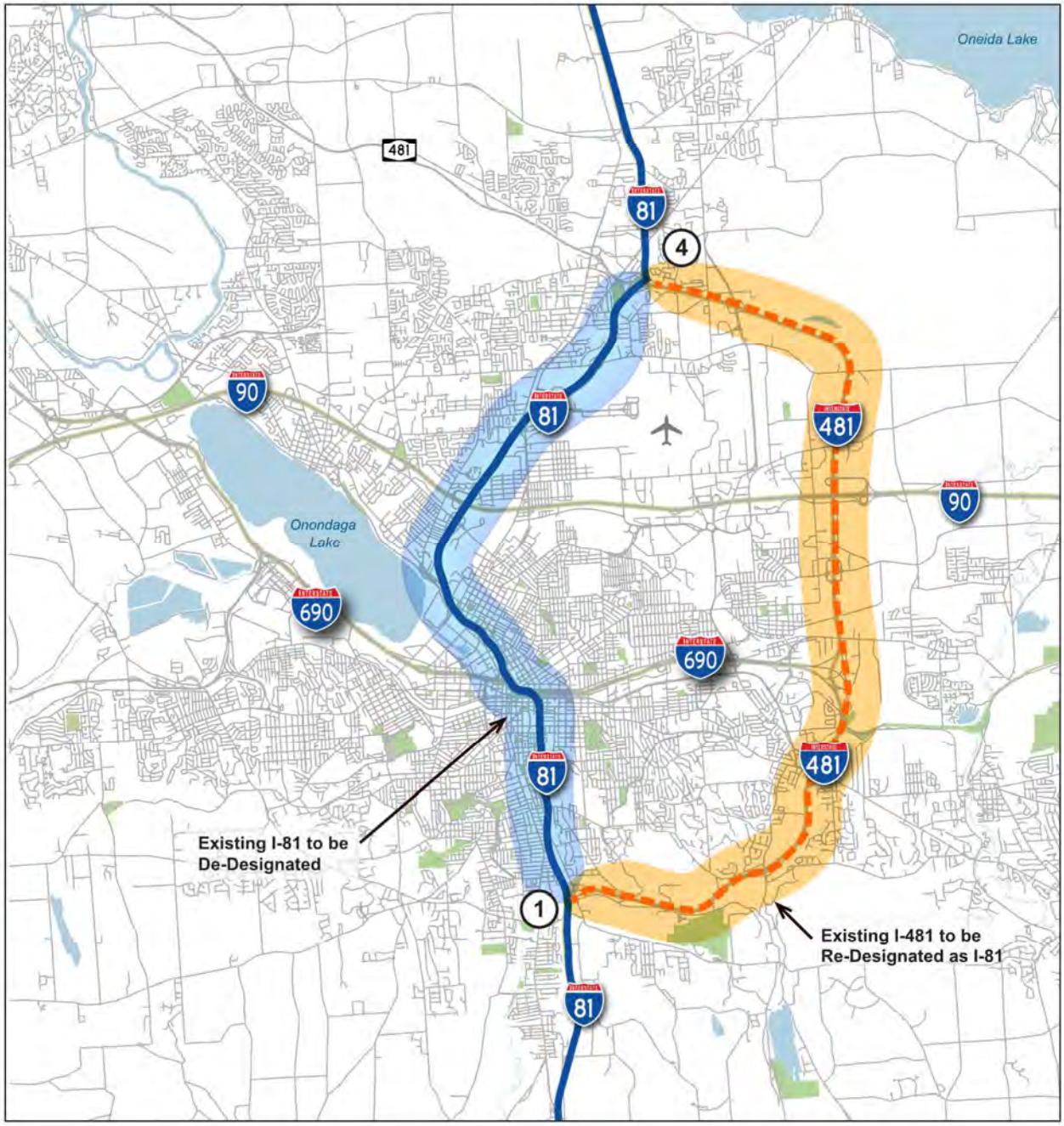
3. ALTERNATIVES

3.1. Design Criteria, Critical Design Elements and Other Design Parameters

Refer to **Attachment 2** for Design Criteria related to the proposed interstate/freeway and interstate/freeway ramp work.

3.2. Summary of Interchange and Ramp Modifications for the Community Grid Alternative

The Community Grid Alternative would involve de-designation of an approximate 11.5-mile segment of existing Interstate 81, between Interchange 16A and Interchange 29, and re-designation of an approximate 14.9-mile segment of existing Interstate 481 as the new Interstate I-81 (**refer to Figure 3-1**). The de-designated segment of existing I-81 would be re-designated as Business Loop 81 (BL 81) and consist of both freeway and non-freeway sections. In addition, I-690 would be reconstructed



Proposed I-81 De-Designation and I-481
Re-Designation

AMR Figure 3-1

between Leavenworth Avenue and Beech Street, including reconstruction of the I-81/I-690 interchange (refer to **Figure 3-2**).

The portion of BL 81 (existing I-81) south of East Colvin Street to the existing I-81/I-481 south interchange (approximately 1.4 miles between reference points 1 and 2 on **Figure 3-2**) and the portion of BL 81 north of Butternut Street to the existing north I-81/I-481 interchange (approximately 7.7 miles between reference points 3 and 4 on **Figure 3-2**) would remain as freeways. Within the City of Syracuse downtown area, an approximate 1.8-mile section of existing I-81 between East Kennedy Street and Butternut Street (between reference points 2 and 3 on **Figure 3-2**), which is mostly elevated, would be removed, including a 1.1 mile viaduct that extends between the New York, Susquehanna and Western Railway (NYS&W) bridge and the I-81/I-690 interchange. Between East Colvin Street and approximately East Kennedy Street, the freeway would transition to an urban arterial, where the speed limit would be gradually reduced from 55 mph to 30 mph and other traffic calming measures would be implemented.

BL 81 would continue as a 30 mph city street, generally following the existing alignment of Renwick Avenue, pass below the bridge carrying the NYS&W Railway, and return to street level at the intersection of Almond Street and Van Buren Street where a new roundabout would be constructed. Between Van Buren Street and Butternut Street, BL 81 would be accommodated on surface streets with signalized intersections ("urban arterials") and become integrated into the city street system. BL 81 would follow Almond Street, a portion of Erie Boulevard, Oswego Boulevard, and a portion of Pearl Street. The non-freeway sections of BL 81 would be classified to be on the National Network of Qualifying Access Highways and would consist of two 12-foot[2] travel lanes in each direction and turning lanes at intersections (where needed). In addition, the Almond Street corridor would be reconstructed to include wider sidewalks, a landscaped median, and bicycle facilities. Curbside parking lanes would be provided where practical. Refer to detailed description in **Section 3.3.**

Various improvements would be made to existing I-481 to allow for its conversion to I-81. Once re-designated as the new I-81, this 14.9-mile section of freeway would carry a minimum of four lanes (two in each direction) of through traffic. Interstate re-designation and associated renumbering would meet American Association of State Highway Transportation Officials (AASHTO) protocols and would require approval from FHWA. The change in highway designation and associated changes in traffic volumes would require various modifications to the new I-81, including reconstruction and reconfiguration of the existing south I-81/I-481 interchange, reconstruction and reconfiguration of

[2] To clarify, these 12-foot lanes would have a one-foot curb offset, therefore, any lane adjacent to a curb would be 13 -feet wide, and "interior lanes" (which would exist where there are two lanes plus turning lanes if needed) would be 12 feet wide.

Proposed Designation of BL 81

AMR Figure 3-2

the existing north I-81/I-481 interchange, and miscellaneous corridor improvements along existing I-481. Refer to detailed description in **Section 3.3.**

Approximately 1.8 miles of I-690 (refer to **Figure 3-2**) would be completely reconstructed between Leavenworth Avenue and Beech Street. This would include reconstruction of the West Street/West Genesee Street interchange (existing Exit 11/12), reconstruction of the I-690/BL 81 interchange, removal of the Townsend Street/McBride Street partial interchange (existing Exit 13) and construction of a new full interchange at Crouse Avenue/Irving Avenue. Refer to detailed description in **Section 3.3.**

3.3. Detailed Description of Interchange and Ramp Modifications for the Community Grid Alternative

3.3.1. Existing I-481 Corridor - Conversion of I-481 to I-81

As stated, the entire 14.9-mile section of I-481 would be re-designated as I-81. The mainline would carry a minimum of four travel lanes (two in each direction) of through traffic. The change in highway designation and associated changes in traffic volumes would require some modifications to I-481 to provide for the conversion to I-81. I-481 is currently the Strategic Highway Corridor Network (STRAHNET) 16-foot clearance route, and once converted to I-81, would remain the 16-foot clearance route. In addition, interchanges within the project area would be renumbered, adopting mileage-based exit numbers[3] and mileage markers would be updated as required. The project would include the following interstate and access modifications to the I-481 corridor (refer to preliminary plans in **Attachment 4**):

- **Existing I-81/I-481 South Interchange 16A (Proposed I-81 Interchange 82, BL 81):** The reconstruction of this interchange would involve re-routing existing I-81 to connect with existing I-481, which would serve as the new I-81. Refer **Figure 3-3** and drawing number SG-CG-H10-08 in **Attachment 4**. The existing ramps that connect northbound I-81 to northbound I-481 and southbound I-481 to southbound I-81 would be demolished, and these movements would be made on the main line of re-designated I-81. The East Brighton Avenue Bridge over the interchange would be reconstructed, and the intersection of East Brighton Avenue and Rock Cut Road would be maintained.

  The design provides for the primary movements between BL 81 and I-81 to be accommodated by high-speed splits or merges. A summary of the primary high-speed movements and proposed changes follows:

[3] Mileage based exit numbers and reference markers beyond the limits of the I-81 Viaduct project, would be implemented and updated as part of a separate project.

10.15.20

Community Grid Alternative:
South Interchange of the New I-81 (formerly I-481)

I-81 Viaduct Project

AMR Figure 3-3

- Northbound I-81 to northbound BL 81 – Motorists from the south who are traveling north on I-81 and headed to downtown Syracuse would use a new right-side exit from the interstate that connects to BL 81. The new exit would be a high speed diverge that approximately follows the existing northbound I-81 alignment and would become northbound BL 81.
- Southbound BL 81 to southbound I-81 – Southbound travelers on BL 81 who want to continue south would remain on BL 81, which merges with southbound I-81 as a high-speed merge. Southbound BL 81 would approximately follow the existing I-81 alignment but would be modified slightly to accommodate the interchange reconstruction.

In addition to the high-speed movements listed above, the following summarizes the planned changes to the remaining ramps.

- Northbound I-81 to northbound existing I-481 – The existing ramp would be removed and replaced by the new 2-lane northbound I-81 mainline.
- Southbound BL 81 to northbound I-81 – The existing connector ramp would be reconstructed on a slightly different alignment to accommodate the I-81 mainline realignment and reconstruction.
- Southbound I-81 (existing I-481) to northbound BL 81 – To accommodate the interchange reconfiguration, the existing ramp would be removed, and this movement would be replaced by the southbound exit to Brighton Avenue. Motorists would continue straight onto relocated East Glen Avenue and use a new on-ramp to northbound BL 81 (see Interchange 1 description below).
- Southbound I-81 (existing I-481) to southbound I-81 – The existing ramp would be removed and replaced by the new 2-lane southbound I-81 mainline.

Geometrics: The new I-81 mainline would meet 70 mph design standards (refer to Design Criteria Tables in **Attachment 2)**. All the new features within the reconstructed interchange described above meet or exceed the minimum design criteria, with the exception of horizontal sight distance across both the northbound and southbound I-81 bridges that span the ramp connecting to northbound BL 81. A listing of design exceptions to FHWA's ten controlling design criteria and Non-Standard Feature Justification forms are included in **Attachment 3**. All other design elements, including acceleration and deceleration lane lengths, also meet the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: The reconstructed interchange includes traffic signal replacements at two intersections, the Brighton Avenue/Relocated East Glen Avenue/I-81 southbound off-

ramp intersection and the Brighton Avenue/Rock Cut Road intersection. All approaches at the modified signalized intersections would operate at LOS D or better in the Design Year.

Travel Times: The travel time on new I-81, between existing Interchange 29 and I-690 in DeWitt, would not change. The travel time between existing Interchange 29 and Adams Street (existing Exit 18) would increase approximately 5-7 minutes, due to the portion of BL 81 that would be converted to an urban arterial. The travel time between the existing south I-81/I-481 interchange and the existing north I-81/I-481 interchange would increase by approximately 1-2 minutes along the 14.9-mile new I-81 route versus the 11.5-mile existing I-81 route.

Safety: Based on available data, fixed-object, wet-road, and nighttime crashes are high throughout the southern interchange area. Preliminary crash analysis for the I-81 segment suggests that speeding, slippery pavement, and inadequate lighting could be primary and/or contributing factors to crashes throughout the area, including along the non-standard curve located along northbound I-81 between the off-ramp and the on-ramp gores connecting to and from I-481. Sixty percent of the 20 crashes that occurred on this curve were identified to potentially be related to the curve. As described above, this non-standard horizontal curve would be corrected with the reconstruction of the I-81 mainline and interchange.

Control of Access: Under the modified interchange design, all ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-481 Interchange 1 (Proposed I-81 Interchange 83, Brighton Avenue/Rock Cut Road):** This existing partial interchange, which does not provide an on-ramp to southbound I-81, would be retained. Refer to **Figure 3-3** and drawing number SG-CG-H10-08 in **Attachment 4**. The existing interchange includes a northbound off-ramp and a northbound on-ramp and a southbound off-ramp. Preliminary concepts to add the southbound on-ramp was evaluated, but dismissed due to right-of-way impacts, geometric constraints, safety concerns and operational concerns. A southbound on-ramp would actually start about 1900 feet south of the existing off-ramp, such that traffic wanting to enter southbound I-81 would have a short weave with traffic trying to exit from southbound I-81. Additionally, the existing ramps connecting to Rock Cut Road and Brighton Avenue, primarily serve local traffic and will function more as a complement to the I-81/BL-81 interchange, rather than as an independent interchange. Without the southbound on-ramp, the southbound entrance movement is effectively mitigated by the new southbound I-81 on-ramp from Relocated East Glen Avenue which would not add any additional travel distance.

  Of the remaining movements, in the northbound direction, the existing exit ramp to Rock Cut Road and the existing entrance ramp from Rock Cut Road would not be physically modified.

The exit would be renumbered, and related interstate signing would be replaced. In the southbound direction, the existing off-ramp to Brighton Avenue would remain, with minor adjustments necessitated by the I-81 mainline realignment, as well as auxiliary lane widening at Brighton Avenue to improve intersection level of service. The existing southbound exit ramp to northbound I-81 (future BL 81) would be removed and replaced by the southbound exit to Brighton Avenue and Relocated East Glen Avenue. The existing southbound I-481 ramp to southbound I-81 would also be removed and replaced by the reconstructed southbound I-81 mainline.

Geometrics: As noted, only minor adjustments to the southbound off-ramp to Brighton Avenue would be made and all the existing and proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: As noted above, the existing signal at the termini of the southbound off-ramp to Brighton Avenue would be replaced and all movements at the intersection would operate at LOS D or better in the Design Year.

Travel Times: Vehicles traveling south on I-81 and headed north of BL 81 would experience a minor increase in travel time of approximately 1 minute. All other travel times would remain the same.

Safety: Based on available data, there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange. However, there have been 4 wrong way incidences[4] (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in Section 3.4, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. In addition, as part of the I-81 Viaduct project, the southbound off-ramp will be improved, further reducing the likelihood of wrong way incidents and crashes.

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-481 Interchange 2 (Proposed I-81 Interchange 85, Jamesville Road):** The existing interchange is a full interchange, and the interchange and associated ramps would not

[4] "Incidence" is based on a NYSDOT regional study of wrong way events that may or may not have resulted in a crash. The study has found the number of incidences that have resulted in actual wrong way crashes has been rare Data is based on calls to 911 or police agency reports of observed wrong way drivers. When notified of a wrong way driver, NYSDOT uses available cameras to look for the vehicle in question and records information from the police scanner and 911 dispatcher and if they were able to locate the vehicle with the cameras. In most instances, the vehicle is not located by TMC operators or the police. Refer to **Section 3.4** for a more detailed explanation.

be physically modified. However, the interchange would be renumbered, and related interstate signing would be replaced. Based on available data, there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange and all ramp termini meet the required offset distances to the nearest driveway. However, there have been 6 wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in Section 3.4, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524.

- **Existing I-481 Interchange 3 (Proposed I-81 Interchange 87A-B, Routes 5 and 92):** This is an existing full interchange with State Routes 5 and 92. Refer to **Figure 3-4** and drawing number SG-CG-H10-07 in **Attachment 4**. As described below, the existing crash patterns and operational issues with the existing interchange would be addressed by the proposed project. The existing southbound I-481 to eastbound NY-5/92 ramp exhibits heavy traffic congestion, which causes traffic to periodically back up and cause congestion on the interstate mainline. This congestion is one of the factors contributing to the crash rate. The primary cause of the operational issues is the ramp merges with NY-5/92. A short weaving section and 3 eastbound lanes of traffic on NY-5/92 cause the ramp traffic to back up. Following a crash study and evaluation of preliminary alternatives, the solution integrated into the alternative is to replace the existing loop ramp with a diagonal ramp that is initially combined with the existing southbound I-481 to westbound NY-5/92 ramp. The existing southbound to westbound ramp would be initially widened to a 2-lane off-ramp and as the ramp approaches NY-5/92, the ramp would be further widened to a 4-lane ramp (3 lanes destined to eastbound NY-5/92 and 1 lane destined to westbound NY-5/92). The at grade intersection of NY-5/92 with the ramp would be reconfigured to a signalized "T" intersection. Signalizing this intersection and providing a triple left turn movement would result in adequate capacity to accommodate the heavy traffic movement. Additionally, the signal would provide positive gap control, thereby addressing the crash pattern of merging traffic under the existing interchange configuration. Eastbound NY-5/92 is already 3 lanes at this location, but the lanes would be widened to accommodate the design truck vehicles navigating the triple left from each of the lanes. Once the new ramp is opened, the existing loop ramp would be removed.

  A second improvement would be the removal of an existing weaving problem by lengthening a non-conforming[5] acceleration lane. Where the existing westbound NY-5/92 to southbound

[5] A non-conforming feature is a design element that does not meet other recommended design parameters established by NYSDOT and AASHTO (such as control of access, ramp spacing, etc.), that are in addition to the ten controlling criteria as designated by FHWA

Interstate
New Ramps
Local Roads

Community Grid Alternative: Modifications to Existing I-481 from Exit 3 to I-90

AMR Figure 3-4

I-481 ramp merges with I-481, there is only 1,000 feet (1600 feet is the recommended minimum design standard) from the gore of the existing southbound I-481 to eastbound NY-5/92 ramp gore, which is non-conforming. In addition, as described above, the very heavy traffic volume on southbound I-481 trying to exit to eastbound NY-5/92 impacts traffic trying to merge onto southbound I-481. Relocating the southbound to eastbound ramp and removing the loop ramp would completely eliminate the conflict between entering and exiting traffic. Additionally, removal of the loop ramp would allow lengthening of the southbound acceleration lane to meet design standards.

The third improvement involves lengthening the existing westbound NY-5/92 to northbound I-481 ramp. The existing northbound on-ramp is a 2-lane ramp that merges with the existing 2-lane northbound I-481 mainline. Approximately 500 feet beyond the ramp gore, the outside ramp acceleration lane begins to taper away. The remaining 3-lane northbound section continues for the next mile before splitting into northbound I-481 and westbound I-690. There is no crash pattern associated with this northbound merge, but there is some congestion during the morning peak. A large percentage of the traffic entering from the ramp wants to merge left to continue onto westbound I-690, while a large percentage of the northbound I-481 traffic wants to stay in the center lane to continue on northbound I-481. The result is platoons of vehicles in the center lane and limited gaps for traffic trying to merge left. After an evaluation of alternatives, it was decided to extend the second northbound acceleration lane of the two-lane on-ramp another 2,000 feet, which would provide for an increase in merge time and distance for entering traffic. Traffic analysis of the proposed action shows a notable improvement in a segment-by-segment weave level of service (LOS) analysis.

The final improvement at this interchange would occur at the NY-5 and NY-92 intersection (Lyndon Corners), which exhibits congestion issues as well as some crash patterns. These issues would worsen with the improvements to operations at the NY-5/92/southbound I-81 off-ramp intersection. Therefore, after reviewing crash records, it was decided to add an eastbound right turn lane at the intersection to alleviate these issues. The additional right turn lane would begin approximately 600 feet west of the intersection and extend approximately 900 feet beyond the intersection to allow for merging. In addition, the existing signal would be replaced.

Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA. However, there would be a non-conforming broken back curve on the reconstructed southbound I-81 exit ramp to Route 5/92. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Capacity/Level of Service: As noted above, the capacity issues associated with the southbound I-81 to eastbound NY-5/92 would be addressed, a new signal would be constructed at the termini of the southbound off-ramp to NY-5/92, the merging issue between traffic entering and exiting southbound I-81 would be eliminated, the westbound to southbound acceleration lane would be lengthened, the westbound to northbound ramp would be lengthened, and the existing NY-5/NY-92 intersection would be improved. In addition, the other signalized intersections along the NY-5/92 corridor would be optimized. All new and existing signals would operate at a LOS D or better in the Design Year.

Travel Times: All travel times would remain the same or improve.

Safety: Based on available data, there have been no wrong way incidences at this interchange in the past three years (2017-2019). However, there are existing documented crash patterns at this interchange. Along southbound I-481, rear-end and sideswipe crashes occur approaching the interchange and continuing to the exit ramp to eastbound NY-5/92. The existing weaving condition on I-481, between the on-ramp from westbound NY-5/92 and the off-ramp to eastbound NY-5/92, contributes to congestion resulting in these crashes. A rear end crash pattern exists along both the northbound I-481 exit ramp to eastbound NY-5/92 and southbound I-481 exit ramp to westbound NY-5/92. The stop condition for the ramp approaches at their intersections with NY-5/92 creates congestion and queues on the ramp that contribute to these crashes. The proposed relocation of the southbound existing I-481 to eastbound NY-5/92 would eliminate the crash pattern resulting from the weaving condition. Additionally, by affording additional capacity for the southbound off-ramp and a new signal at the ramp intersection, which would provide positive gap control, it is expected that the rear end crashes on the ramps would be reduced.

Control of Access: All ramp termini, except for the eastbound Route 5/92 to southbound I-81 ramp would meet the required offset distances to the nearest driveway. There are existing residential and commercial driveways along the south side of Route 5/92 that are on the ramp side of the street. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements**.**

- **Existing I-481/I-690 Interchange 4 (Proposed I-81 Interchange 89, I-690):** The existing I-481/I-690 interchange and associated ramps would not be physically modified, but the interchange would be renumbered, and related interstate signing would be replaced. The Community Grid Alternative would result in increased mainline traffic on I-81, which would, without any modification, produce a degradation in the weaving LOS between existing Interchanges 4 and 5. To mitigate the impact and improve the merging LOS, a third southbound (auxiliary) lane would be constructed between the southbound I-81 on-ramp from

Kirkville Road interchange (existing Interchange 5) and the southbound I-81 off-ramp to westbound I-690 (existing Interchange 4), and a third northbound (auxiliary) lane would be constructed between the eastbound I-690 (existing Interchange 4) on-ramp to northbound I-81 and the Kirkville Road (existing Interchange 5 (refer to **Figure 3-4** and drawing number SG-CG-H10-06 in **Attachment 4**). The addition of the third lane in both directions would require the widening of the northbound and southbound bridges over the CSX railroad tracks.

Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: As noted above, with improvements, the ramp weaving LOS in both the northbound and southbound directions would operate at LOS D or better in the Design Year.

Travel Times: All travel times would remain the same or improve.

Safety: There are two locations with documented crash patterns at this interchange. Along northbound I-481, a cluster of crashes occurs prior to the exit to I-690. Slippery conditions on the overpass at this location may contribute to these crashes. Along southbound I-481, a cluster of crashes occurs on the horizontal curve in the approximate center of the interchange. A high percentage of these crashes are fixed object crashes resulting from a loss of control in adverse weather conditions. The horizontal roadway curvature and an overpass at this location may also contribute to these crashes. As noted above, no physical improvements to this interchange are proposed under this project other than replacement of signing.

Control of Access: N/A, there are no ramp termini at this interchange.

- **Existing I-481 Interchange 5 (Proposed I-81 Interchange 90A-B, Kirkville Road):** The existing I-481 interchange and associated ramps would not be physically modified, but the interchange would be renumbered, and related interstate signing would be replaced. Also, as noted above, a third (auxiliary) lane would be added in both the northbound and southbound directions between existing Interchanges 4 and 5. Similar to above, increased mainline traffic on I-81, without any modification, would produce a degradation in the weaving LOS between existing Interchanges 5 and 6 in the northbound direction. To mitigate the impact and improve the merging LOS, a third northbound (auxiliary) lane between the Kirkville Road (existing Interchange 5) northbound on-ramp and the I-90 (existing Interchange 6) northbound off-ramp would be constructed (refer to **Figure 3-4** and drawing number SG-CG-H10-06 in **Attachment 4)**.

  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: The ramp weaving LOS in both the northbound and southbound directions would operate at LOS D or better in the Design Year.

Travel Times: All travel times would remain the same or improve.

Safety: Based on available data, there have been no wrong way incidences at this interchange in the past three years (2017-2019) and the linear crash rate on this section of existing I-481 is below the statewide average. However, the crash rates on two of the ramps (the northbound off-ramp to eastbound Kirkville Road ramp and the southbound off-ramp to westbound Kirkville Road ramp) have high crash rates and are included on the Priority Investigation List (PIL). A Highway Safety Investigation (HSI) has been performed and a project initiated (D264027, PIN 3056.26) to address the crash patterns. The project letting was December 12, 2019, and work was completed in April 2020. Representative crash data is not yet available, but it is anticipated that the improvements will address the previously identified crash pattern.

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-481 Interchange 6 (Proposed I-81 Interchange 91, I-90, NYS Thruway):** The existing I-481 interchange and associated ramps would not be physically modified, but the interchange would be renumbered, and related interstate signing would be replaced. Also, as noted above, a third (auxiliary) lane would be added in the northbound direction between the Kirkville Road (existing Interchange 5) northbound on-ramp and the I-90 (existing Interchange 6) northbound off-ramp to improve the weaving LOS (refer to **Figure 3-4** and drawing number SG-CG-H10-06 in **Attachment 4**). In addition, the New York State Thruway Authority is implementing a cashless tolling project which went into effect late 2020, but there is physical work remaining which is expected to be completed in 2021. NYSDOT will continue working with the Thruway Authority and monitoring potential changes in operating speeds and safety implications that may emerge as a result of that project.

  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

  Capacity/Level of Service: The ramp weaving LOS in both the northbound and southbound directions would operate at LOS D or better in the Design Year.

  Travel Times: All travel times would remain the same or improve.

  Safety: Based on available data, there have been no wrong way incidences at this interchange in the past three years (2017-2019). However, there is a Priority Investigation Location (PIL) at this interchange as the linear crash rate on this section of existing I-481 is about 1.6 times the statewide average rate and the crash rate on the Thruway (I-90) to southbound I-481 ramp

is about 6.5 times the statewide average crash rate. A Highway Safety Investigation (HSI) has been performed and a project (D262979) was completed in 2015 to address the ramp crash patterns. This location has not shown up on either a PIL or SDL list since the 2015 project was completed.

Control of Access: N/A, there are no ramp termini at this interchange.

- **Existing I-481 Interchange 7 (Proposed I-81 Interchange 92, Route 298):** The existing interchange is a full interchange that would not be physically impacted or modified by this project, but the interchange would be renumbered, and related interstate signing would be replaced. Based on available data, there has been one wrong way incidences (resulted in a ticket being issued, but no crashes) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. There are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) along the I-481 mainline at this interchange and all ramp termini meet the required offset distances to the nearest driveway. However, there are specialty PILs along Route 298 within the interchange area for wet road and rear end crashes.

- **Existing I-481 Interchange 8 (Proposed I-81 Interchange 95, Northern Boulevard):** The existing interchange is a full interchange that would not be physically impacted or modified by this project (except for the southbound exit ramp), but the interchange would be renumbered, and related interstate signing would be replaced. The existing southbound exit ramp would be slightly modified (refer to **Figure 3-5** and drawing number SG-CG-H10-05 in **Attachment 4)** to facilitate the mainline adjustments necessitated by the reconstruction and reconfiguration of the I-481/I-81 north interchange (I-481 existing Interchange 9/I-81 existing Interchange 29).

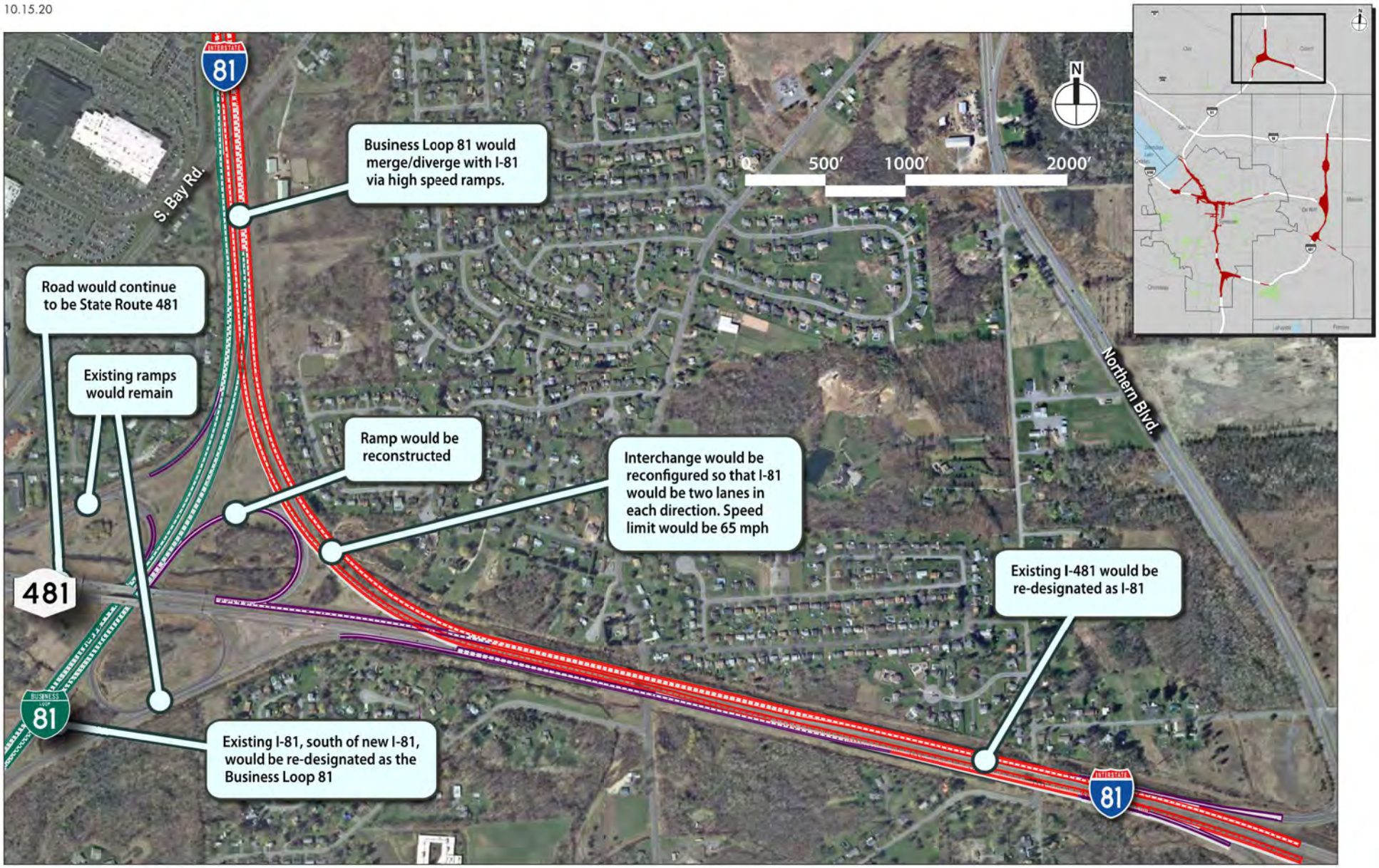
  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

  Capacity/Level of Service: The ramp weaving LOS in both the northbound and southbound directions would operate at LOS D or better in the Design Year.

  Travel Times: All travel times would remain the same or improve.

  Safety: Based on available data, there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange and all ramp termini meet the required offset distances to the nearest driveway. In addition, there have been no wrong way incidences at this interchange in the past three years (2017-2019).

10.15.20



Interstate

Business Loop 81

New Ramps

New Road

Community Grid Alternative: North Interchange of the New I-81 (formerly I-481)

I-81 Viaduct Project

AMR Figure 3-5

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-481/I-81 North Interchange 9 (Proposed I-81 Interchange 96A-B, BL 81 and NY-481):** The existing interchange would be reconstructed/reconfigured to connect the re-designated I-81 (existing I-481) with the existing northern portion of I-81 by providing two lanes in each direction in place of the existing westbound I-481 to northbound I-81 ramp and the southbound I-81 to southbound I-481 ramp. In addition, the existing northbound I-81 to northbound State Route 481 ramp would be slightly realigned. The section of existing I-81 south of this interchange would be re-designated as BL 81, and the western leg of this interchange would remain as State Route 481. Refer to **Figure 3-5** and drawing number SG-CG-H10-05 in **Attachment 4**.

  The primary movements between BL 81 and I-81 would be accommodated by high-speed splits or merges. A summary of the primary high-speed movements and proposed changes follows:

  - Northbound BL 81 to northbound I-81 – The existing alignment would be modified slightly to accommodate the new I-81 mainline alignment, and BL 81 would join I-81 through a high-speed merge.
  - Southbound I-81 to southbound BL 81 – The existing alignment would be modified slightly to accommodate the new I-81 mainline alignment, and BL 81 would diverge from I-81 through a high-speed split.
  - Southbound I-81 to southbound existing I-481 – The existing exit ramp would be removed and replaced by the reconstructed southbound I-81 mainline.
  - Northbound existing I-481 to northbound I-81 – The existing exit ramp would be removed and replaced by the reconstructed northbound I-81 mainline.
  - Northbound existing I-481 to northbound State Route 481 – The existing alignment would be modified slightly to accommodate the new I-81 mainline alignment, and northbound State Route 481 would diverge from new I-81 through a high-speed split.
  - Southbound State Route 481 to southbound I-81 (existing I-481) – The existing alignment would be modified slightly to accommodate the new I-81 mainline alignment and would merge into new southbound I-81 through a high-speed merge.

  In addition to the high-speed movements listed above, the following summarizes the planned changes to the remaining ramps.

- Northbound BL 81 to southbound I-81 (existing I-481) – The existing ramp would remain, with minor adjustments near the entrance gore to accommodate the State Route 481 mainline alignment adjustments necessitated by the conversion.
- Northbound BL 81 to northbound State Route 481 – The existing loop ramp would be realigned slightly to accommodate the I-81 mainline realignment and reconstruction.
- Southbound BL 81 to northbound State Route 481 – The existing ramp would remain, with minor adjustments near the exit gore to accommodate the BL 81 alignment adjustments necessitated by the conversion.
- Northbound I-81 (existing I-481) to southbound BL 81 – The existing ramp would remain, with minor adjustments near the entrance gore to accommodate the BL 81 mainline alignment adjustments necessitated by the conversion.
- Southbound State Route 481 to southbound BL 81 – The existing ramp would remain, with minor adjustments near the entrance gore to accommodate the BL 81 mainline alignment adjustments necessitated by the conversion.
- Southbound State Route 481 to northbound I-81 – The existing ramp would remain, with minor adjustments near the entrance gore to accommodate the BL 81 mainline alignment adjustments necessitated by the conversion.

Geometrics: The new I-81 mainline, and all the ramps, would meet the appropriate design for each of the freeway segments described above (refer to Design Criteria Tables in **Attachment 2)**. All the new features within the reconstructed interchange described above meet or exceed the minimum design criteria, with the exception of horizontal sight distance across the southbound I-81 bridge that spans northbound BL 81 and northbound State Route 481. A Non-Standard Feature Justification form is included in **Attachment 3**. All other design elements the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: All freeway segments within the interchange on I-81 would operate at LOS D or better in the Design Year, except for one location with a non-conforming LOS. The non-conforming LOS occurs along the weaving section on northbound BL 81, between the Interchange 29N (NY 481) on and off-ramps, which would operate at LOS E in the 2026 and 2056 PM peak hours. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Travel Times: All travel times would remain the same or improve.

Safety: The crash rates along all roadway segments in the existing I-81/I-481 northern interchange area are higher than the statewide averages for similar facilities. Most crashes within the interchange are attributable to a variety of factors including speeding, unsafe lane

changing, peak-hour congestion, animals in the roadway, debris in the roadway, and inclement weather conditions. Only 4 percent of the crashes (11 of 100 crashes) that occurred in areas with non-standard features were found to be, or could not be eliminated from being, attributable to non-standard features within the interchange. As described above, this section of freeway, including the interchange, would be reconstructed and most of the non-standard features would be eliminated. In addition, capacity improvements would reduce congestion related crashes. As noted in paragraph 2.2, the above crash analysis is based on 2010 to 2013 data. A review of more recent crash data (September 1, 2017 to August 30, 2020) showed similar crash numbers and patterns when compared to the 2010 to 2013 data set except for one location on northbound I-81, between the I-81 bridge over Church Street and the start of the northbound off-ramp to existing southbound I-481 (RM 3303 3052). NYSDOT has plans to conduct a separate independent safety evaluation at this location.

Control of Access: N/A, there are no ramp termini at this interchange.

3.3.2. Existing I-81 Corridor - Conversion of I-81 to Business Loop 81

As previously stated, the section of existing I-81 between the southern I-81/I-481 interchange (existing Exit 16A) and the northern I-81/I-481 interchange (existing Exit 29) would be de-designated as an interstate and re-designated as a Business Loop and interchanges within the project area would be renumbered, adopting mileage-based exit numbers. In addition, the section of freeway (existing I-81) through southwest Downtown and University Hill would be removed and Almond Street would be reconstructed. The portion of existing I-81 between I-90 and the northern existing I-81/I-481 interchange is currently part of the Strategic Highway Corridor Network (STRAHNET) 16-foot clearance route, and once converted to BL 81, this segment of freeway would remain part of the 16-foot clearance route. The implementation of the Community Gird Alternative would result in a number of changes to local roadways, highways, and highway interchanges along the existing I-81 corridor within the Project Area as described below (refer to preliminary plans in **Attachment 4**).

- **Existing I-81/I-481 South Interchange 16A (Proposed I-81 Interchange 82, BL 81):** As described above, the existing I-81/I-481 interchange would be reconstructed and reconfigured to support re-designation of I-481 as I-81 and the de-designation of I-81 between Interchanges 16A and 29 (refer to **Figure 3-3** and drawing number SG-CG-H10-08 in **Attachment 4)**. Upon de-designation, the existing segment of existing I-81 to the north would be reclassified as BL 81. The interchange design provides for the primary northbound I-81 to northbound BL 81 movement and the southbound BL 81 to southbound I-81 movement to be accommodated by high-speed splits or merges. **Section 3.3.1**, Existing I-481 Corridor, provides a full description of the interchange modification and all ramp modifications.

- **New BL 81 Interchange 1A (Relocated East Glen Avenue):** As part of the existing I-81/I-481 interchange reconfiguration, East Glen Avenue would be relocated slightly to the south and would cross over BL 81 on a new bridge, adjacent to the existing East Glen Avenue bridge over existing I-81 (refer to **Figure 3-3** and drawing number SG-CG-H10-08 in **Attachment 4)**. The interchange reconfiguration and relocation of East Glen Avenue would allow for a full diamond interchange to be constructed on BL 81 at Relocated East Glen Avenue. This interchange would improve access to and from Brighton Avenue to both BL 81 and I-81.

  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

  Capacity/Level of Service: All freeway segments in the interchange and all ramp terminal intersections would operate at LOS D or better in the Design Year.

  Travel Times: Travel times to and from destinations on Brighton Avenue would improve as a result of the new interchange.

  Safety: The new interchange would be designed in accordance with appropriate design standards. Therefore, as appropriate design features are being met, crashes are not expected to exceed statewide average crash rates for similar facilities.

  Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-81 Interchange 17 (Proposed BL 81 Interchange 1B, State Street/Salina Street/Brighton Avenue):** The existing I-81 interchange and associated ramps would not be physically modified, but the interchange would be renumbered, and related interstate signing would be replaced (refer to **Figure 3-3** and drawing number SG-CG-H10-08 in **Attachment 4)**. Based on available data, there is a specialty PIL (Priority Investigation Location) for speed related crashes along the existing I-81 mainline near this interchange. In addition, there has been one wrong way incident (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. All ramp termini meet the required offset distances to the nearest driveway except for the southbound existing I-81 to State Street off-ramp. The ramp terminates at the signalized intersection of State Street and McClure Avenue and there are residential driveways along State Street near the ramp terminus. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements**.**

- **Existing I-81 Interchange (Proposed BL 81 Interchange 2, Colvin Street):** The existing I-81 interchange contains only a northbound on-ramp. As part of the traffic calming measures implemented in this section, the speed limit on BL 81, prior to the ramp gore will be reduced to 40 mph, which will allow the ramp acceleration lane to be shortened. Additionally, a new northbound off-ramp to Colvin Street would be constructed and a new traffic signal would be installed on Colvin Street at the intersection with the ramps (refer to **Figure 3-6** and drawing number SG-CG-H10-01 in **Attachment 4)**. Due to the close proximity of the existing I-81 bridge over Colvin Street on the west side of the intersection, and the existing railroad bridge on the east side of the intersection, the traffic signal system will need to be designed to ensure adequate visibility. This may include mounting the signal heads horizontally, ground mounted signals, advance warning on either side of the bridges, etc.). The new northbound off-ramp would improve access to the south side of the Syracuse University campus, which would help reduce the traffic farther north on Almond Street and provide an overall operational benefit to the Almond Street corridor. Provisions for southbound off- and on-ramps were evaluated but dismissed due to right-of-way and building impacts. The southbound exit and entrance ramp movements would be accommodated by the existing southbound exit and entrance ramps to State Street/Salina Street (proposed BL 81 Interchange 1B). Appropriate signing would be included. In addition, the interchange would be renumbered, and related interstate signing would be replaced.

  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA.

  Capacity/Level of Service: All freeway segments and ramp terminal intersections in the interchange would operate at LOS D or better in the Design Year.

  Travel Times: Travel times on the freeway section would remain the same. Travel times to Colvin Street from northbound BL 81 would improve as a result of the new exit ramp.

  Safety: Based on available data, there is a specialty PIL (Priority Investigation Location) for speed related crashes along the existing I-81 mainline near this interchange. There have been no wrong way incidences at this interchange in the past three years (2017-2019).

  Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-81 Interchange 18 (Adams/Harrison Street):** The existing I-81 interchange and associated ramps would be removed and replaced by the at grade BL 81 (refer to drawing number SG-CG-H10-01 in **Attachment 4)**.

10.25.21

Community Grid Alternative:
Colvin Street to Butternut Street

AMR Figure 3-6

- **Existing I-81 freeway between Colvin Street and I-690:** As described above, this section of I-81 between Colvin Street and I-690 would transition from a freeway to an urban arterial (refer to **Figure 3-6** and drawing number SG-CG-H10-01 in **Attachment 4)**. Between Colvin Street and approximately 400 feet south of Dr. Martin Luther King, Jr. East (MLK, Jr. East), the freeway would transition to an urban arterial, where motorists would gradually slow down, as they travel from the freeway to a city street. Speed reduction and traffic calming measures would be implemented on BL 81 between Colvin Street and approximately 400 feet south of MLK, Jr. East to encourage motorists to reduce speeds from 55mph to 30 mph. These measures include gradually reduced posted speed limits, initially from 55 mph to 40 mph, and then from 40 mph to 30 mph, and physical alterations to BL 81, such as fewer lanes, narrowed shoulders, roadway curves, curbing and landscaped median. Both northbound and southbound BL 81 would transition from three lanes to two lanes north of Colvin Street. Lane reduction would be accomplished by removing the median side travel lane in each direction, which would result in ample space within the median area to introduce urban landscaping treatments and other visual cues to further convey to motorists that they are transitioning from a freeway to a city street and vice versa. BL 81 would continue as a 30 mph city street, follow the alignment of Renwick Avenue and pass beneath the NYS&W Railway bridge, returning to grade at Van Buren Street. Traffic from the south destined for University Hill would travel along BL 81 and then turn right at Van Buren Street, where a new roundabout would be constructed, and which would serve as the main entrance from the south to University Hill. Between Van Buren Street and Erie Boulevard, Almond Street would be reconstructed and reclassified as a Qualifying Access Highway, and most of the intersections would be signalized. By design, access to and from the interstate system would change upon removal of the viaduct and the existing I-81 Interchange 18. Traffic would be dispersed on the local street grid and motorists would access the interstate at other new or reconstructed interchanges on I-690 and the northern segment of existing I-81. BL 81 would then follow Erie Boulevard to Oswego Boulevard. Pearl Street would be extended to Erie Boulevard and serve as northbound BL 81, and Oswego Boulevard would serve as southbound BL 81. The Pearl Street segment of northbound BL 81 would convert to a 2-lane northbound on-ramp to the northern freeway section of BL 81. The Oswego Boulevard segment of southbound BL 81 would be extended one block from James Street to East Willow Street, where it would meet the new southbound off-ramp from the northern freeway section of BL 81.

  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA. However, there is a short tangent section between two horizontal curves in both the northbound and southbound directions, in the vicinity of Colvin Street

which has been identified as non-conforming broken back curves. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Capacity/Level of Service: All at grade intersections within this segment would operate at LOS D or better in the Design Year.

Travel Times: Depending on the origin and destination, some travel times would remain the same and some would increase up to 5-7 minutes.

Safety: Based on the available data, a substantial number of crashes occurs on existing I-81 between MLK, Jr. East and I-690. The many nonstandard features in this segment may have contributed to almost half of the crashes. As noted, this freeway segment would be removed as part of the Community Grid Alternative, eliminating all of the associated non-standard features. This is expected to reduce the number of crashes.

Control of Access: The transitional section, from freeway to city street, would remain without access. North of the NYS&W Railway, access would be primarily provided at the cross street intersections. Along the Almond Street and Erie Boulevard segments of BL 81, access between cross street intersections would be limited to existing driveways, that if closed would require the full acquisition of the property.

- **Existing I-81/I-690 Interchange (Proposed BL 81 Interchange 4, I-690):** The existing I-81/I-690 interchange would be reconstructed and reconfigured to accommodate the removal of the existing I-81 viaduct to the south, the conversion of I-81 to BL 81, and other ramp and access modifications adjacent to the interchange area (refer to **Figure 3-6** and drawing numbers SG-CG-H10-02 and 02A in **Attachment 4)**. The portion of existing I-81 north of the interchange would remain a freeway but be re-designated a part of BL 81. The following describes the proposed changes at this interchange:
    - Northbound existing I-81 to eastbound I-690 – With de-designation of I-81 and the removal of the viaduct, the existing ramp would be removed. Long distance interstate traffic would travel on the new I-81 (existing I-481) as described above. Local traffic on BL 81 wanting to travel east would enter I-690 at the new Crouse Avenue-Irving Avenue interchange (refer to description below under **Section 3.3.3**, I-690 Corridor).
    - Northbound existing I-81 to westbound I-690 – With de-designation of I-81 and the removal of the viaduct, the existing ramp would be removed. Long distance interstate traffic would travel on the new I-81 (existing I-481) and would utilize existing I-481 Interchange 4 as described above. Local traffic on BL 81 wanting to travel west would enter I-690 at either the new Crouse Avenue-Irving Avenue

interchange or the reconfigured West Street interchange (refer to description below under **Section 3.3.3**, I-690 Corridor).

- Southbound existing I-81 to eastbound I-690 – This remains a freeway (BL 81) to freeway (I-690) connection. The existing ramp would be reconstructed and realigned as part of the interchange reconfiguration and would meet all relevant design criteria, including standard shoulders, longer acceleration and deceleration lanes, and improved stopping sight distance.
- Southbound existing I-81 to westbound I-690 – This movement is not provided under the existing interchange configuration and would not be provided under the Community Grid Alternative. An evaluation of a new ramp at this location was conducted (refer to **Attachment 1**) and it was eliminated from further consideration. However, as a result of the de-designation of I-81 and re-designation of I-481 as the new I-81, long distance travelers on new I-81 would be directed to utilize existing I-481 Interchange 4 to access westbound I-690 as described above. Local southbound traffic on BL 81 wanting to go west on I-690 would continue to use the same route that is currently being used; motorists would exit southbound BL 81 to Bear Street and follow Bear Street to the westbound I-690 on-ramp (refer to **Section 3.3.3**, I-690 Corridor, description below).
- Eastbound I-690 to northbound existing I-81 – This movement is not provided under the existing interchange configuration and would not be provided under the Community Grid Alternative. An evaluation of a new ramp at this location was conducted (refer to **Attachment 1**) and it was eliminated from further consideration. However, as a result of the de-designation of I-81 and re-designation of I-481 as the new I-81, long distance travelers would be directed to stay on eastbound I-690 and utilize existing I-481 Interchange 4 to access northbound I-81 as described above. Local traffic on eastbound I-690 wanting to access northbound BL 81 would follow the same route as they do today, which is to exit eastbound I-690 at Bear Street, follow Bear Street to North Clinton Street and Court Street, then utilize the reconstructed Court Street ramp to enter northbound BL 81. Refer to the BL 81/Court Street interchange description below and to **Section 3.3.3,** I-690 Corridor, for the I-690/Bear Street interchange description.
- Eastbound I-690 to southbound existing I-81 – With de-designation of I-81 and the removal of the viaduct, the existing ramp would be removed. However, as a result of the re-designation of I-481 as the new I-81, long distance travelers would be directed to stay on eastbound I-690 and utilize existing I-481 Interchange 4 to access southbound I-81 as described above. Local traffic on eastbound I-690

wanting to access southbound BL 81 would utilize the new off-ramp to Irving Avenue, then follow Erie Boulevard to Almond Street.

- Westbound I-690 to northbound existing I-81 – This remains a freeway (I-690) to freeway (BL 81) connection. The existing ramp would be reconstructed and realigned as part of the interchange reconfiguration and would meet all relevant design criteria, including standard shoulders, longer acceleration and deceleration lanes, and improved stopping sight distance.
- Westbound I-690 to southbound existing I-81 – Travelers from the eastern suburbs would no longer need to utilize westbound I-690 to reach southbound I-81, they would simply access new I-81.

Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA. However, there would be a non-conforming ramp spacing between the westbound I-690 on-ramp from Irving Avenue and the westbound I-690 off-ramp to northbound BL 81. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Capacity/Level of Service: All freeway segments and ramp terminal intersections would operate at LOS D or better in the Design Year.

Travel Times: Depending on the origin and destination, most travel times would remain the same or would increase or decrease slightly with differences typically less than one minute. Long distance travelers on either I-690 or I-81 would see little change in travel times. Some regional travels times, such as from Lafayette to Fairmount, or Baldwinsville to Lafayette, would see travel times increase by 4 to 5 minutes. Refer to **Tables 5-47** and **5-49** in Chapter 5 of the FDR/FEIS for more information.

Safety: A high number of crashes occurs within this interchange, especially fixed object, rear-end, and sideswipe crashes that are indicative of congested conditions and nonstandard features such as curves and ramp spacing. Almost half of crashes within the segment are related to the nonstandard features. In addition, adverse weather conditions may have contributed to many of the fixed object crashes. As noted, the southern leg of existing I-81 would be removed and the interchange would be reconstructed, eliminating all of the associated non-standard features. This is expected to reduce the number of crashes.

Control of Access: There are no ramp termini associated with the two freeway to freeway connecting ramps. For other ramps in the vicinity, refer to the following discussion.

- **Existing I-81 Northern Segment freeway, between I-690 Interchange and Existing I-81 Interchange 29:** As described earlier, the section of existing I-81 between I-690 and its northern interchange with I-481 (existing Exit 29) would be de-designated as an interstate and

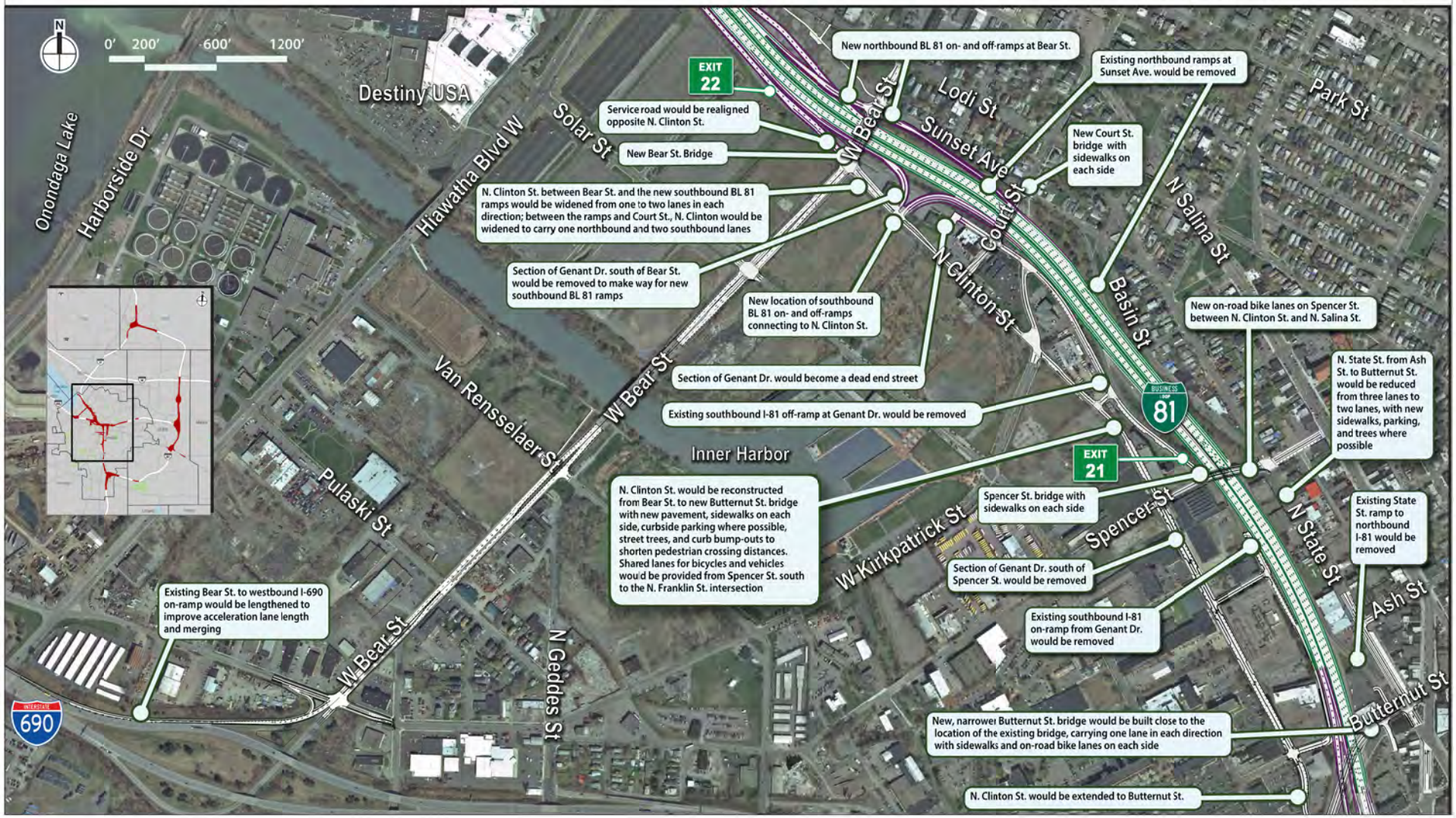
re-designated as a Business Loop (BL 81). In addition, several physical improvements would be made to the existing I-81 northern segment between I-690 and Old Liverpool Road (existing Interchange 24) to address existing operational and safety considerations (refer to **Figure 3-7, Figure 3-8** and drawing numbers SG-CG-H10-02 and 04 in **Attachment 4)**. There would be no mainline modifications other than re-signing between existing Interchanges 24 and 29. The following summarizes the planned highway modifications proposed for this section (refer to subsequent paragraphs for interchange modifications).

- Route Re-Designation: As stated earlier, this section would be de-designated as an interstate and re-designated as a Business Loop. All interchanges would be renumbered, and all associated interstate signing would be replaced.
- Existing I-81 Mainline: The existing I-81 mainline between I-690 and Hiawatha Boulevard is winding, with several non-standard and non-conforming elements. While the profile of the interstate would remain essentially the same, the horizontal geometry would be improved such that it meets 60 mph design standards. In addition, an additional travel lane in the northbound direction would be added to the existing 6 lane section (3 travel lanes in each direction), resulting in a 7-lane section (4 northbound travel lanes and 3 southbound travel lanes) between I-690 and Hiawatha Boulevard to improve capacity and traffic operations. Several non-standard highway features, such as narrow shoulders, tight curves, and reduced sight distance, also would be corrected. To accommodate the wider freeway section and correct the non-standard and non-conforming features, a short segment of Genant Drive on the west side of I-81 would be closed on the south side of Spencer Street.

  Geometrics: All proposed modifications meet or exceed the ten controlling design criteria as designated by FHWA, except for the median shoulder width which is non-standard. Because this segment contains six or more lanes, the minimum median shoulder width is 10 feet. Through an engineering analysis, it was determined that the median side shoulders could be widened to a minimum of 7 feet but widening to 10 feet would substantially increase right-of-way costs, including building acquisitions. It was also determined that there was no crash history associated with the narrow shoulders in this section, therefore retention of this non-standard feature is recommended. In addition, there is a short tangent section between two horizontal curves in both the northbound and southbound BL 81 segments between Bear Street and Hiawatha Boulevard which has been identified as non-conforming broken back curves. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

10.15.20

See Figure 3-8 *for Bear Street to Hiawatha Boulevard*



Buiness Locp 81

New Ramps

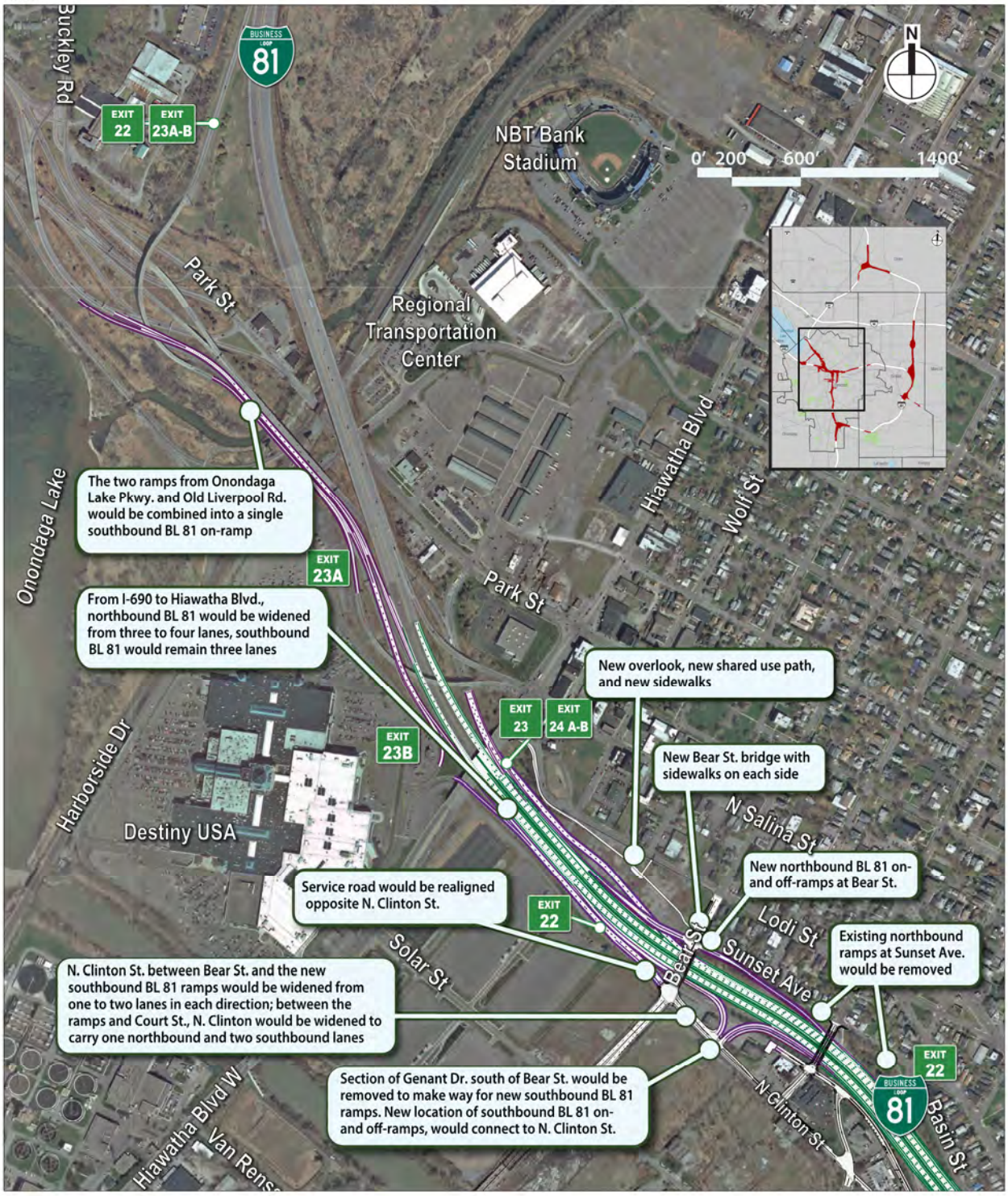
Local Road

I-81 Viaduct Project

Community Grid Alternative:
Butternut Street to Bear Street

AMR Figure 3-7

10.15.20



Community Grid Alternative Overview:
Bear Street to Hiawatha Boulevard

Capacity/Level of Service: All freeway segments within this corridor would operate at LOS D or better in the Design Year.

Travel Times: Travel times would be reduced by up to 3 minutes as a result of the operational and capacity improvements.

Safety: Based on the available data, existing crash rates between I-690 and Hiawatha Boulevard are substantially higher than the statewide rates for a similar facility. During the morning peak period, congestion along southbound I-81 contributes to crashes in this direction. In addition, numerous nonstandard features from I-690 to Court Street in each direction contribute to crashes. North of Hiawatha Boulevard, no significant crash patterns exist. As described above, this section of freeway would be reconstructed and all of the non-conforming ramp lengths and spacing, and most of the non-standard features, would be eliminated. In addition, capacity improvements are expected to reduce congestion related crashes.

Control of Access: Access along the mainline would be fully controlled. Refer to the following descriptions of the interchanges for control of access at ramp termini.

- **Existing I-81 Interchange 19 (Clinton Street/Salina Street) and Interchange 20 (Franklin Street/West Street/Butternut Street) - Proposed BL 81 Interchange 4:** Existing I-81 Interchanges 19 and 20, both partial interchanges, would be combined into a single interchange to reduce the number of conflict points and address existing non-conforming ramp lengths and ramp spacing issues (refer to **Figure 3-6** and drawing numbers SG-CG-H10-02 and 02A in **Attachment 4)**. Eliminating the southbound on-ramp and combining the southbound off-ramps would eliminate adjacent weaving sections and short auxiliary lanes, which are a major contributor to the crash patterns in this area. In the southbound direction, the existing southbound entrance from Genant Drive would be closed. The existing southbound exit to Franklin Street/West Street/Butternut Street (existing Interchange 20) and the existing southbound exit to Clinton Street/Salina Street (existing Interchange 19) would be consolidated into a single southbound exit. The reconstructed southbound exit ramp would split, with one branch connecting to Clinton Street and one branch connecting to Oswego Boulevard. Southbound BL 81 would follow the exit ramp to Oswego Boulevard and Oswego Boulevard would be extended along its historic alignment to connect East Willow Street to James Street and Erie Boulevard, forming additional signalized intersections that provide redundancy and improved local street grid connectivity. The Clinton Street ramp would terminate at the signalized intersection of Clinton Street and Herald Place.

The Oswego Boulevard ramp would terminate at the signalized intersection of East Willow Street and Oswego Boulevard.

In the northbound direction, the existing on-ramp from Pearl Street (existing Interchange 19) and the existing on-ramp from Butternut Street/State Street (existing Interchange 20) would be consolidated into a single, two-lane on-ramp at the existing Pearl Street ramp location. In addition, Pearl Street would be extended south from East Willow Street to Erie Boulevard along its historic alignment, which would improve local street connectivity to the northbound entrance ramp. Northbound BL 81 would follow the Pearl Street extension and the two-lane northbound on-ramp to the northbound freeway section of BL 81. The two-lane on-ramp from Pearl Street and the 2-lane connector ramp from westbound I-690 would form the four-lane northbound BL 81 section, which would continue to Hiawatha Boulevard. This configuration would eliminate the auxiliary lane drops that are a major contributor to the crash patterns in this area.

Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: The freeway segments and ramp terminal intersections in this interchange would operate at LOS D or better in the Design Year.

Travel Times: Depending on the origin and destination, travel times would remain the same, increase slightly, or decrease slightly with differences typically less than 1 minute.

Safety: Based on the available data, crash rates in both directions are higher than the statewide average crash rates for a similar facility; the northbound crash rate is significantly higher. Rear end and sideswipe crashes are prevalent in this section in both directions. Nonstandard features in both directions contribute to these crashes, and in the southbound direction congestion further contributes to crashes. As described above, this section of freeway would be reconstructed. As a result, all of the non-conforming ramp lengths and spacing, and most of the non-standard features, would be eliminated. In addition, capacity improvements are expected to reduce congestion related crashes.

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway, except for the southbound off-ramp to Oswego Boulevard and the northbound entrance ramp at Pearl Street. There is a private driveway on East Willow Street that would be 70 feet from the new southbound ramp termini, and there is a private driveway on the opposite side of Pearl Street at the entrance ramp location. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

- **Existing I-81 Interchange 21 (Spencer Street/Catawba Street) and Interchange 22 (Route 298, Court Street, Bear Street) - Proposed BL 81 Interchange 5:** Existing I-81 Interchange 21 is a partial interchange, and existing Interchange 22 is a full interchange; however, the ramp entrance and exit points are separated by up to 1.5 miles. The various ramps within the Bear Street/Court Street area would be combined into a single full interchange at Bear Street. In the southbound direction, the existing southbound entrance from Genant Drive and the existing southbound exit ramp to Genant Drive (existing Exit 21) would be consolidated and connect to North Clinton Street, at a single location, just south of Bear Street (refer to **Figure 3-7** and drawing numbers SG-CG-H10-02 and 04 in **Attachment 4)**. This modification would remove the existing non-conforming ramp spacing between the entrance and exit ramps and improve connectivity to the city street grid. In addition, the existing southbound I-81 exit to Bear Street (existing Exit 22) would be renumbered to be associated with the existing southbound Exit 23 ramp (proposed BL 81 Interchange 6A, 6B and 6C). Refer to more detailed description below.

  In the northbound direction, the existing exit ramp to Sunset Avenue/Route 298/Court Street and the existing entrance ramp from Sunset Avenue/Court Street to northbound existing I-81 (existing Interchange 22) would be relocated approximately 1,000 feet to the north, and connect directly to Bear Street rather than to Sunset Avenue near Court Street, which is a residential street. Both the new on- and off-ramps connecting to Bear Street would meet current design standards. Also, the northbound on-ramp from Bear Street would pass over the northbound off-ramp to Hiawatha Boulevard/Park Street, which eliminates an existing weaving segment that currently experiences congestion.

  Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA, except for the horizontal curve on the southbound off-ramp to North Clinton Street. Refer to the Non-Standard Feature Justification form in **Attachment 3**.

  Capacity/Level of Service: All freeway segments and ramp terminal intersections within the interchange would operate at LOS D or better in the Design Year.

  Travel Times: Travel times would generally improve, particularly in the morning peak hour in the southbound direction, as a result of these modifications.

  Safety: Based on the available data, a series of curves through this interchange contributes to crashes in this segment. Other nonstandard features further contribute to crashes. Specifically, nonstandard ramp spacing could create congested conditions that result in fixed object, rear-end, and sideswipe crashes. In the southbound direction, congestion may further contribute to crashes. Adverse weather conditions also contribute to a substantial number of fixed object

crashes. A fatal southbound run off the road crash occurred in this segment; however, roadway features where not the primary contributing factor in this crash. As described above, this section of freeway would be reconstructed and all of the non-conforming ramp lengths and spacing, and most of the non-standard features, would be eliminated. In addition, capacity improvements are expected to reduce congestion related crashes.

Control of Access: The southbound ramp termini would meet the required offset distances to the nearest driveway. However, there are existing residential driveways along the south side of Bears Street, just east of Sunset Avenue, that are within the recommended offset from both the northbound off-ramp termini and northbound on-ramp termini. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

- **Existing I-81 Interchange 23 (Proposed BL 81 Interchange 6A, Hiawatha Boulevard, Park Street, Bear Street)**: Existing I-81 Interchange 23 is a partial interchange that would be adjusted slightly to accommodate the mainline widening work. It would otherwise retain its current configuration and remain a partial interchange (lacking a southbound entrance ramp). In the southbound direction, the existing southbound exit ramp diverges from I-81 approximately 5,000 feet north of Hiawatha Boulevard and branches out multiple times to connect to several local streets (refer to **Figure 3-8** and drawing number SG-CG-H10- 04 in **Attachment 4)**. In addition, southbound Onondaga Lake Parkway and Old Liverpool Road merge into the ramp prior to any of the termination points (also see existing Interchange 24 description). The existing southbound ramp termination points include Bear Street (existing Exit 22), Hiawatha Boulevard (existing Exit 23A), and Destiny USA Drive (existing Exit 23B). The existing southbound off-ramp to Bear Street splits from existing I-81 nearly 2 miles north of the other existing Interchange 22 ramps and begins as a common ramp with existing Interchange 23. To improve wayfinding, the off-ramps to Hiawatha Boulevard, Destiny USA Drive, and Bear Street would be renumbered as Exits 6A, 6B, and 6C. The existing southbound ramp would be modified only slightly to accommodate the mainline work and the ramp consolidation work associated with existing Interchange 24 (see description below). This interchange does not contain a southbound entrance ramp, which would not be addressed by this project. Instead, the southbound entrance ramp movement would be accommodated by the new southbound entrance ramp from North Clinton Street (proposed BL 81 Interchange 5). Accessing the southbound ramp at N. Clinton Street, rather than from a theoretical Hiawatha Boulevard location adds less than 0.4 miles to the travel distance.

  In the northbound direction, the existing off-ramp to Hiawatha Boulevard/Park Street would remain as is with only minor modifications to accommodate the mainline widening improvements. The existing northbound on-ramp from Hiawatha Boulevard would remain as is with no planned work or modifications.

Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: All freeway segments and ramp terminal intersections in the interchange would operate at LOS D or better in the Design Year.

Travel Times: Travel times would not change as a result of these modifications.

Safety: Based on the available data, documented rear end and sideswipe crashes in the southbound direction are indicative of congested conditions. Rear end, sideswipe, and fixed object crashes also occur in the northbound direction. Friction between motorists entering from the Court Street interchange and motorists exiting to Hiawatha Boulevard could contribute to crashes. Other crashes do not form significant patterns. As described above, this section of freeway would be reconstructed, and capacity improvements are expected to reduce congestion related crashes. In addition, there has been one wrong way incident (which was observed, there were no crashes and no tickets issued) on the southbound off-ramp and two wrong way incidences on the northbound off-ramp at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. In addition, as part of the I-81 Viaduct project, the southbound off-ramp will be improved, further reducing the likelihood of wrong way incidents and crashes.

Control of Access: At the intersection of the southbound off-ramp and northbound on-ramp with Hiawatha Boulevard, there are no driveways within the required offset distances in three of the four quadrants of the intersection, but there is a commercial driveway opening along Hiawatha Boulevard in the northeast quadrant of the interchange. At the intersection of the northbound off-ramp and Park Street, there are no driveways within the required offset distances in three of the four quadrants of the intersection, but there are two commercial driveway openings along Park Street in the southeast quadrant of the interchange. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

- **Existing I-81 Interchange 24 (Proposed BL 81 Interchange 6B and 6C, Onondaga Lake Parkway, Old Liverpool Road):** Existing I-81 Interchange 24 is a partial interchange that would be adjusted slightly to accommodate the mainline widening work. While some ramp consolidation improvements would occur, the interchange would retain its current configuration and remain a partial interchange. In the southbound direction, the Route 370 (Onondaga Lake Parkway) and Old Liverpool Road on-ramp to southbound BL 81 would be consolidated into a single southbound BL 81 entrance ramp (refer to **Figure 3-8** and drawing number SG-CG-H10-04 in **Attachment 4)**. Currently, the ramps parallel each other but are separated by a barrier. The existing barrier location means that the Old Liverpool Road ramp

can access only southbound BL 81 and the existing Onondaga Lake Parkway ramp is allowed to mix with the southbound BL 81 exit ramp leading to existing Exits 22, 23A, and 23B. A secondary ramp would allow Onondaga Lake Parkway traffic as well as southbound BL 81 traffic to merge left to access southbound BL 81. The project includes removing the barrier separating the Old Liverpool Road ramp and the Onondaga Lake Parkway ramp, so the two ramps would merge together prior to accessing southbound BL 81 on a single, combined southbound BL 81 entrance ramp. To further reduce weaving, a new barrier would be installed between the Onondaga Lake Parkway/Old Liverpool Road ramp and the southbound BL 81 exit ramp. This barrier would prevent Onondaga Lake Parkway traffic from a short merge right to access Hiawatha Boulevard via existing Exit 23A (proposed BL 81 Exit 6A) and prevent southbound BL 81 traffic from a short merge left to try and re-enter southbound BL 81. Once past the existing Exit 23 gore area, a connection ramp would allow traffic on the Onondaga Lake Parkway/Old Liverpool Road ramp side of the barrier to merge right and access BL 81 Exits 6B and 6C. This interchange does not contain a southbound BL 81 exit ramp, which would not be addressed by this project. The southbound exit ramp movement would be accommodated by the existing southbound exit ramp to Park Street/Hiawatha Boulevard (proposed BL 81 Interchange 6A). Accessing Onondaga Lake Parkway/Old Liverpool Road from Hiawatha Boulevard/Park Street, rather than directly from southbound I-81 adds less than 1.2 miles to the travel distance.

In the northbound direction, a single exit ramp begins as a combined ramp with the northbound existing Interchange 23 ramp (see description above), and then splits. One branch becomes existing Exit 23 (see discussion above), one branch splits to become the existing Exit 24A ramp (Route 370, Onondaga Lake Parkway), and the other branch becomes the existing Exit 24B ramp (Old Liverpool Road). This ramp would remain unchanged except for minor adjustments near the exit ramp gore to accommodate the mainline widening improvements. This interchange does not contain a northbound BL 81 entrance ramp, which would not be addressed by this project. Instead, the northbound entrance ramp movement would be accommodated by the existing northbound entrance ramp from Hiawatha Boulevard (proposed BL 81 Interchange 6A). Similar to above, accessing northbound BL 81 from Onondaga Lake Parkway/Old Liverpool Road via Hiawatha Boulevard/Park Street, rather than directly from southbound Onondaga Lake Parkway/Old Liverpool Road, adds less than 1.2 miles to the travel distance.

Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: All freeway segments and ramp terminal intersections in the interchange would operate at LOS D or better in the Design Year.

Travel Times: Travel times would not change as a result of these modifications.

Safety: Based on the available data, documented crashes in the southbound direction are indicative of congested conditions, with a higher frequency of rear end and sideswipe crashes. Other crashes do not form significant patterns. As described above, the two-existing southbound on-ramps would be consolidated into a single on-ramp and capacity improvements are expected to reduce congestion related crashes. In addition, there has been one wrong way incident on the northbound off-ramp and two wrong way incidences on the northbound off-ramp (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in Section 3.4, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524.

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-81 Interchanges 25 (Proposed BL 81 Interchanges 7, 7th North Street):** Existing I-81 Interchanges 25 is a full interchange that would not be physically impacted or modified by this project. Changes would be limited to renumbering of exits and sign replacement associated with the re-designation as BL 81. Based on available data, there are specialty PILs (Priority Investigation Locations) for speed and aggressive driving related crashes along the existing I-81 mainline near this interchange. In addition, there have been seven wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. All ramp termini meet the required offset distances to the nearest driveway except at one location in the northwest quadrant of the intersection between 7th North Street and the southbound ramps. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements**.**

- **Existing I-81 Interchanges 25A (Proposed BL 81 Interchanges 8, I-90, NYS Thruway):** Existing I-81 Interchanges 25 through 28 are all full interchanges that would not be physically impacted or modified by this project. Changes would be limited to renumbering of exits and sign replacement associated with the re-designation as BL 81. Based on available data, there are specialty PILs (Priority Investigation Locations) for aggressive driving and snow/ice/slush related crashes along the existing I-81 mainline near this interchange. In addition, there have been two wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on

interchange ramps. This interchange was included in D264524. As this interchange is a freeway to freeway connection, there are no access control issues.

- **Existing I-81 Interchanges 26 (Proposed BL 81 Interchanges 9, NY-11):** Existing I-81 Interchanges 25 through 28 are all full interchanges that would not be physically impacted or modified by this project. Changes would be limited to renumbering of exits and sign replacement associated with the re-designation as BL 81. Based on available data, there are specialty PILs (Priority Investigation Locations) for fixed object/run of the road crashes and rear end crashes along the existing I-81 mainline near this interchange and there are specialty PILs along Route 11, within the interchange area. A Highway Safety Investigation (HSI) is being conducted as part of a separate study. In addition, there have been three wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. All ramp termini meet the required offset distances to the nearest driveway except at two locations. One location is at the terminus of the northbound off-ramp where it merges with southbound Route 11 and the other is on northbound Route 11, near the start of the northbound on-ramp to existing I-81. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements**.**

- **Existing I-81 Interchanges 27 (Proposed BL 81 Interchanges 10, Airport Boulevard):** Existing I-81 Interchanges 25 through 28 are all full interchanges that would not be physically impacted or modified by this project. Changes would be limited to renumbering of exits and sign replacement associated with the re-designation as BL 81. Based on available data, there have been no wrong way incidences at this interchange in the past three years (2017-2019) and there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange. In addition, all ramp termini meet the required offset distances to the nearest driveway.

- **Existing I-81 Interchanges 28 (Proposed BL 81 Interchanges 11, Taft Road):** Existing I-81 Interchanges 25 through 28 are all full interchanges that would not be physically impacted or modified by this project. Changes would be limited to renumbering of exits and sign replacement associated with the re-designation as BL 81. Based on available data, there is a specialty PIL (Priority Investigation Location) for speed related crashes along the existing I-81 mainline near this interchange. However, there have been no wrong way incidences at this interchange in the past three years (2017-2019) and all ramp termini meet the required offset distances to the nearest driveway.

- **Existing I-81 Interchange 29 (Proposed BL 81 Interchange 12A-B, NY-481/I-81):** This interchange would be reconstructed and reconfigured to connect the re-designated BL 81 (existing I-81) with new I-81 and existing NY-481 (refer to **Figure 3-5** and drawing number SG-CG-H10-05 in **Attachment 4)**. As discussed, the segment of existing I-81 to the south would be re-designated as BL 81 and State Route 481 would remain integrated into this interchange. For more detailed description of each ramp at this interchange, refer to the above discussion of existing I-481 Interchange 9 under **Section 3.3.1.,** Existing I-481 Corridor.

3.3.3. I-690 Corridor

As previously stated, I-690 between Leavenworth Avenue and Beech Street would be reconstructed and interchanges within the project area would be renumbered, adopting mileage-based exit numbers as part of the project. In addition, the existing I-690 Interchange 9 at Bear Street would be improved. The implementation of the Community Gird Alternative would result in several changes to local roadways, highways, and highway interchanges along the existing I-690 corridor within the Project Area as described below (refer to preliminary plans in **Attachment 4**).

- **Existing I-690 Interchange 9 (Proposed I-690 Interchange 14B, Bear Street):** Existing I-690 Interchange 9 is a partial interchange that would retain its current configuration and remain a partial interchange. The work that would be included in this project is limited to extending the westbound on-ramp acceleration lane to improve the merging LOS (refer to **Figure 3-7** and drawing number SG-CG-H10-03 in **Attachment 4)**. The project does not include any mainline paving or reconstruction work. The existing interchange includes a westbound on-ramp and an eastbound off-ramp. Converting this interchange to a full interchange would require substantial reconstruction and reconfiguration of the interchange. Construction of an eastbound on-ramp would require reconfiguring the existing eastbound off-ramp, widening of two bridges (I-690 over Liberty Street and I-690 over Geddes Street) as well as mainline widening, and would result in a ramp spacing of only 1500 feet with the existing eastbound on-ramp at Geddes Street. Construction of a new westbound off-ramp would similarly require widening of two bridges (I-690 over Liberty Street and I-690 over Geddes Street) as well as mainline widening and would result in a ramp spacing of only 1500 feet with the existing westbound off-ramp at Geddes Street. In addition, construction of the ramps would potentially increase right-of-way impacts to several properties which are adjacent to this segment of I-690. As there is no crash pattern associated with the existing partial interchange and the missing eastbound on, and westbound off movements are adequately provided by the partial interchange at Geddes Street, converting this interchange to a full interchange is not recommended.

As noted, in leu of constructing the missing ramps, westbound traffic wanting to exit to Bear Street would exit at Geddes Street (which is only 1,600 feet east of Bear Street) to access Bear Street. Traffic on Bear Street wanting to access eastbound I-690 would similarly utilize the eastbound on-ramp at Geddes Street. There would be no reduction in travel distance if a traveler could access Bear Street directly from westbound I-690, rather than from the existing westbound exit at Geddes Street. Similarly, accessing eastbound I-690 from the existing on-ramp at Geddes Street is slightly shorter travel distance than it would be if it were feasible to add a new eastbound on-ramp at Bear Street.

Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA.

Capacity/Level of Service: All freeway segments and ramp terminal intersections in the interchange would operate at LOS D or better in the Design Year.

Travel Times: Travel times would not change as a result of these modifications.

Safety: Based on available data, there are no PIL (Priority Investigation Locations) or HAL (High Accident Locations) at this interchange. However, there have been three wrong way incidences (two of which were observed only, one of which resulted in a two car crash and a ticket being issued) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. In addition, as part of the I-81 Viaduct project, the on-/off-ramp intersection with Bear Street and Spencer Street will be improved, further reducing the likelihood of wrong way incidents and crashes.

Control of Access: The existing ramp terminates at the signalized intersection of Bear Street and Spencer Street., where there are commercial driveways on both approaches from Spencer Street within close proximity to the intersection. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

- **Existing I-690 Interchange 10 (Proposed I-690 Interchange 14B, Geddes Street):** Existing I-690 Interchange 10 is a partial interchange that would retain its current configuration and remain a partial interchange. The planned work at this interchange is limited to resigning (refer to drawing number SG-CG-H10-03 in **Attachment 4)**. The project does not include any mainline paving or reconstruction work. The existing interchange includes an eastbound on-ramp and a westbound off-ramp. Construction of an eastbound off-ramp would require widening of the I-690 over Liberty Street bridge as well as mainline widening. A new ramp would result in a ramp spacing of only 1500 feet with the existing eastbound off-ramp at Bear Street. In addition, there is an existing city street which is less than 70 feet from I-690, such that construction of a new eastbound off-ramp would likely require closure of the

city street (Edison Street) and likely require acquisition of several buildings. Construction of a new westbound on-ramp would similarly require result in a ramp spacing of only 1500 feet with the existing westbound on-ramp at Bear Street, widening of the I-690 over Liberty Street bridge and mainline widening. In addition, there is an existing business located opposite the existing westbound off-ramp, such that construction of a new westbound on-ramp would require acquisition of the existing business. As there is no crash pattern associated with the existing partial interchange and the missing eastbound off, and westbound on movements are adequately provided by the partial interchange at Bear Street, converting this interchange to a full interchange is not recommended.

As noted, in leu of constructing the missing ramps, eastbound traffic wanting to exit to Geddes Street would exit at Bear Street (which is only 1,600 feet west of Geddes Street) and access Geddes Street via Spencer Street. Traffic on Geddes Street wanting to access westbound I-690 would similarly utilize the westbound on-ramp at Bear Street. There would be a slight (<400 feet) reduction in travel distance if a traveler could access westbound I-690 directly from Geddes Street, rather than from the existing westbound on-ramp at Bear Street. Similarly, accessing Geddes Street from the existing off-ramp at Bear Street is a slightly longer (<1000 feet) travel distance than it would be if it were feasible to add a new eastbound I-690 off-ramp to Geddes Street. There is an existing non-conforming feature at this interchange that will be retained. The spacing between the westbound on-ramp from West Street and the off-ramp to Geddes Street is non-conforming. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Safety: Based on available data, there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange. However, there have been two wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in Section 3.4, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524.

Control of Access: The existing westbound off-ramp terminates at a signalized intersection with Geddes Street where there are existing commercial driveways, on both sides of Geddes Street on the north side of the off-ramp. The eastbound on-ramp intersection is not signalized and intersects Geddes Street opposite Edison Street. While three of the quadrants around the ramp meet access control standards, the eastern leg of Edison Street and several residential driveways are within the recommended clear zone in the southeast quadrant of the intersection. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements**.**

- **Existing I-690 Interchange 11 (West Street) and Interchange 12 (West Genesee Street) (Proposed I-690 Interchange 15A):** Existing I-690 Interchanges 11 and 12, which currently operate like a single interchange, would be combined into a single interchange. Interchange 11 is a full interchange with West Street and contains two fly-over ramps that connect to westbound I-690. Interchange 12 is a partial interchange with only an eastbound I-690 exit to Genesee Street. The interchange would be reconstructed and reconfigured to replace the existing, free-flow interchange with a new interchange, controlled by traffic signals at the ramp termini (refer to **Figure 3-6** and drawing number SG-CG-H10-02 in **Attachment 4)**. Currently, I-690 is depressed and the westbound I-690 ramps are elevated, and the reconfiguration would include elevating I-690 and lowering West Street to grade. Lowering West Street would allow removal of the West Street bridge over Genesee Street, thereby replacing the grade-separated crossing with a normalized at grade intersection. By removing the West Street/Genesee Street grade separation, Interchange 11 would provide full connectivity to both West Street and Genesee Street.

  In the eastbound direction, the existing exit ramps for West Street (existing Exit 11) and West Genesee Street (existing Exit 12) would be consolidated into a single eastbound exit ramp that would terminate at West Street at a new signalized intersection. The existing eastbound entrance ramp from West Street would be reconstructed and the spur exiting to Herald Place would be removed. As a result of lowering West Street and creating the West Street/Genesee Street at grade intersection, both the eastbound exit ramp and the eastbound entrance ramp would provide connectivity to both West Street and West Genesee Street. The West Street/Genesee Street intersection would have traffic signals and pedestrian crossings, thereby calming traffic and improving vehicular, pedestrian, and bicycle connectivity. Genesee Street in this area also would be reconstructed, with continuous sidewalks on both sides. The new West Street/Genesee Street intersection would improve interstate access to and from Genesee Street. Additionally, the removal of the West Street overpass would remove a barrier between the West Side and Downtown, creating a new gateway to Downtown and opening up views of the City that are now obstructed. Connections between the Park Avenue and Leavenworth Park neighborhoods and Armory Square and Downtown would be enhanced.

  In the westbound direction, the existing fly-over ramps to and from West Street (existing Exit 11) would be replaced by a signalized at grade intersection with West Street. In addition, the ramp from Franklin Street that connects to the westbound exit ramp to West Street would be removed. The removal of the Franklin Street/West Street ramp would allow Evans Street to be realigned to connect with Webster's Landing to enhance local street connectivity.

  Geometrics: All proposed modifications to this interchange and ramps meet or exceed the ten controlling design criteria as designated by FHWA. However, there is a non-conforming

broken back curve on the westbound off-ramp to West Street and a non-conforming ramp spacing between the westbound off-ramp to northbound BL 81 and the off-ramp to West Street. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Capacity/Level of Service: All freeway segments and ramp terminal intersections in the interchange would operate at LOS D or better in the Design Year.

Travel Times: Travel times would not change as a result of these modifications.

Safety: Based on the available data, a high number of rear end, sideswipe, and fixed object crashes occur within this interchange. Numerous nonstandard features, coupled with congested conditions, contribute to crashes within this interchange. As described above, this section of freeway, including the interchange, would be reconstructed; all non-standard features, and most of the non-conforming features, would be eliminated. In addition, capacity improvements are expected to reduce congestion related crashes.

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway.

- **Existing I-690/Existing I-81 Interchange (Proposed I-690 Interchange 15B, BL 81):** As described above, the I-690/existing I-81 interchange would be reconstructed to accommodate the removal of the existing I-81 viaduct to the south and to accommodate a variety of other ramp and access modifications adjacent to the interchange area (refer to **Figure 3-6** and drawing numbers SG-CG-H10-02 and 02A in **Attachment 4)**. As described above, in the eastbound direction, the connector ramp between southbound BL 81 to eastbound I-690 would be reconstructed. The existing interchange does not contain an eastbound I-690 to northbound existing I-81 ramp, and it would not be provided under the Community Grid Alternative. An evaluation of a new ramp at this location was conducted (refer to **Attachment 1**) and it was eliminated from further consideration. As described above, as a result of the de-designation of I-81 and re-designation of I-481 as the new I-81, long distance travelers would be directed to stay on eastbound I-690 and utilize existing I-481 Interchange 4 to access northbound I-81. Local traffic on eastbound I-690 wanting to access northbound BL 81 would follow the same route as they do today, which is to exit eastbound I-690 at Bear Street, follow Bear Street to North Clinton Street and Court Street, then utilize the reconstructed Court Street ramp to enter northbound BL 81. In the westbound direction the connector ramp between westbound I-690 and northbound BL 81 would be reconstructed. In addition, the existing interchange does not contain a southbound I-81 to westbound I-690 ramp, and it would not be provided under the Community Grid Alternative. An evaluation of a new ramp at this location was conducted (refer to **Attachment 1**) and it was eliminated from further

consideration. As described above, as a result of the de-designation of I-81 and re-designation of I-481 as the new I-81, long distance travelers on new I-81 would be directed to utilize existing I-481 Interchange 4 to access westbound I-690. Local southbound traffic on BL 81 wanting to go west on I-690 would continue to use the same route used today: motorists would exit southbound BL 81 to Bear Street and follow Bear Street to the westbound I-690 on-ramp.

- **Existing I-690 Interchange 13 (Townsend Street/McBride Street):** Existing Interchange 13, a partial interchange, would be removed and replaced with a full interchange at Crouse Avenue/Irving Avenue (see next paragraph). Interchange 13 currently consists of a westbound I-690 exit to Townsend Street and an eastbound entrance ramp from McBride Street. The existing interchange is lacking a westbound entrance ramp and an eastbound exit ramp. Traffic that formerly utilized the Townsend Street off-ramp and McBride Street on-ramp, would be redirected to the interchange at Crouse/Irving Avenue. This shift would result in improved travel times for those traveling to and from the University Hill area, and increased travel time for those traveling to and from the downtown area. The differences in travel time would typically be less than 2 minutes.

- **New I-690 Interchange 16 at Crouse and Irving Avenues:** To provide a more direct connection to University Hill from I-690 and from the northern segment of BL 81, and to optimize the use of the city street grid, a full interchange would be constructed at Crouse and Irving Avenues (refer to **Figure 3-6** and drawing number SG-CG-H10-02 in **Attachment 4)**. Westbound I-690 traffic destined to University Hill would exit at North Crouse Avenue, then proceed southbound on Crouse Avenue. Eastbound I-690 traffic destined to University Hill would exit at Irving Avenue, then proceed southbound on Irving Avenue. Eastbound traffic from University Hill would travel northbound on Crouse Avenue and use the new eastbound I-690 ramp just north of Erie Boulevard. Motorists heading north or west would travel north on either Crouse Avenue or Irving Avenue and use the new westbound I-690 entrance ramp located on the north side of I-690.

  Crouse Avenue from East Genesee to East Adams Street would be converted from a one-way northbound street to a two-way street. Irving Avenue would remain a two-way street and would be extended from East Fayette Street to I-690. Except for some minor widening on Crouse Avenue between East Fayette and East Genesee Streets, which would involve a small reduction of the buffer between the sidewalk and street, no widening would be needed on Crouse Avenue or Irving Avenue. Where needed, traffic signals would be replaced, sidewalk ramps would be reconstructed to meet accessibility standards, and spot repairs would be made to curbs and sidewalks. Parking on Irving Avenue from East Genesee Street to East Fayette Street and South Crouse Avenue between East Adams Street and East Fayette Street would be removed, and the existing parking lanes would be repurposed as vehicular travel lanes.

The new interchange would largely serve the University Hill area, one of the two major destinations for traffic in the Central Study Area. The other major destination, Downtown, also would be served by this new interchange, as well as from the other interstate access points described above. This new interchange would provide new access to I-690 and to the northern segment of BL 81 (existing I-81) via I-690, reducing the reliance on Almond Street and allowing for the removal of highway and ramp infrastructure in the main interchange area, which would result in reclamation of land. The Irving Avenue extension also restores a missing section of street to the city grid.

Geometrics: The reconstructed I-690 mainline and all the ramps associated with this new interchange would meet the ten controlling design criteria as designated by FHWA(refer to Design Criteria Tables in **Attachment 2)**, with the exception of three non-standard features. The eastbound off-ramp to Irving Avenue would have a non-standard horizontal curve and non-standard horizontal stopping sight distance, and the westbound on-ramp from Irving Avenue would have a non-standard horizontal curve. Refer to the non-standard feature justification forms included in **Attachment 3**. In addition, five non-conforming features would be retained. Three of the non-conforming features are for access control (see paragraph below) and the other two are for non-conforming ramp spacings which include; ramp spacing between the eastbound on-ramp from southbound BL 81 and the off-ramp to Irving Avenue and between the westbound on-ramp from Irving Avenue and the off-ramp to northbound BL 81. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

Capacity/Level of Service: All freeway segments and ramp terminal intersections in the interchange would operate at LOS D or better in the Design Year.

Travel Times: Depending on origins and destinations, travel times would remain the same, increase slightly, or decrease slightly with changes typically less than 2 minutes.

Safety: This is a new interchange, but as stated above, all geometric features meet the appropriate design features except as noted. As appropriate design features are being met, crashes are not expected to exceed statewide average crash rates for similar facilities.

Control of Access: All ramp termini would meet the required offset distances to the nearest driveway except for three locations. There is a private driveway, which was a former city street (Canal Street), on the opposite side of Crouse Avenue from the location of the new eastbound I-690 on-ramp. In addition, there are existing driveways on Erie Boulevard that would be less than the recommended distance from both the I-690 eastbound off-ramp to Irving Avenue and the westbound on-ramp from Irving Avenue. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.

- **Existing I-690 Interchange 14 (Proposed I-690 Interchange 17, Teall Avenue):** Existing I-690 Interchanges 14 is a full interchange that was recently reconstructed under a different project (D900035, PIN 3506.41). The newly constructed interchange would not be physically impacted or modified by this project. The changes would be limited to renumbering the interchange, adopting mileage-based exit numbers and replacement of signs directing travelers to new I-81. Based on available data, there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange and there have been no wrong way incidences at this interchange in the past three years (2017-2019). All ramp termini meet the required offset distances to the nearest driveway except at one quadrant of the eastbound ramp intersection with Teall Avenue. There is an existing commercial driveway in the southeast quadrant of the intersection that is within the recommended access control area. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.
- **Existing I-690 Interchange 15 (Proposed I-690 Interchange 18, Midler Avenue):** Existing I-690 Interchanges 15 is a full interchange that would not be physically impacted or modified by this project. The changes would be limited to renumbering the interchange, adopting mileage-based exit numbers and replacement of signs directing travelers to new I-81. Based on available data, there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) at this interchange. However, there has been one wrong way incident (which was observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. The eastbound ramp termini meet the required offset distances to the nearest driveway, but there are residential and commercial driveways within the recommended access control area at the termini of the westbound ramps. Refer to **Table 3-2** in **Attachment 3** which provides a listing of non-conforming design elements.
- **Existing I-690 Interchange 16 (Proposed I-690 Interchange 119A-B, Thompson Road):** Existing I-690 Interchanges 16 is a full interchange that would not be physically impacted or modified by this project. The changes would be limited to renumbering the interchange, adopting mileage-based exit numbers and replacement of signs directing travelers to new I-81. Based on available data, there have been no wrong way incidences at this interchange in the past three years (2017-2019), all ramp termini meet the required offset distances to the nearest driveway and there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) along the I-690 mainline at this interchange. However, there are specialty PIL's along Thompson Road within the interchange area for snow/ice/slush related crashes, fixed object/run off the road crashes and rear end crashes.

- **Existing I-690 Interchange 17 (Proposed I-690 Interchange 20, Bridge Street):** Existing I-690 Interchanges 17 is a full interchange that would not be physically impacted or modified by this project. The changes would be limited to renumbering the interchange, adopting mileage-based exit numbers and replacement of signs directing travelers to new I-81. All ramp termini meet the required offset distances to the nearest driveway and there are no PILs (Priority Investigation Locations) or HALs (High Accident Locations) along the I-690 mainline at this interchange. However, there have been two wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019). As discussed in Section 3.4, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. In addition, there are specialty PIL's along Bridge Street within the interchange area for aggressive driving related and right angle crashes.
- **Existing I-690/Existing I-481 Interchange (Proposed I-690 Interchange 21A-B):** As described above under **Section 3.3.1**, Existing I-481, no changes are planned at this interchange other than to extend the eastbound I-690 to northbound I-81 acceleration lane and to extend the southbound I-81 to westbound I-690 deceleration lane (refer to **Figure 3-4** and drawing number SG-CG-H10-06 in **Attachment 4)**. Refer to the Existing I-481 Interchange 4 section for a detailed description of the proposed modifications. In addition, signs would be replaced to direct travelers to new I-81.

3.4. Wrong Way Driving Countermeasures

As described in **Section 3.3**, there have been a number of wrong-way incidences identified within the project area at many of the interchanges within the project area. The "incidences" referred to are based on a NYSDOT regional study of wrong way events that may or may not have resulted in a crash. The study has found the number of incidences that have resulted in actual wrong way crashes has been rare Data in the regional study was gathered by the NYSDOT Region 3 Traffic Management Center (TMC) and is based on calls to 911 or police agency reports of observed wrong way drivers. When notified of a wrong way driver, TMC operators use available cameras to look for the vehicle in question. TMC staff then record information from the police scanner and 911 dispatcher along with time of day, weather conditions and if they were able to locate the vehicle with the cameras. In most instances, the vehicle is not located by TMC operators or the police. NYSDOT Region 3 Traffic Safety and Mobility Group staff utilize all collected information to determine the most likely origin of the wrong way driver.

In recognition of the crash and safety concern involving wrong way movements on the freeway system, NYSDOT has progressed a state-wide initiative to improve safety on all freeway interchanges, including full interchanges as well as partial interchanges. As a result of this initiative, a Traffic Safety

and Mobility Instruction (TSMI 19-03) was issued in May 2019. Accordingly, contract D264524 was Let and completed in 2021. The contract completed countermeasures 1 through 10 (see list below) at all interchange ramp termini in Onondaga County, as well as included countermeasures 11 through 23 as appropriate. NYSDOT will continue to monitor and document wrong way driving incidences and provide enhanced improvements under future projects as necessary.

Under this project, the TSMI would be followed, and countermeasures integrated into any interchanges within the project area if not already completed by the separate project (D264524) or for any new interchanges or reconstructed or modified ramp termini. The following summarizes the counter measures described in TSMI 19-03.

1. Replace existing signing, if necessary, to meet the requirements of the TSMI.
2. Relocate or eliminate non-essential signing and clutter that may reduce the target value of ramp termini signs.
3. Keep Right (R4-7) sign in median of adjacent ramps. The Keep Right sign should be installed as close as practical to the ramp terminus.
4. Double-posted DO NOT ENTER (RS-1) signs at regular (7') heights.
5. Double-posted WRONG WAY (R5-1a) signs at high/low heights.
6. ONE WAY (R6-1) signs at ramp terminus.
7. Retroreflective strips on all Wrong Way regulatory sign posts, except ONE WAY (R6-1).
8. FREEWAY ENTRANCE (D13-3A) sign for adjacent ramps.
9. Pavement markings on off-ramp at ramp terminus (edge lines, stop/yield lines, lane use arrows).
10. Wrong-way arrow for off-ramp.
11. Wrong-way arrow for on-ramp.
12. No Left Turn (R3-2) sign on crossroad.
13. No Right Turn (R3-1) sign on crossroad.
14. Double-posted DO NOT ENTER (R5-1) signs at low height.
15. 2nd set of double-posted WRONG WAY (R5-1a) signs at high/low heights.
16. Dotted lane extension lines to connect crossroad to ramp.
17. Red/white snow-plowable pavement markers outlining the WRONG-WAY arrow.
18. Additional enhanced conspicuity methods (MUTCD Section 2A.15).
19. Red delineators used on the reverse side of ramp delineators for vehicles traveling in the wrong direction (MUTCD Section 3F.03).
20. ITS solutions including detection systems that are triggered by wrong-way motorists. Such systems may alert the wrong-way driver, and/or emergency responders.
21. Where a one-way ramp terminates at a signalized intersection, use vertical GREEN ARROW indications on the crossroad in lieu of CIRCULAR GREEN indications to reinforce the permitted movement. Mandatory Movement Lane Control signs (MUTCD Section 2B.20) may be used to supplement the GREEN ARROW indications.

22. Improved street lighting. Most wrong-way intrusions occur at night.
23. Geometric modifications to the intersection.

TABLE 3-1

PROPOSED INTERCHANGES WITHIN THE PROJECT AREA

INTERSTATE 81 (FROM SOUTH TO NORTH)						
Proposed Interchange Number	**Existing Interchange Number**	**Interchange Name**	**Northbound Exit**	**Northbound Entrance**	**Southbound Exit**	**Southbound Entrance**
82	16A	BL 81 (Southern I-81/BL 81 Interchange)	✓	✓	✓	✓
83	1	Brighton Avenue/Rock Cut Road	✓	✓	✓	
85	2	Jamesville Road	✓	✓	✓	✓
87 A-B	3	NY5 / NY92 – DeWitt, Fayetteville	✓	✓	✓	✓
89	4	I-690	✓	✓	✓	✓
90 A-B	5	Kirkville Road	✓	✓	✓	✓
91	6	I-90 (New York State Thruway)	✓	✓	✓	✓
92	7	NY 298 – Bridgeport	✓	✓	✓	✓
95	8	Northern Boulevard	✓	✓	✓	✓
96 A-B	29	I-81/NY-481/BL 81	✓	✓	✓	✓
BUSINESS LOOP 81 (FROM SOUTH TO NORTH)						
Proposed Interchange Number	**Existing Interchange Number**	**Interchange Name**	**Northbound Exit**	**Northbound Entrance**	**Southbound Exit**	**Southbound Entrance**
1A	N/A	Relocated East Glen Avenue	✓	✓	✓	✓
1B	17	State Street / Salina Street/Brighton Avenue	✓	✓	✓	✓
2	N/A	Colvin Street	✓	✓		
4	N/A	I-690		✓	✓	
4	20	N. Pearl Street / N. Clinton Street / Oswego Boulevard	N/A	✓	✓	N/A
5	22	NY 298 / Court Street / N. Clinton Street	✓	✓	✓	✓
6A	23	Park Street / Hiawatha Boulevard	✓	✓	✓	
6B	23	Destiny USA Drive			✓	
6C	22	Bear Street (NY 298 to I-690 West)			✓	
6B	24A	Old Liverpool Road – Liverpool	✓			✓
6C	24B	NY370 (Onondaga Lake Parkway)	✓			✓
7	25	7th North Street	✓	✓	✓	✓
8	25A	I-90 (NYS Thruway)	✓	✓	✓	✓
9	26	NY 11 (Mattydale)	✓	✓	✓	✓
10	27	Airport Boulevard (Syracuse Airport)	✓	✓	✓	✓
11	28	Taft Road	✓	✓	✓	✓
12	29	I-81 / NY-481	✓	✓	✓	✓
INTERSTATE 690 (FROM WEST TO EAST)						
Proposed Interchange Number	**Existing Interchange Number**	**Interchange Name**	**Eastbound Exit**	**Eastbound Entrance**	**Westbound Exit**	**Westbound Entrance**
14A	8	Hiawatha Boulevard	✓			✓
14B	9	Bear Street (to & from I-81)	✓			✓
14C	10	Geddes Street		✓	✓	

15A	11	West Street/West Genesee Street (NY-5), Downtown Syracuse	✓	✓	✓	✓
15B	12	Business Loop 81 (BL 81)		✓	✓	
16		Crouse/Irving Avenues – Downtown Syracuse	✓	✓	✓	✓
17	14	Teall Avenue	✓	✓	✓	✓
18	15	Midler Avenue	✓	✓	✓	✓
19 A-B	16	Thompson Road	✓	✓	✓	✓
20	17	Bridge Street	✓	✓	✓	✓
21A		Northbound I-81	✓	N/A	N/A	✓
21B		Southbound I-81	✓	N/A	N/A	✓

4. COMPLIANCE WITH THE FHWA POLICY POINTS

Policy Point 1a: Operational and Safety Analysis on the Interstate

As described above, the proposed changes to the interstate route designations and the interstate interchanges would result in a fully functional transportation network and improve operational and safety aspects of the interstates within the Project Area as summarized below.

The I-81 Corridor Study performed by the NYSDOT in July 2013 along with the FDR/FEIS identified concerns with traffic congestion, safety issues, and the condition of the aging infrastructure of the I-81 viaduct and I-81/I-690 interchange corridor. Based on current FHWA and NYSDOT design standards, the existing corridor exhibits over 200 non-standard and non-conforming design features, many of which contribute to the higher than normal crash rates. In some segments the crash rate is three times the statewide average for an interstate highway.

Frequent peak hour congestion is a result of high traffic volumes combined with the numerous highway design features that do not meet current standards, such as narrow (or non-existent) shoulders, poor sight-line distances, and short spacing between ramps. During the AM and PM peak hours, traffic congestion occurs frequently in certain sections of I-81, with ratings below LOS C. Traffic volumes on many roadway and ramp segments in these areas are near capacity with ratings of LOS D to E, and some exceed capacity (LOS F). The I-81 and I-690 corridors accommodate upwards of 95,000 vehicles per day in the highway section just north of the I-81/I-690 interchange. This often results in reduced travel speeds in the range of 20 mph (well below the posted 45 mph speed limit), as well as delays and queues. These traffic delays cannot be adequately addressed along existing I-81 without complete reconstruction or diversion of a portion of the traffic onto another major highway such as I-481. Modifications such as lengthening turn bays or altering traffic control would not address the many nonstandard features. Shoulders are too narrow, thereby reducing sight distance; some

medians are only wide enough for the barrier to separate opposing lanes; and in many cases the spacing between successive ramps is less than half the recommended distance.

Due to the high number of non-standard and non-conforming design features along with the age and condition of the existing infrastructure, reconstruction/reconfiguration is the only option to correct many of the deficiencies that exist within the corridor. However, simply correcting deficiencies in the existing interstate infrastructure to meet current design standards would not provide the desired enhancements in local access. The existing system of multi-leg ramps and inefficient connections to the city street grid hinders access to major destinations such as University Hill and Downtown. Relocating and reconfiguring the interstate ramps along with improvements to the city streets would vastly improve local access. The new I-690 interchange near Crouse and Irving Avenues is one example of the benefits of updating the interstate connections to provide better community access.

The Community Grid Alternative would correct the majority of non-standard and non-conforming highway design features within the Project Area and reconfigure the geometrics in high traffic congestion areas. As described above, this alternative would improve traffic operational conditions along the interstate system within the Project Area, with all interstate mainlines and interchanges operating at a LOS D or better in the Design Year. In addition, detailed safety studies have shown that these improvements would contribute to a system-wide decrease in crashes along the interstates within the Project Area. To facilitate the crash analysis evaluation, the Project Area was divided into four separate sub-areas. The crash analysis results for each sub-area are summarized below.

- *S-Curve and Slalom Area* – The I-81 "S-curve and slalom" area comprises the I-81/I-690 interchange area and the corresponding adjacent approaches. This area has numerous non-standard and non-conforming geometric design features including narrow shoulder/median widths, inadequate stopping sight distance, small curve radii, reduced superelevation's, non-standard grades, and inadequate acceleration/deceleration lengths and ramp to ramp spacing. Approximately 25 percent of the crashes that occurred in this sub-area can be directly attributed to the identified non-standard/non-conforming geometric design features. While the remaining crashes cannot be solely attributed to a specific non-standard feature, several driver error and weather-related crashes could be at least partially attributed to the non-standard/non-conforming geometric design features. Since the Community Grid Alternative would alleviate the majority of these features, it is expected that the alternative would improve safety within this area.
- *North Interchange Area* – The I-81 north interchange area is located north of downtown Syracuse and comprises the cloverleaf interchange of I-81 with NY 481/I-481 and the corresponding adjacent approaches. While there are no existing non-conforming design features that have been identified within this portion of the project area, various non-standard geometric design features have been identified, with inadequate superelevation the most common on both the

mainline and the corresponding ramps. Approximately 8 percent of the crashes that occurred within the area of the non-standard geometric design features can be directly attributed to these deficiencies. While the remaining crashes cannot be solely attributed to the non-standard superelevation, some driver error and weather-related crashes could be partially attributed to this non-standard condition. Since the Community Grid Alternative would alleviate these features, it is expected that this alternative would improve the safety within this area.

- *South Interchange Area* – The I-81 south interchange area is located south of downtown Syracuse and comprises the I-81/I-481 interchange area and the corresponding adjacent approaches. The non-standard curve radius that is located on the northbound section of I-81 is the only non-standard/non-conforming geometric design feature within this area. Only a short section of I-81 in the northbound direction between RM 2012 and RM 2014 was identified as having a non-standard feature (non-standard curve radius). Based on a detailed examination of police reports, most (60 percent) of the 20 crashes that occurred on northbound I-81 between RM 2012 and RM 2014 were found to be potentially related to the non-standard curve. While the remaining crashes cannot be solely attributed, some driver error and weather-related crashes could be partially attributed to the non-standard geometric design feature. Although the number of possible crash reductions for the three-year study period is low, the Community Grid Alternative would alleviate this non-standard geometric design feature and is expected to improve traffic safety within this area.
- I-481 Corridor Area – The I-481 corridor area is located east of downtown Syracuse and comprises the I-481 mainline between the I-481/Route 5/92 interchange and the I-481/I-90 interchange. The northbound and southbound auxiliary lanes will be extended between the I-690 interchange and the Kirkville Road interchange, and the northbound auxiliary lane will be extended between the Kirkville Road interchange and the NYS Thruway (I-90) interchange. The auxiliary lane extensions will improve the weaving LOS and the operational characteristics within these segments of interstate. In addition, there are a number of operational issues and crash patterns in the vicinity of the existing I-481 Interchange 3. As described in **Section 3.3.1**, the project includes a number of modifications to this interchange that will address the identified crash patterns and provide operational improvements as well as safety benefits. .

In addition, an FHWA Surrogate Safety Assessment Model (SSAM) traffic conflict evaluation found that with the Community Grid Alternative, the frequency of vehicle conflicts would decrease by 21 percent (all conflict types), indicating that a substantial safety benefit in the form of a reduction in the number of crashes could be expected. For the 2050 design year, total conflicts including rear end, crossing, and lane change conflicts would decrease from 554,312 under the No Build Alternative to 452,448 under the Community Grid Alternative. Also, the results of a safety cost and benefit analysis indicate that the Community Grid Alternative's annual crash cost of $38,282,833 would represent an

annual safety cost benefit of $3,080,537 when compared with the $41,363,370 for the No Build Alternative.

As a result of the geometric improvements (shoulder widenings, increases in stopping sight distance, removal of non-standard and non-conforming features, removal and combination of partial interchange ramps, etc.), the overall number of crashes on the interstate system within the Project Area is expected to decrease.

Policy Point 1b: Operational and Safety Analysis on the Local System

As described above, an operational and safety analysis was conducted on the local road system that interfaces with the interstate system within the Project Area.

A detailed traffic study performed for the entire Project Area, including intersection LOS analysis at more than 290 intersections and found that all intersections at ramp termini would operate at a LOS D or better in the Design Year.

As a result of signal modernization and optimization, as well as extensive geometric improvements on the local system including at all ramp termini locations, an overall improvement in the operational characteristics where the interstate system interfaces with the local system is anticipated. In addition, the overall number of crashes on the local system is expected to decrease.

Policy Point 1c: Effects of the Project on Adjacent Interchanges

As described above, the Community Grid Alternative proposes a comprehensive reconstruction or rehabilitation of 15 interchanges on I-81, I-481 and I-690. Rather than a discussion of a single interchange followed by a discussion of adjacent interchanges, this AMR has discussed each interchange within the project limits where work is proposed in a complete and comprehensive manner. The following provides a summary of the analysis of the first adjacent existing or proposed interchanges beyond the limits of the proposed project. Specifically, the first interchange north of the existing I-481/I-81 interchange (Interchange 30), south of the existing I-481/I-81 interchange (Interchange 16), west of the northern I-81/I-481 interchange (NY-481 Interchange 10) and west of the I-690/Bear Street interchange (Interchange 8). I-690 ends at I-481, so there is no I-690 interchange east of the I-690/I-481 interchange described above.

- **Existing I-81/NY-11 Interchange 16:** This is the first interchange on I-81, south of the proposed project limit. This is an existing interchange, which is a full interchange, and would not be physically impacted or modified by this project. All ramp termini meet the required offset distances to the nearest driveway. There has only been one wrong way incidence (which was observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019) and as discussed in **Section 3.4**, NYSDOT has completed a

region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. There are Safety Deficient Locations (SDLs) and a PIL on the crossing route (NY-11), but the crashes are not related to the interchange or ramps. There is a Safety Deficient Location (SDL) along the I-81 mainline within the interchange area, where two crashes occurred during 2019. One of the crashes was speed related, and the other was wet road related. The existing interchange will have no effect on the I-81 project, nor will the I-81 project have any effect on this interchange.

- **Existing I-81/NY-31 Interchange 30:** This is the first interchange on I-81, north of the proposed project limit. This is an existing diamond interchange, which is a full interchange, and would not be physically impacted or modified by this project. As listed below, none of the ramp termini meet the required offset distances to the nearest driveway, however, there has only been one wrong way incidence (resulted in a ticket being issued, but no crashes) at this interchange in the past three years (2017-2019). As discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524. The following summarizes the existing ramps that do not meet current access control standards.
    - Northbound off-ramp – The ramp terminus is a signalized intersection. There is a driveway on the south side of NY-31 that is approximately 60 feet from the ramp terminus, which is less than the 300 foot requirement.
    - Northbound on-ramp – the northbound on-ramp is located on Pardee Road, approximately 800 feet north of NY-31 and there is a driveway, on the opposite side of the street, which is approximately 30 feet from the ramp terminus, which is less than the 300 foot requirement.
    - Southbound off-ramp– The ramp terminus is a signalized intersection and is opposite the southbound on-ramp. There is an abandoned driveway on the north side of NY-31 that is approximately 20 feet from the ramp terminus and an active driveway that is approximately 133 feet from the ramp terminus, which is less than the 300 foot requirement.
    - Southbound on-ramp– The ramp terminus is a signalized intersection and is opposite the southbound off-ramp. There is a municipal street on the south side of NY-31 that is approximately 25 feet from the ramp terminus and a driveway which is approximately 119 feet from the ramp terminus, which is less than the 300 foot requirement.

  There are PILs (Priority Investigation Locations and SDLs (Safety Deficient Locations) within this interchange area, but primarily related to Route 31, but includes the ramp intersections. NYSDOT has independently studied this interchange and a Highway Safety

Investigation (HSI) has been developed, including recommendations for remedial measures. NYSDOT is currently in process to include the recommendations into their capital program as a separate project. An anticipated future project also is included in the Syracuse Metropolitan Transportation Council's draft "Long Range Plan – 2020 Update". The remedial measures recommended by the HSI have independent utility and independent termination points, as it would have no effect on the I-81 project, nor would the I-81 project have any impact on this interchange.

- **Existing NY-481 Interchange 10 (Circle Drive):** This is the first interchange on NY-481, west of the proposed project limit (the northern I-81/I-481 interchange). This is an existing full interchange and would not be physically impacted or modified by this project. All ramp termini meet the required offset distances to the nearest driveway. There have been two wrong way incidences (one of which was observed and one of which resulted in a ticket being issued, but no crashes) at this interchange in the past three years (2017-2019), but as discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524.

  There are PILs (Priority Investigation Locations and SDLs (Safety Deficient Locations) within this interchange area. There are a high number of crashes where the ramp diverges from NY-481 and a large number of crashes at the intersection of the northbound off-ramp to Circle Drive. In addition, there are crash clusters at the Circle Drive-NY11 intersection. NYSDOT has independently studied this interchange and a Highway Safety Investigation (HSI) has been developed, including recommendations for remedial measures. NYSDOT is currently in process to include the recommendations into their capital program as a separate project. An anticipated future project also is included in the Syracuse Metropolitan Transportation Council's draft "Long Range Plan – 2020 Update". The remedial measures recommended by the HSI have independent utility and independent termination points, as it would have no effect on the I-81 project, nor would the I-81 project have any impact on this interchange.
- **Existing I-690 Interchange 8 (Hiawatha Boulevard):** Existing I-690 Interchange 8 is a partial interchange that would retain its current configuration, remain a partial interchange and would not be physically impacted or modified by this project. There are no PILs (Priority Investigation Locations), HALs (High Accident Locations) or SDLs (Safety Deficient Locations) along the I-690 mainline or ramps at this interchange. Ramp termini meet the majority of required offset distances to the nearest driveway, with the exception of two existing commercial driveways, one at each ramp termini as follows:
  - Eastbound off-ramp – The ramp terminus is a signalized intersection. There is a commercial driveway, approximately 110 feet south of the ramp terminus, on the

ramp side of Hiawatha Boulevard, which is less than the 300 foot requirement. All other offsets at this ramp location meet access control standards.

- Westbound on-ramp – There is a commercial driveway directly opposite the ramp entrance on State Fair Boulevard, but the offsets on the ramp side of State Fair Boulevard meet access control standards.

There have been two wrong way incidences (all of which were observed, there were no crashes and no tickets issued) at this interchange in the past three years (2017-2019), but as discussed in **Section 3.4**, NYSDOT has completed a region wide project to address wrong way incidences on interchange ramps. This interchange was included in D264524.

Policy Point 2: Connection to a Public Road and Accommodation of all Interchange Movements

As described above, all new and modified ramps would either connect to interstate highways or to public roads only. As described in **Section 3.3** of this report, there are currently nine partial interchanges on existing I-81 between Interchanges 16A and 29, one partial interchange on existing I-481, and five partial interchanges on I-690 between Interchanges 9 and 14. As a result of this project and the conversion of I-481 to I-81, only one partial interchange on I-81 would be retained (the existing I-481 partial interchange at Brighton Avenue/Rock Cut Road) and only three partial interchange would be retained on I-690 between Bear Street and Beech Street. Two of the three partial interchanges are existing partial interchanges that are west of the I-690 reconstruction limits and only one of the partial interchanges (the reconfigured I-690/BL 81 interchange) is within the I-690 reconstruction limits. At all of the partial interchange locations, alternative routes are available and appropriate wayfinding signage would allow drivers to clearly locate the ramps that would lead them to and from the interstate system within the Project Area (refer to Preliminary Signing Plans in **Attachment 4**). All Existing and proposed access at all interchanges within the project area will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)), except at 19 locations as described in **Section 3.3** of this report, and as listed in **Attachment 3**, **Table 3-2**. In addition, the proposed design of the freeways, interchanges and ramps associated with this project will meet or exceed all ten FHWA controlling design criteria except for the following locations (also see non-standard feature justification included in **Attachment 3**).

Location Description	Design Element [1]	Design Criteria [2]	Proposed Design
Northbound I-81 (at south interchange)	HSSD	730 ft.	679/524 ft.
Southbound I-81 (at south interchange)	HSSD	730 ft.	542/703 ft.
Interstate Ramp, Southbound BL-81 to new Northbound I-81	HSSD	305 ft.	236 ft.

Location Description	Design Element [1]	Design Criteria [2]	Proposed Design
Southbound I-81 (at north interchange)	HSSD	730 ft.	542/703 ft.
Northbound and Southbound I-81 at Route 5/92 bridge area.	Left Shoulder Width	10 ft. (3-lane) 4 ft. (2-lane)	5 ft. 2.5 ft.
Northbound and Southbound I-81 at Route 5/92 bridge area.	Right Shoulder Width	10 ft.	2.5 ft.
BL 81 Northern Segment, Butternut St. to Hiawatha Blvd.	Left and Right Shoulder Width	10 ft.	7 ft.
Interstate Ramp, Eastbound I-690 to off-ramp to Irving Ave.	Horizontal Curve	214 ft.	158 ft.
Interstate Ramp, Eastbound I-690 to off-ramp to Irving Ave.	HSSD	200 ft.	129 ft.
Interstate Ramp, Westbound I-690 on-ramp from Irving Ave.	Horizontal Curve	214 ft.	159 ft.
Interstate Ramp, Southbound BL 81 off-tamp to N. Clinton St.	Horizontal Curve	214 ft.	167 ft.
Southbound I-481 at Interchange 4	Horizontal Curve	1,815 ft.	1,235 ft.

Notes:
1) HSSD = Horizontal Stopping Sight Distance
2) Refer to Design Criteria Tables in **Attachment 2.**
3) Refer to following pages for Non-Standard Feature Justification Forms

Summary

In summary and as stated above, the results of the operational and safety studies found that with implementation of the Community Grid Alternative, the frequency of vehicle conflicts would decrease by 20 percent (all conflict types), and the crash cost analysis projects a decrease in crash cost of approximately $3 million, indicating that a substantial safety benefit in the form of a reduction in the number and cost of crashes could be expected. Further, numerous non-standard and non-conforming features would be eliminated, and several partial interchanges would be eliminated, consolidated, or improved. Therefore, it can be concluded that the Community Grid Alternative is consistent with the FHWA Policy Points.

5. CONCEPTUAL SIGNING PLAN

The proposed signing would be designed to provide adequate wayfinding, maintain traffic flow on local streets, and avoid wrong way movements on ramps. The proposed exits and wayfinding to and from the interstate system are described in detail in **Section 3.3** and summarized in **Table 3-1**. In addition, a preliminary signing plan is included in **Attachment 4** of this report.

ATTACHMENT 1

Evaluation of Full and Partial BL 81/I-690 Interchange Options

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

I-81 Viaduct Project

Onondaga County, New York

COMMUNITY GRID ALTERNATIVE
EVALUATION OF FULL AND PARTIAL BL 81/I-690 INTERCHANGE OPTIONS

(Draft)

Prepared by:

PARSONS

January 2019

INTRODUCTION

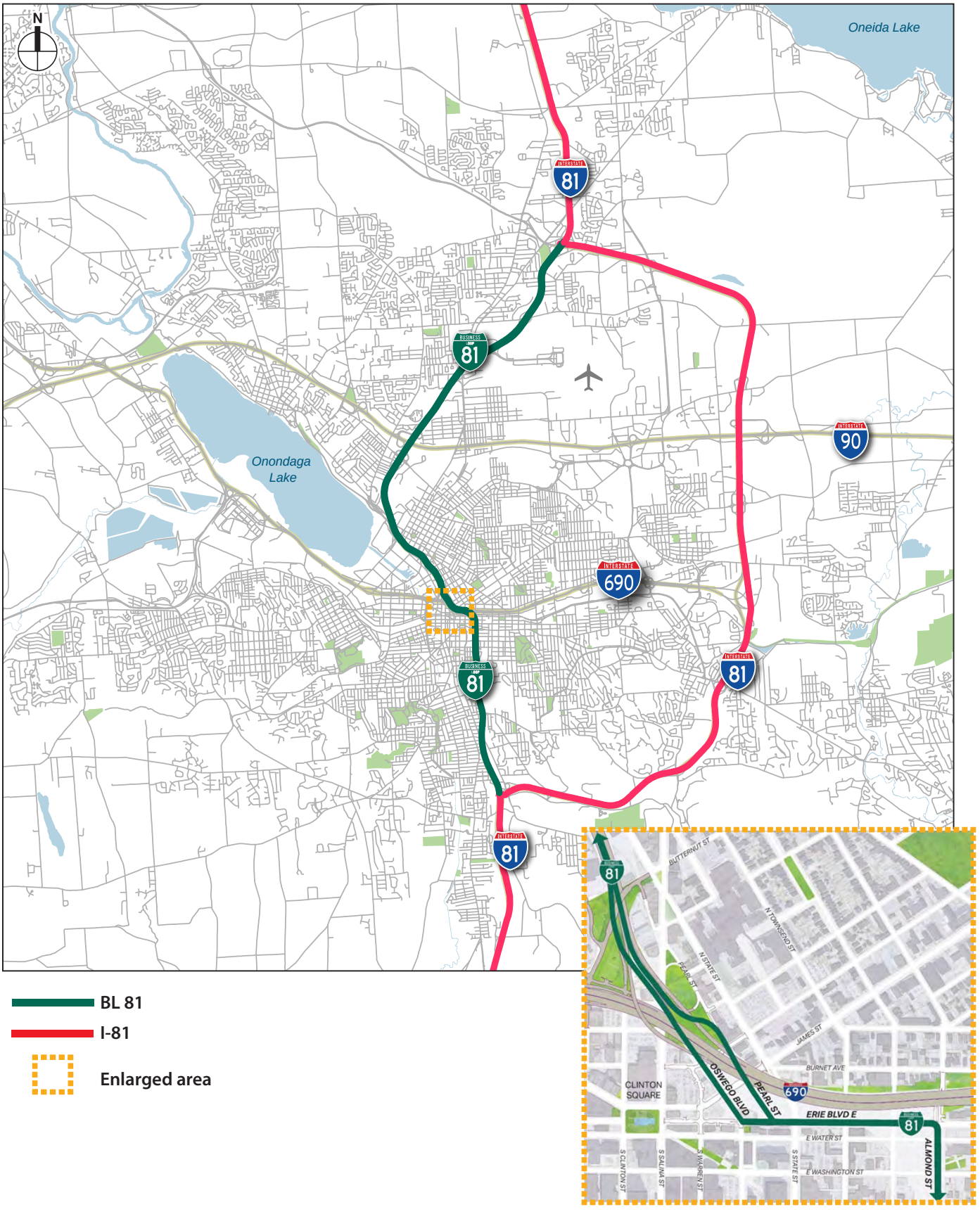
The New York State Department of Transportation (NYSDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing a Draft Design Report/Draft Environmental Impact Statement (DDR/DEIS) for the Interstate 81 (I-81) Viaduct Project (the Project) in the City of Syracuse, Onondaga County, New York. The purpose of the Project is to address structural deficiencies and non-standard highway features while creating an improved corridor through the City of Syracuse that meets the transportation needs and provides the transportation infrastructure to support long-range planning efforts.

The Project alternatives consist of the No Build Alternative, the Viaduct Alternative, and the Community Grid Alternative. The No Build Alternative, required by NEPA as the baseline to which the build alternatives are compared, would involve continual maintenance and repairs to the highway, which would be retained in its existing configuration. The Viaduct Alternative would involve the reconstruction of I-81 between approximately Colvin Street and Hiawatha Boulevard, including the replacement of the existing viaduct with a new viaduct, and the reconstruction of I-690 between Leavenworth Avenue and Lodi Street, including a full I-81/I-690 interchange. The Community Grid Alternative would remove the I-81 viaduct between the New York, Susquehanna and Western Railway (NYS&W) bridge near Renwick Avenue and the I-81/I-690 interchange and replace it with an urban arterial at grade. The section of I-81 between the southern I-81/I-481 interchange (Interchange 16A) and the I-81/I-481 northern interchange (Interchange 29) in Cicero would be de-designated as an interstate and the existing segment of I-481 between these two interchanges would be re-designated as the new I-81. As shown in **Figure 1**, the portion of existing I-81 between its northern and southern interchanges with I-481 would be re-designated as a business loop of I-81 (BL 81)[1]. The Community Grid Alternative also would involve the full reconstruction of I-690 from Leavenworth Avenue to Beech Street. Options with and without a fully directional interchange between BL 81 and I-690 were considered as part of this alternative.

The Project Area consists of portions of I-81, I-690, and I-481 where project elements may be implemented. It includes the southern and northern interchanges of existing I-81 with I-481 (Exits 16A and 29, respectively); the portion of existing I-81 between Colvin Street and Hiawatha Boulevard, including the existing I-81 viaduct and the existing I-81/I-690 interchange in Downtown Syracuse (I-81 Viaduct Area); I-690 between Leavenworth Avenue and Beech Street; existing I-481 between I-690 and the New York State Thruway (I-90); and

[1] According to AASHTO, a business route is "a route principally within the corporate limits of a city which provides the traveling public an opportunity to travel through that city, passing through the business part of the city, while the regular number is used to obviate passing through the congested part of the city." A "business loop" is a route that leads into a downtown business district and returns to the freeway at the other end. The designation of BL 81 would be subject to review and approval by AASHTO. In addition, interstate changes are subject to approval by FHWA.

01/09/2019



BL 81

I-81

Enlarged area

Community Grid Alternative: Business Loop 81

selected local roads in Downtown Syracuse. In addition, I-690 joins with I-90 west of Onondaga Lake, just beyond the Project Area.

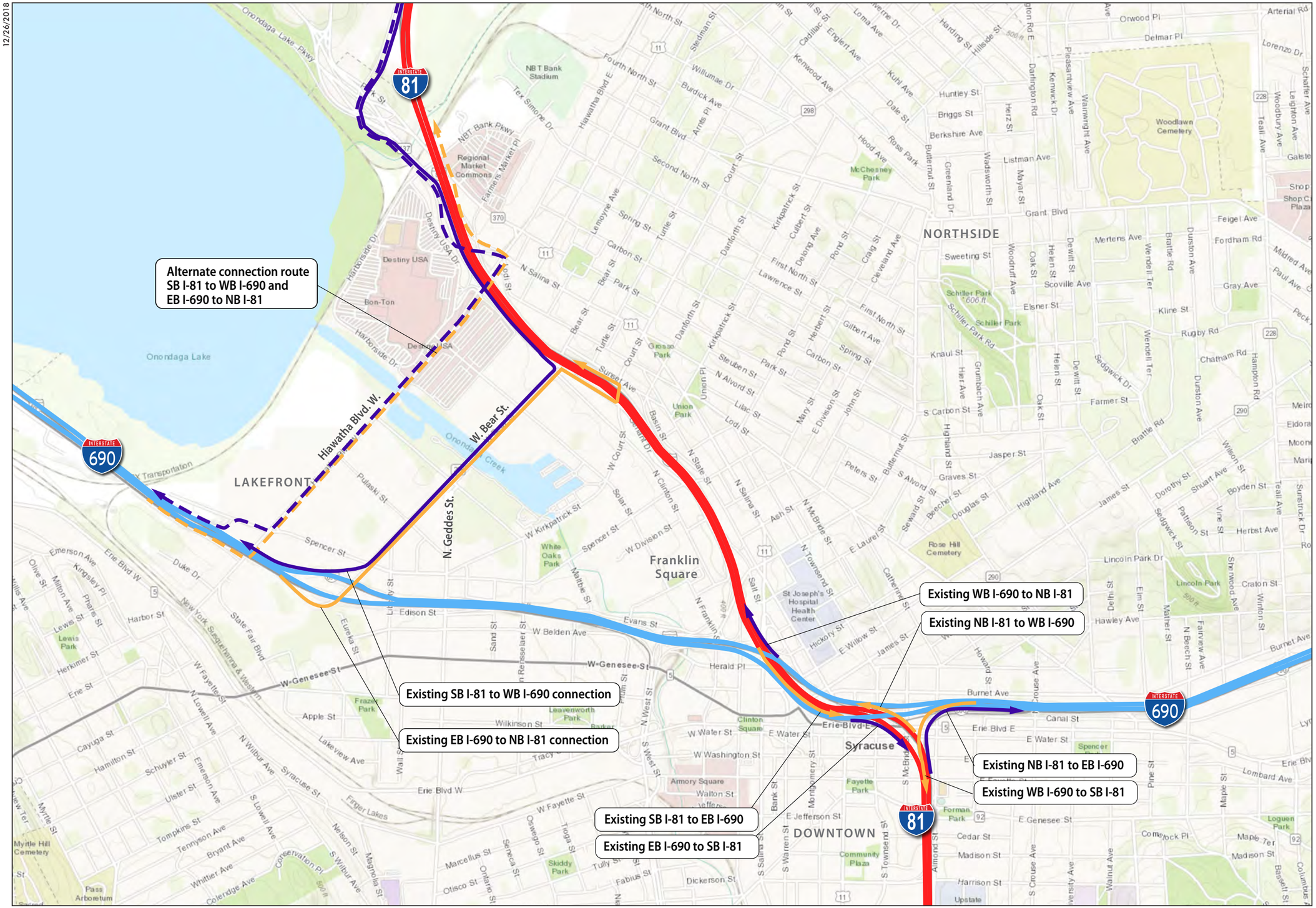
Per FHWA's Policy on Access to the Interstate System (May 22, 2017), this white paper includes a comparison of the design, operational, safety, and other considerations of providing a partial interchange or a full interchange between I-690 and BL 81 for the Community Grid Alternative. The limits evaluated for this comparison include an evaluation of a small and specific portion of the overall project, generally bounded by Hiawatha Boulevard to the west and north, Almond Street to the east, and I-690 to the south, with the addition of other localized areas affected by the design options (see **Figure 2**). Additionally, this white paper identifies mitigation measures proposed to compensate for the missing movements under the partial interchange option, including wayfinding signage, impacts on local intersections, and mitigation of driver expectation leading to wrong-way movements on ramps.

EXISTING CONDITIONS

Under the existing condition, the I-81/I-690 interchange is a partial interchange, with six of the eight possible connections provided. The interchange does not provide either the eastbound I-690 to northbound I-81 movement or the southbound I-81 to westbound I-690 movement. Currently, motorists use Bear Street and Hiawatha Boulevard to travel between these directions (see **Figure 2**). While Bear Street is the signed route for these movements, local motorists familiar with the area also use Hiawatha Boulevard.

All intersections along both Bear Street and Hiawatha Boulevard currently operate at LOS D or better during peak hours. Along the Bear Street designated route, several Priority Investigation Locations (PILs) were identified by NYSDOT. At these locations, NYSDOT recently implemented safety improvements and has programmed others for the near future to address conditions at these PILs.

12/26/2018



Existing I-81/I-690 Interchange

COMPARISON OF FULL AND PARTIAL BL 81/I-690 INTERCHANGE OPTIONS

As stated earlier, NYSDOT evaluated two options for the proposed BL 81/I-690 interchange under the Community Grid Alternative: a full interchange and a partial interchange.

Earlier in the design process, the Community Grid Alternative retained an interstate designation along the current alignment of I-81 from I-690 to the existing northern I-81/I-481 interchange (Interchange 29). The full interchange option, which would provide a full interchange making all connections between BL 81 and I-690, was considered in accordance with AASHTO's "A Policy on Design Standards – Interstate System" (May 2016), which states, "Interchanges shall be provided between all intersecting interstate routes, between other selected access-controlled highways, and at other selected public highways to facilitate the distribution of traffic. Each interstate shall provide for all traffic movements." To reduce the property and displacement impacts of this full interchange concept and improve wayfinding by maintaining the 81 designation through the City of Syracuse, the business loop concept was introduced into the design of the Community Grid Alternative. While the northern segment of the business loop would not be an interstate, it would remain a freeway. Therefore, NYSDOT evaluated both a full interchange option and a partial interchange option to determine their advantages and disadvantages.

Under the full interchange option, the four possible connections between BL 81 and I-690 would be provided. These four connections consist of the two new ramps that would be built to provide the direct connections that are unavailable today (between eastbound I-690 and northbound BL 81 and between southbound BL 81 and westbound I-690) and the two existing ramps between the two freeways (northbound I-81 [future BL 81] to eastbound I-690 and westbound I-690 to northbound I-81 [future BL 81]), as shown on **Figure 3**. With the removal of the viaduct, the other four existing ramps, which connect to and from the southern segment of existing I-81, would no longer be needed and would be removed. Instead, connections would be made from I-690 to the local streets (e.g., Crouse and Irving Avenues).

Under the partial interchange option (see **Figure 4**), two of the possible four ramps between BL 81 and I-690 (southbound BL 81 to eastbound I-690 and westbound I-690 to northbound BL 81) would be reconstructed to accommodate the same movements that are available today. As noted above, the other two movements are missing from the existing I-81/I-690 interchange, as well as from the proposed partial interchange. Therefore, motorists would continue to use Bear Street and Hiawatha Boulevard to travel between eastbound I-690 and northbound BL 81 and between southbound BL 81 and westbound I-690 (see conceptual signing plans in **Attachment 4**).

NYSDOT analyzed the operations and capacity of Bear Street and Hiawatha Boulevard and determined that with minor improvements, such as signing, striping, and signal upgrades, these routes would continue to function safely and efficiently in the future under the partial interchange option without providing the additional direct connections between BL 81 and I-690.

12/26/2018

BL 81
I-690
Ramps
Local streets
Building impacts

Community Grid Alternative
Full BL 81/I-690 Interchange Option

12/26/2018

Community Grid Alternative
Partial BL 81/I-690 Interchange Option

Under both the full and partial interchange options, all new and reconstructed ramps would include longer acceleration and deceleration lanes that meet the recommended design standard and stopping sight distance standards. However, the full interchange option would result in one additional nonstandard feature, six additional non-conforming features, and additional building impacts (refer to DESIGN CONSIDERATIONS, below, for a more detailed discussion). Table 1 provides a summary of the evaluation of the two interchange options, and specific evaluation criteria are discussed in greater detail below.

Table 1: Comparison of Full and Partial BL 81/I-690 Interchange Options

	Full Interchange	Partial Interchange
Description	• Business loop with all four possible interchange connections between BL 81 and I-690 (Full Interchange)	• Business loop with two interchange connections (Partial Interchange)
Design Implications	• To meet vertical clearance requirements, Butternut Street bridge would be relocated farther north • Would introduce at least one, and possibly several other, nonstandard feature to avoid building acquisitions • Would introduce three additional non-conforming ramp spacing conditions and three non-conforming LOS locations • Would result in acquisition of up to seven additional buildings - five of these could be avoided by introducing additional non-standard features, but two are unavoidable • Would create larger mass of transportation infrastructure in Downtown/Northside areas due to ramps, associated widening of I-690, and additional lane on BL 81	• Butternut Street bridge would be reconstructed in similar location as the existing one • Would not introduce any additional nonstandard or non-conforming features - all ramp spacings would meet recommended design standards • Would minimize building acquisitions • Would result in a smaller transportation footprint than the existing condition
Effects on Traffic and Safety	• Bear Street and Hiawatha Boulevard operations would be improved with the reduction in traffic • Lower level of service (LOS) at BL 81 and I-690 due to increased traffic and merging/diverging maneuvers (3 locations at LOS E/F) • Would attract more traffic to Geddes Street and lower the LOS (7 intersections at LOS E/F) • Lower travel time • Higher vehicle miles traveled (VMT)[2]. Trip lengths would increase by 0.8 to 1.7 miles (or 30 to 100 percent) compared to trips currently using Bear Street and Hiawatha Boulevard • Four new ramp junctions on freeways	• Bear Street and Hiawatha Boulevard would continue to operate well with a minor intersection improvement • Higher LOS at BL 81 and I-690 (LOS D or better) • Higher LOS on Geddes Street (LOS D or better) • Higher travel time • Lower VMT. Trip lengths would be 0.8 to 1.7 miles (or 24 to 50 percent) shorter than under the full interchange option • NYSDOT recently implemented safety improvements along Bear Street and Hiawatha Boulevard and has programmed others for the near future to ensure the safe operation of these routes
Total Cost	• $1.99 billion ($90 million higher than the partial interchange)	• $1.90 billion

[2] Vehicle miles traveled (VMT) measures the amount of travel for all vehicles in a geographic region over a given period of time.

	Full Interchange	Partial Interchange
Property and Socioeconomic Impacts	• Would require acquisition of 6 to 11 buildings • Displacement of up to 197 employees	• Would require acquisition of 4 buildings • Displacement of 35 employees
Cultural Resources (Architectural)	• Veteran's Fastener Supply, eligible for listing on the National Register of Historic Places (NRHP), would be demolished • Learbury Centre, eligible for listing on the NRHP and a contributing resource to the North Salina Street Historic District, would be demolished • North Salina Street Historic District would be affected by the demolition of the Learbury Center, a contributing resource	• No direct impacts
Visual	• New flyover connector ramps would be as high as approximately 66 feet above existing grade – about 25 feet higher than all other infrastructure in the area • The scale, mass, and height of the new connector ramps would result in adverse visual impacts, particularly in the Franklin Square area	• No new connector ramps

DESIGN CONSIDERATIONS

As previously described, the full interchange option includes all four of the possible connections between I-690 and BL 81 (see **Figure 5**), and the partial interchange option would provide two of the possible four ramp connections (see **Figure 6**). Construction of the full interchange option instead of the partial interchange option would introduce several design implications, including:

Butternut Street Alignment – The reconstruction of the Butternut Street bridge would be required under both options, but under the partial interchange option, the new bridge location would be very similar to the existing one. As a result, Butternut Street would follow its existing route and connect to North Franklin Street at the same location as it does today. Under the full interchange option, the Butternut Street bridge would need to be relocated farther north to provide adequate vertical clearance over the eastbound I-690 to northbound BL 81 ramp. The realignment of Butternut Street farther north would result in other impacts, which include:

- Butternut Street would connect with North Franklin Street where Genant Drive currently connects. Currently, Butternut Street is aligned with North Franklin Street just north of I-690 and forms a fairly straight route between the Northside neighborhood and the Armory Square area. The relocation of Butternut Street would introduce a left turn onto North Franklin Street and route traffic through a portion of the residential Franklin Square neighborhood.

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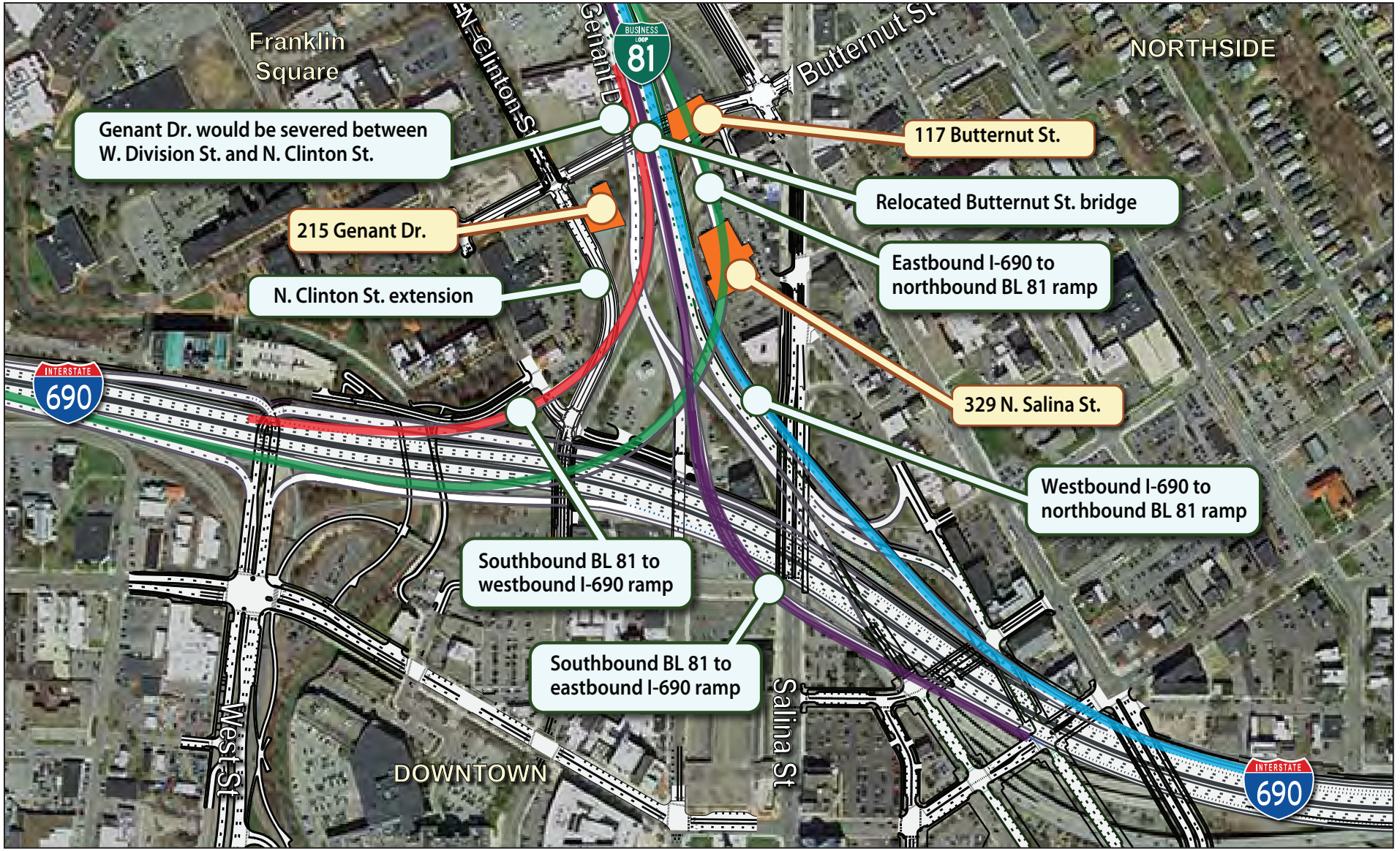

Community Grid Alternative Full BL 81/I-690 Interchange Option Enlargement

Figure 5

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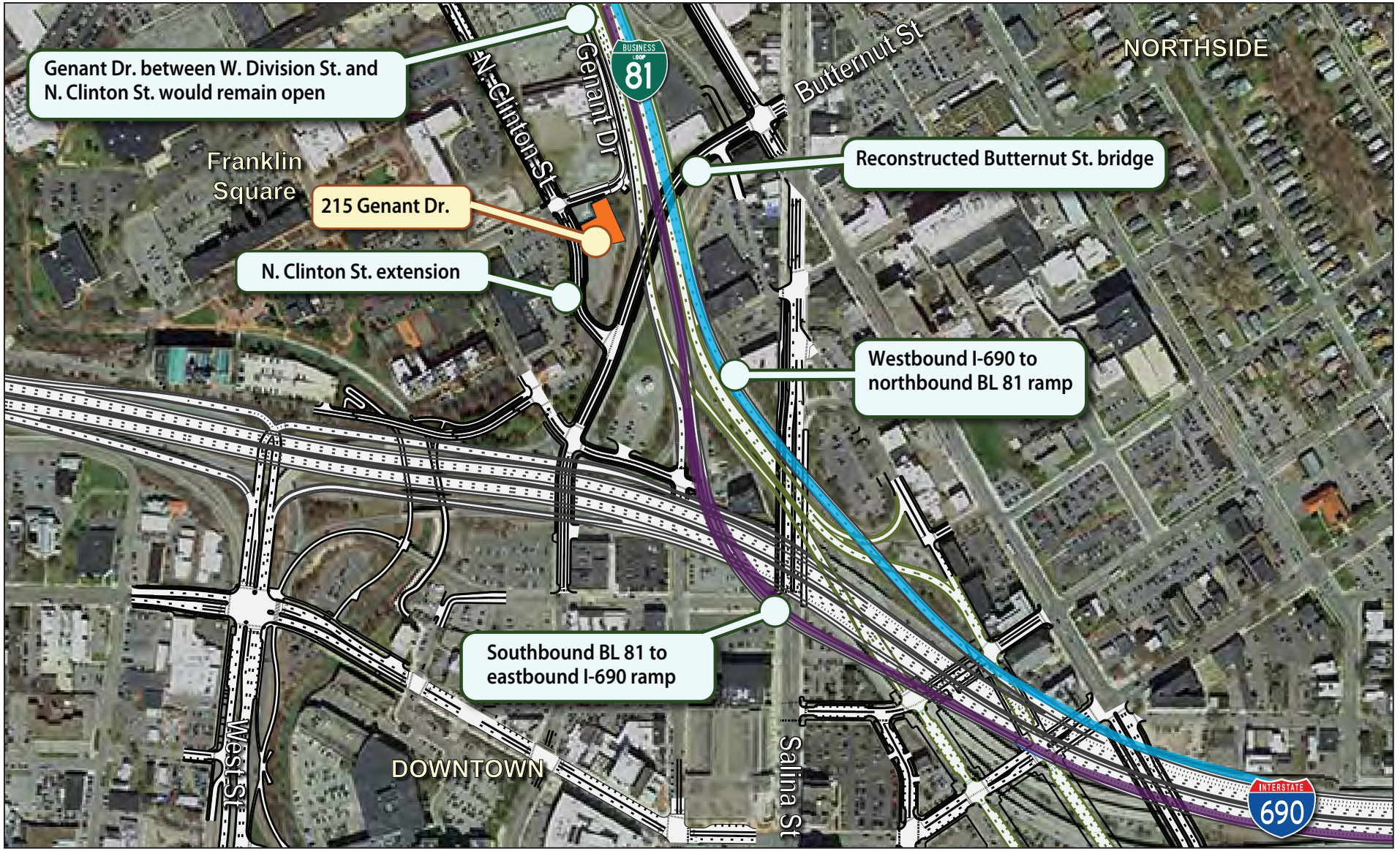

Community Grid Alternative Partial BL 81/I-690 Interchange Option Enlargement

Figure 6

- Genant Drive would be severed from North Clinton Street and North Franklin Street.

Lanes Required on Southbound BL 81 – The addition of the southbound BL 81 to westbound I-690 ramp would cause an increase in southbound traffic between Hiawatha Boulevard and I-690, necessitating the widening of southbound BL 81 from three to four lanes in this segment. The widening would cause additional right-of-way (ROW) impacts, as well as increased impacts to Genant Drive. Under the partial interchange option, the existing smokestack associated with the building at 706-16 North Clinton Street would not be acquired and Genant Drive between West Division Street and North Clinton Street would remain a one-way southbound city street. Under the full interchange option, the additional southbound lane would require the removal of the aforementioned smokestack and segment of Genant Drive. In addition, the offset from the corner of the building at 311 Genant Drive to the edge of the southbound BL 81 shoulder would be reduced. Under the partial interchange option, the corner of the existing building would be 25 feet from the edge of the southbound BL 81 shoulder. Under the full interchange option, the corner of the existing building would be 15 feet from the edge of the southbound BL 81 shoulder.

Additional Non-Standard Features – Construction of the full interchange option instead of the partial interchange option would result in one additional non-standard feature, as follows:

- Grade – The 7.2 percent grade of the eastbound I-690 to northbound I-81 ramp would be non-standard (6 percent is standard). This steeper grade would be required for the ramp to pass beneath the Butternut Street bridge and meet vertical clearance criteria.

Additional Non-Conforming Features – Under the partial interchange option, all ramp spacings would meet the recommended standards and all freeway segments would operate at LOS D or better. The full interchange option, however, would result in three non-conforming ramp spacing features and three non-conforming LOS locations:

- Ramp spacing between the eastbound I-690 off-ramp to West Street and the next eastbound I-690 ramp - Under the partial interchange option, the proposed design spacing between the eastbound I-690 off-ramp to West Street and the subsequent ramp (eastbound I-690 on-ramp from West Street) would be approximately 2,225 feet, which would meet recommended design standards. The addition of the eastbound I-690 to northbound BL 81 ramp under the full interchange option would place an additional ramp within this segment and create a non-conforming ramp spacing of 450 feet (1,000 feet is recommended) between the eastbound I-690 off-ramp to West Street and the eastbound I-690 off-ramp to northbound BL 81.

- Ramp spacing between the point where the Pearl Street and westbound I-690 on-ramps merge into northbound BL 81 and the subsequent ramp (eastbound I-690 to northbound BL 81 ramp) - Under the partial interchange option, the proposed ramp design spacing between the point where the Pearl Street and westbound I-690 on-ramps merge into BL 81 and the subsequent ramp (northbound BL 81 off-ramp to Court Street) is approximately 2,725 feet, which would meet recommended design standards. Under the full interchange option, the eastbound I-690 to northbound BL 81 ramp would place an additional ramp within this segment and create a non-conforming ramp spacing of 1,675 feet (2,000 feet is recommended) between the point where the eastbound I-690 to northbound BL 81 ramp merges into BL 81 and

the off-ramp to Court Street begins. In addition, as a result of this spacing, the on-ramp from eastbound I-690 would be extended to the off-ramp to Court Street as an auxiliary lane, creating a weaving, rather than a merge/diverge, condition.

- Ramp spacing between the southbound BL 81 split to eastbound I-690/Clinton Street and the next southbound ramp - Under the partial interchange option, the spacing between two split ramps along southbound BL 81 (the two-lane ramp to I-690 and the two-lane ramp to Clinton Street/Oswego Boulevard) would meet recommended design standards. Under the full interchange option, the southbound BL 81 to westbound I-690 ramp would place an additional ramp split within this segment and create a non-conforming ramp spacing of 325 feet (800 feet is recommended) between the split of the ramps to eastbound and westbound I-690 and the split of the ramps between the two-lane ramp to I-690 and the two-lane ramp to Clinton Street/Oswego Boulevard.
- LOS merge – eastbound I-690 at the Interchange 10 (N. Geddes Street) on-ramp (2050 AM peak hour). See Level of Service discussion below for additional detail.
- LOS merge – westbound I-690 at the Interchange 9 (Bear Street) on-ramp (2050 PM peak hour). See Level of Service discussion below for additional detail.
- LOS weave – Westbound I-690 between the Interchange 11 (West Street) on-ramp and Exit 10 (North Geddes Street) off-ramp (2050 PM peak hour). See Level of Service discussion below for additional detail.

Additional Building Acquisitions – The full interchange option would require six more building acquisitions than the partial interchange option and result in an indirect impact to one building. As described below, it may be feasible to avoid the direct impacts to some, but not all, of the buildings by introducing additional non-standard features.

- 329 North Salina Street – This building (the Learbury Centre) would not be impacted under the partial interchange option. Under the full interchange option, the geometric requirements for the eastbound I-690 to northbound BL 81 ramp and the physical constraints of the area would require the building to be fully acquired and removed. Furthermore, there is no practical alignment variation that would avoid this impact without causing impacts to other buildings in the area, resulting in different and possibly greater adverse effects.
- 117 Butternut Street – This building (Veteran's Fastener Supply Corp.) and property would not be impacted by the partial interchange option. As noted above, under the full interchange option, the Butternut Street bridge would be relocated north of its current location to provide adequate vertical clearance over the eastbound I-690 to northbound BL 81 ramp. The geometric requirements for the eastbound I-690 to northbound BL 81 ramp and the physical constraints of the area would require the building to be fully acquired and removed. Furthermore, there is no practical alignment variation that would avoid this impact without causing impacts to other buildings in the area, resulting in different and possibly greater adverse effects.
- 901 North State Street – Under the partial interchange option, the face of this building (Avalon Document Services) would be approximately 11 feet from the back of the BL 81 roadside barrier, therefore, the building would not be impacted by the partial

interchange option. Under the full interchange option, the addition of the eastbound I-690 to northbound BL 81 ramp would push the roadside barrier approximately two feet into the building, requiring its full acquisition. However, it may be feasible to avoid the direct building impact by reducing the standard ten-foot right-side shoulder to three feet, which would place the back of the roadside barrier approximately five feet from the existing face of building.

- 909 North State Street – This storage building would not be directly impacted by the full interchange option, but its offset from the highway would be reduced. The building is physically attached to buildings on both sides of the structure and may or may not be able to remain if the other buildings require removal. Under the partial interchange option, the face of the existing building would be approximately 18 feet from the back of the BL 81 roadside barrier and therefore the building would not be impacted by the partial interchange option. Under the full interchange option, the addition of the eastbound I-690 to northbound BL 81 ramp would push the roadside barrier closer to the building, so that it would be approximately seven feet from the existing face of building, However, as noted above, if the standard ten-foot right-side shoulder is reduced to three feet to avoid the impact to the adjacent building, the offset to this building would be increased to approximately 14 feet.
- 915 North State Street – This storage building would be acquired under the full interchange option. Under the partial interchange option, the face of the existing building would be approximately five feet from the back of the BL 81 roadside barrier and therefore the building would not be impacted by the partial interchange option. Under the full interchange option, the addition of the eastbound I-690 to northbound BL 81 ramp would push the roadside barrier approximately five feet into the building, which would require the building's full acquisition. However, it may be feasible to avoid the direct building impact by reducing the standard ten-foot right-side shoulder to three feet. This would place the back of the roadside barrier approximately two feet from the existing face of building.
- 1001 North State Street – Under the partial interchange option, the acquisition of this building (County Wide Appliance) was avoided in part by using a non-standard right-side shoulder width of seven feet. The face of the existing building would be approximately six feet from the back of the BL 81 roadside barrier. Under the full interchange option, the addition of the eastbound I-690 to northbound BL 81 ramp would push the roadside barrier approximately nine feet into the building, assuming a standard ten-foot-wide right-side shoulder. This would result in the acquisition of the building. Simply reducing the width of the right-side shoulder to seven feet, or to three feet, would not avoid this impact. However, it may be feasible to reduce both the southbound and northbound BL 81 median side shoulders to a non-standard width of four feet (versus the 10-foot standard) and to reduce the northbound right-side shoulder to a nonstandard width. These reductions may make it possible to avoid the full acquisition. Avoidance of this impact would also require realignment of the BL 81 mainline, and therefore additional analysis would be needed to determine exact resultant widths.

- 1025 North State Street – Under the partial interchange option, this building (Adirondack Furniture) would not be acquired. The acquisition would be avoided in part by using a nonstandard right-side shoulder width of seven feet, resulting in the placement of the roadside concrete barrier on the face of the existing retaining wall. Under the full interchange option, the addition of the eastbound I-690 to northbound BL 81 ramp would push the roadside barrier approximately 14 feet into the building, which would require the building to be fully acquired. Simply reducing the width of the right-side shoulder to seven feet, or to three feet, would not avoid this impact. However, it may be feasible to reduce both the southbound and northbound BL 81 median side shoulders to a non-standard width of four feet (versus the 10-foot standard) and to reduce the northbound right-side shoulder to a non-standard width. These reductions may make it possible to avoid the full acquisition. Avoidance of this impact would also require realignment of the BL 81 mainline, and therefore additional analysis would be needed to determine exact resultant widths.

TRAFFIC OPERATIONAL AND SAFETY CONSIDERATIONS

Traffic Volumes

The Syracuse Metropolitan Transportation Council (SMTC) Regional Travel Demand Model was used to forecast future traffic volumes for the Project. The traffic volumes forecasted to use the new ramps under the full interchange option are shown in vehicles per hour (vph) in Table 2.

Table 2: Traffic Volumes (vph)

Movement	Year	AM Peak Hour	PM Peak Hour
Eastbound I-690 to Northbound BL 81	2020	1,000	1,330
	2050	1,100	1,440
Southbound BL 81 to Westbound I-690	2020	680	970
	2050	760	1,050

The new ramps would attract some traffic currently using Bear Street and Hiawatha Boulevard, as well as some traffic currently using I-90 to connect to I-690 west of Onondaga Lake.

Level of Service

The full interchange option would attract additional traffic onto BL 81 and I-690 between the BL 81/I-690 interchange and Hiawatha Boulevard because of the travel time benefit. As a result, level of service (LOS) on these sections of BL 81 and I-690 would be lower under the full interchange option due to higher density, as well as the additional merging/diverging maneuvers with non-conforming ramp spacing. In the 2050 analysis year, all freeway

segments would operate at LOS D or better on these freeway sections under the partial interchange option, but three freeway segments would operate at LOS E or F under the full interchange option (see **Figure 7**):

- Eastbound I-690 at the Interchange 10 (N. Geddes Street) on-ramp merge is projected to operate at LOS F (2050 AM peak hour).
- Westbound I-690 at the Interchange 9 (Bear Street) on-ramp merge is projected to operate at LOS E (2050 PM peak hour).
- Westbound I-690 weaving section between the Interchange 11 (West Street) on-ramp and Exit 10 (North Geddes Street) off-ramp is projected to operate at LOS E (2050 PM peak hour).

In addition, the full interchange option would attract additional traffic onto Geddes Street. This would occur because trips to and from the Westside neighborhood within the City of Syracuse would benefit from using the eastbound I-690 to northbound I-81 and southbound I-81 to westbound I-690 connectors to connect with BL 81 via the Geddes Street interchange on I-690. As a result, intersection LOS on Geddes Street would deteriorate under the full interchange option. Under the partial interchange option, all Geddes Street intersections would operate at LOS D or better in the 2050 analysis year, but several intersections would operate at LOS E or F under the full interchange option. In 2011, the City of Syracuse implemented a road-diet project for Geddes Street from West Fayette Street to Spencer Street which reduced capacity along this route. Additionally, the City has a planned project to perform a road diet on the abutting section of Geddes Street. These capacity reductions would make traffic increases on Geddes Street impractical.

Travel Time

Currently, motorists use Bear Street and Hiawatha Boulevard to travel between eastbound I-690 and northbound I-81 and between southbound I-81 and westbound I-690. Bear Street is the existing signed route, and Hiawatha Boulevard is a parallel alternate route (see **Figure 2**). Based on analyses, Hiawatha Boulevard is a quicker route than Bear Street during certain periods. Using information from the Project's traffic models, travel times were calculated on roadway segments from eastbound I-690 (just west of the Hiawatha Boulevard exit ramp) to northbound BL 81 (just north of the Hiawatha Boulevard entrance ramp) and from southbound BL 81 (just north of the Hiawatha Boulevard/Destiny USA exit ramp) to westbound I-690 (west of the entrance ramp from State Fair/Hiawatha Boulevard). **Table 3** provides a comparison of the travel times along optimal routes (those that minimize travel time) under the full and partial interchange options. **Table 4** compares the travel times along the proposed signed routes between BL 81 and I-690 under each option.

Travel times were evaluated along the signed route and the shortest path. The signed route would be different for each option. For the partial interchange, Bear Street would be maintained as the signed route, and for the full interchange, the new connector ramps would be the signed route. The shortest path is defined as the route resulting in the shortest travel time. Under the partial interchange option, travel times on the signed route (Bear Street)

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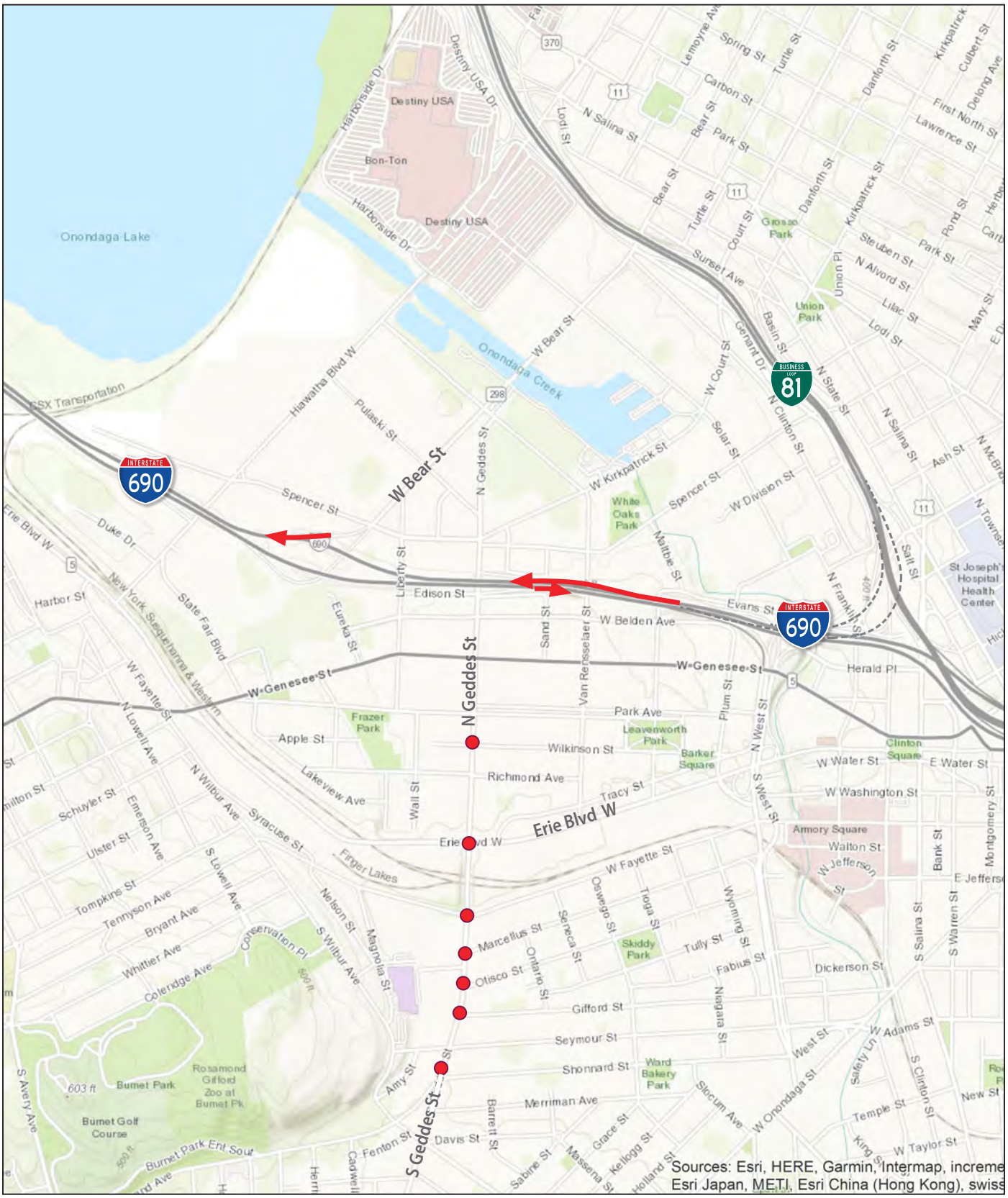


Intersection at LOS E or F

Freeway locations at LOS E or F

Locations with Level of Service E or F Under Community Grid Full Interchange Option

would be longer than those on the shortest path (Hiawatha Boulevard) because in most cases, Hiawatha Boulevard is a quicker route than Bear Street. Under the full interchange option, the shortest path and the signed path would be the same (the new connector ramps).

Comparing the shortest paths, the peak-hour travel time would be between 0.1 and 1.6 minutes less under the full interchange option than under the partial interchange option.

Based on a comparison of the signed routes, the full interchange option would reduce peak-hour travel time by between 0.6 and 1.8 minutes compared with the partial interchange option, depending on the scenario.

Table 3: Travel Time Along Shortest Path (minutes)

Movement	Year	Peak	CG with Partial Interchange	CG with Full Interchange	Difference
Eastbound I-690 to Northbound BL 81	2020	AM	5.4	4.6	-0.8
		PM	6.0	4.6	-1.4
	2050	AM	5.4	5.0	-0.4
		PM	6.3	4.7	-1.6
Southbound BL 81 to Westbound I-690	2020	AM	5.1	4.5	-0.6
		PM	5.3	4.6	-0.7
	2050	AM	4.8	4.7	-0.1
		PM	5.5	5.4	-0.1

Table 4: Travel Time Along the Signed Route (minutes)

Movement	Year	Peak	CG with Partial Interchange	CG with Full Interchange	Difference
Eastbound I-690 to Northbound BL 81	2020	AM	6.4	4.6	-1.8
		PM	6.2	4.6	-1.6
	2050	AM	6.6	5.0	-1.6
		PM	6.3	4.7	-1.6
Southbound BL 81 to Westbound I-690	2020	AM	5.2	4.5	-0.7
		PM	5.6	4.6	-1.0
	2050	AM	5.3	4.7	-0.6
		PM	6.4	5.4	-1.0

Safety

The full interchange option would redistribute some traffic from the local street system to the freeway system by providing additional direct connections between BL 81 and I-690. Crash rates on freeways are lower than at local street intersections, so some safety benefit would be expected. However, the full interchange option would introduce four new ramp junctions into the freeway system in the Downtown area, which would result in non-conforming ramp spacing. In addition, travel demand forecasts indicate that additional traffic (including trucks) currently using I-90 would travel through the Downtown area to utilize these ramps. Therefore, some of the safety benefit of shifting traffic from the local streets to the freeway system would be offset by additional merging and diverging maneuvers, compounded by non-conforming ramp spacing and increased traffic density.

NYSDOT has analyzed Bear Street and Hiawatha Boulevard and determined that without building the new ramps, these roadways would operate safety in the future with minor signal, striping, and signing improvements. Many of these measures have already been implemented by NYSDOT in the past few years or are currently programmed, including traffic signal upgrades and optimization, back plate installations, new/improved pedestrian crosswalks, upgraded sidewalks, repaving, and signing upgrades at multiple locations along Bear Street and Hiawatha Boulevard.

Cost

The total estimated cost of the full interchange option is $90 million higher than the partial interchange option (including contingencies and ROW). As noted earlier, the southbound BL 81 to eastbound I-690 ramp would require a fourth southbound lane, which would start about 800 feet north of Bear Street. Therefore, this ramp would add more than 1.5 lane miles of additional roadway, of which approximately 1,400 feet would be on structure. Similarly, the eastbound I-690 to northbound BL 81 ramp would add about 0.9 lane miles, of which 2,100 feet would be on structure.

Property and Socioeconomic Impacts

As shown in **Table 1,** the Community Grid Alternative would require the full acquisition of up to 11 commercial buildings under the full interchange option and four commercial buildings under the partial interchange option. **Table 5** lists the affected buildings' tax map numbers, address and square footage, occupants, and estimated value under each interchange option.

Table 5: Affected Buildings Under Community Grid Alternative

Option	Tax Map #	Address/ Square Footage	Commercial Occupant	Number of Employees	Estimated Value based on Public Record
Full/ Partial	030.-04-20	101 Lodi Street/ *10,910 sf*	-Tobin's Real Wood Furniture (tenant) -Lawrence Automotive (tenant)	7	$300,000
Full/ Partial	050.-10-01	500 Renwick Ave./ *13,332 sf*	-Syracuse Housing Authority Garage (owner)	13	$325,000

Table 5: Affected Buildings Under Community Grid Alternative

Option	Tax Map #	Address/ Square Footage	Commercial Occupant	Number of Employees	Estimated Value based on Public Record
Full/ Partial	118.-07-01	215 Genant Drive/ *12,168 sf*	-Currently vacant	-	$450,000
Full/ Partial	103.-22-02.2	110 Almond Street/ *2,100 sf*	-Dunkin' Donuts drive through (tenant)	15	$725,000
Full	008.-20-01	117 Butternut Street/ *10,318 sf*	-Veteran's Fastener Supply Corp. (owner)	7	$400,000
Full	017.-01-01	329 N. Salina Street/ *41,472 sf*	Learbury Centre -Syracuse Behavioral Health (tenant) -D'Arcangelo & Co. LLP CPA's (tenant) -FairHealth (tenant)	41	$4,000,000
Full	008.-09-05.0	915 North State Street	Storage	-	$175,000
Full	008.-09-06.0	909 North State Street	Storage	-	$175,000
Full	008.-09-07.0	901 North State Street	Avalon Document Services	59	$600,000
Full	008.-09-01	1025 North State Street/ *40,000 sf*	Adirondack Furniture	40	$635,000
Full	008.-09-02	1001 North State Street/ *31,461 sf*	County Wide Appliance	15	$390,000

The partial interchange option would displace 35 employees housed in three buildings (one of the buildings, 215 Genant Drive, is vacant). The full interchange option would displace up to 197 employees, or up to an additional 162 employees as shown in **Table 5**.

Cultural Resources

As shown in **Table 1**, the full interchange option would require the acquisition and demolition of two historic buildings that are also Section 4(f) properties: the Veteran's Fastener Supply Corp. building at 117 Butternut Street and the Learbury Centre at 329 North Salina Street. In addition, the Learbury Centre is a contributing resource to the North Salina Street Historic District Expansion, therefore, its demolition would affect the district.

Visual Resources

The BL 81/I-690 interchange has the greatest potential for substantial changes in visual character and quality resulting from the Project alternatives. The new BL 81/I-690 interchange under the partial interchange option would generally be at about the same elevation as the existing interchange. However, the eastbound I-690 to northbound BL 81 ramp proposed under the full interchange option would be the tallest piece of infrastructure of the Project, reaching approximately 66 feet above existing grade at its highest point, or about 25 above I-690. Each of the two additional ramps between BL 81 and I-690, which are proposed under the full interchange option, would be approximately 35 feet wide. The new ramps would create adverse visual effects in the Franklin Square area of the Lakefront

neighborhood. Avoidance of adverse visual impacts, such as in the Franklin Square area, resulting from construction of the connector ramps between BL 81 and I-690, would require the identification of alternative routes or means of connection, which would result in other direct and indirect impacts to other areas.

RECOMMENDATION

NYSDOT has analyzed both full and partial BL 81/I-690 interchange options under the Community Grid Alternative to identify the advantages and disadvantages of providing a fully directional interchange.

The full interchange option would introduce additional non-conforming features (ramp spacing) and conflict points (merge/diverge areas). Moreover, NYSDOT analyzed the operations and capacity of Bear Street and Hiawatha Boulevard and found that these roadways would operate safely and efficiently with minor improvements. These improvements, such as signing, striping, and signal upgrades, would address issues in high crash locations and ensure that these routes would continue to function safely and efficiently in the future without providing additional direct connections between BL 81 and I-690. While the full interchange option would provide some minor benefits to traffic flow, these are not warranted by its additional cost. In addition, the full interchange option would require the full acquisition and demolition of up to seven more buildings than the partial interchange option, resulting in additional employee displacement, and introduce visual impacts. Two of these buildings are historic buildings and Section 4(f) properties. Finally, future provision of a full interchange would not be precluded by the proposed partial interchange design.

For these reasons and others cited above, and in consideration of public input, NYSDOT recommends the dismissal of the full interchange option and the incorporation of the partial interchange option for the Community Grid Alternative.

ATTACHMENT 2

Interstate and Freeway

Design Criteria Tables

TABLE 4-1

DESIGN CRITERIA – NEW I-81 (EXISTING I-481), COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Re-designated I-81 (Existing I-481)		**Functional Classification:**	Urban Principal Arterial - Interstate
Project Type:		Reconstruction		**Design Classification:**	Interstate
% Trucks:		6%		**Terrain:**	Rolling
ADT (2050):		56,800		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	70 mph (1)	Posted 55 and 65 mph (2)	70 mph	HDM § 2.7.1.1.A
2	Travel Lane Width (Min.)	12 ft.	12 ft.	12 ft.	HDM § 2.7.1.1.B
3	Shoulder Width (Min.) Right Left (2-lanes per direction) Left (3-lanes per direction)	 10 ft. 4 ft. 10 ft.	 10 ft. 4 ft. 4 ft. *	 2.5 ft.* (3,4) 2.5 ft.* (3,4) 5 ft.* (3,4,5)	HDM § 2.7.1.1.C Exhibit 2-2
4	Grade (Max.)	4%	5.0%*	4%	HDM § 2.7.1.1.G Exhibit 2-2,
5	Horizontal Curve Radius (Min. Radius)	1815 ft. @ 8%	1572 ft.*	1912 ft.	HDM § 2.7.1.1.D Exhibit 2-2
6	Superelevation	8%	4.1% *	8%	HDM § 2.7.1.1.E
7	Stopping Sight Distance (Min.)	730 ft.	389 ft.*	524 ft. * (6)	HDM § 2.7.1.1.F Exhibit 2-2
8	Vertical Clearance	16 ft. Min. (7) 16.5 ft. Desired	16 ft. (Min.)	16.5 ft. Min. (7)	HDM § 2.7.1.1.I / NYSDOT Brg. Man. § 2.3.1 Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.1.1.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. The Regional Traffic Engineer has concurred that the use of a Design Speed of 70 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
2. Posted 55 mph between southern project limit and Rock Cut Road interchange on existing I-481, then posted 65 mph between Rock Cut Road interchange to northern project limit.
3. All shoulders meet the design standard except for the existing left and right shoulders on both the existing NB and SB I-481 bridge over Route 5/92 (see Non-Standard Feature Justification Forms in AMR **Attachment 3.**
4. On inside of horizontal curves, the proposed shoulder width varies to 12 feet maximum to meet Horizontal Stopping Sight Distance criteria.
5. There is no qualifying 3-lane section in the South Study Area or in the East Study Area between I-690 and I-90 (the 3-lane sections between I-690 and I-90 are due to auxiliary lanes which are less than 1-mile long). There are qualifying 3-lane segments in the East Study Area (between Route 5/92 and Kinne Road) and in the North Study Area, where 10-foot median side shoulders are provided in accordance with the design criteria.
6. Proposed Horizontal Stopping Sight Distance is non-standard along two curves in the south interchange area and one curve in the north interchange area (see Non-Standard Feature Justification Forms in AMR **Attachment 3**). All other locations meet design criteria of 730 feet minimum.
7. New I-81 is the designated 16-ft route. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.

TABLE 4-2

DESIGN CRITERIA FOR I-690, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		I-690, Leavenworth Ave. to Beech Street		**Functional Classification:**	Urban Principal Arterial - Interstate
Project Type:		Reconstruction		**Design Classification:**	Interstate
% Trucks:		9%		**Terrain:**	Rolling
ADT (2050):		111,900(V), 127,400 (CG)-		**Truck Access/Qualifying:**	Qualifying Highway
	DESIGN ELEMENT	**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	60 mph (1)	Posted 45 and 55 mph (2)	60 mph	HDM § 2.7.1.1.A
2	Travel Lane Width (Min.)	12 ft.	12 ft.	12 ft.	HDM § 2.7.1.1.B
3	Shoulder Width (Min.) Right Left (2-lanes per direction) Left (3-lanes per direction)	 10 ft. 4 ft. 10 ft.	 3.2 ft.* 1.8 ft.* 4 ft.*	 10 ft. (3) 4 ft. (3) 10 ft.	HDM § 2.7.1.1.C Exhibit 2-2
4	Grade (Max.)	4%	4%	4%	HDM § 2.7.1.1.G Exhibit 2-2
5	Horizontal Curve Radius (Min. Radius)	1200 ft. @ 8%	1156 ft.*	1333 ft.	HDM § 2.7.1.1.D Exhibit 2-2
6	Superelevation	8%	6.2% *	8%	HDM § 2.7.1.1.E
7	Stopping Sight Distance (Min.)	570 ft.	302 ft.*	>570 ft.	HDM § 2.7.1.1.F Exhibit 2-2
8	Vertical Clearance	14 ft. Min. (4, 5) 14.5 ft. Desired	14 ft. (Min.)	14.5 ft. Min. (4, 5)	HDM § 2.7.1.1.I / NYSDOT Brg. Man. § 2.3.1, Table 2-2
9	Cross Slope Pavement (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.1.1.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. The Regional Traffic Engineer has concurred that the use of a Design Speed of 60 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
2. I-690 is posted 55 mph between western project limit to West Street interchange, then posted 45 mph between West Street interchange and Lodi Street, then 55 mph from Lodi Street to eastern project limit.
3. On inside of horizontal curves, the proposed shoulder width varies to 12 feet maximum to meet Horizontal Stopping Sight Distance criteria.
4. 16-ft clearance exemption. New I-81 is the designated 16-ft route.
5. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.

TABLE 4-3

DESIGN CRITERIA FOR BL 81, SOUTH FREEWAY, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Business Loop 81 (Existing I-81), south interchange to East Colvin Street.		**Functional Classification:**	Urban Principal Arterial - Other Freeway/Expressway
Project Type:		Reconstruction		**Design Classification:**	Freeway/Expressway
% Trucks:		5%		**Terrain:**	Rolling
ADT (2050):		39,300		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	60 mph (1)	Posted 55 mph	60 mph	HDM § 2.7.1.1.A
2	Travel Lane Width (Min.)	12 ft.	12 ft.	12 ft.	HDM § 2.7.1.1.B
3	Shoulder Width (Min.) Right Left (2-lanes per direction) Left (3-lanes per direction)	 10 ft. 4 ft. 10 ft.	 2.1 ft.* n/a 2.8 ft. *	 10 ft. 4 ft. N/A (4)	HDM § 2.7.1.1.C Exhibit 2-2
4	Grade (Max.)	4%	4%	4%	HDM § 2.7.1.1.G Exhibit 2-2
5	Horizontal Curve Radius (Min. Radius)	1200 ft. @ 8%	1400 ft.	>1333 ft.	HDM § 2.7.1.1.D Exhibit 2-2
6	Superelevation	8%	7.8%	8%	HDM § 2.7.1.1.E
7	Stopping Sight Distance (Min.)	570 ft.	>570	>570 ft.	HDM § 2.7.1.1.F Exhibit 2-2
8	Vertical Clearance	14 ft. Min. (2, 3) 14.5 ft. Desired	14 ft. Min.	14.5 ft. Min. (2, 3))	HDM § 2.7.1.1.I / NYSDOT Brg. Man. § 2.3.1, Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.1.1.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. The Regional Traffic Engineer has concurred that the use of a Design Speed of 60 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
2. While the new I-81 is the designated 16-ft route, a minimum vertical clearance of 16.5 feet is to be provided along the section of BL 81 from the south interchange to the Van Buren St/BL 81 intersection.
3. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1ft greater.
4. The only location with 3 or more lanes is at the southern tie in point, approximately 1300 ft. south of MLK, Jr. East and is less than 800 feet long. This is considered a transitional area where the 30 mph, 2 lane urban section is transitioning to the existing higher speed 3 lane freeway section, therefore the 10 ft. left side shoulder criteria does not apply to this section.

TABLE 4-4

DESIGN CRITERIA FOR BL 81, NORTHERN SEGMENT, COMMUNITY GRID ALTERNATIVE

PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Business Loop 81 (Existing I-81) Northern Segment, Butternut St. to Hiawatha Boulevard		**Functional Classification:**	Urban Principal Arterial – Other Freeway/Expressway
Project Type:		Reconstruction		**Design Classification:**	Freeway/Expressway
% Trucks:		9%		**Terrain:**	Rolling
ADT (2050):		114,300		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	60 mph (1)	Posted 45 and 55 mph (2)	60 mph	HDM § 2.7.1.1.A
2	Travel Lane Width (Min.)	12 ft.	11-12 ft.*	12 ft.	HDM § 2.7.1.1.B
3	Shoulder Width (Min.) Right Left (2-lanes per direction) Left (3-lanes per direction)	 10 ft. 4 ft. 10 ft.	 6 ft.* 4 ft. 4 ft. *	 7 ft. (3, 6) * 4 ft. (3) 7 ft. (6) *	HDM § 2.7.1.1.C Exhibit 2-2
4	Grade (Max.)	4%	4%	4%	HDM § 2.7.1.1.G Exhibit 2-2
5	Horizontal Curve Radius (Min. Radius)	1200 ft. @ 8%	1167 ft.*	1333 ft.	HDM § 2.7.1.1.D Exhibit 2-2
6	Superelevation	8%	7.8%	8%	HDM § 2.7.1.1.E
7	Stopping Sight Distance (Min.)	570 ft.	311 ft.*	570 ft.	HDM § 2.7.1.1.F Exhibit 2-2
8	Vertical Clearance	14 ft. Min. (4, 5) 14.5 ft. Desired	14 ft. (Min.)	14.5 ft. Min. (4, 5)	HDM § 2.7.1.1.I / NYSDOT Brg. Man. § 2.3.1 Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.1.1.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. The Regional Traffic Engineer has concurred that the use of a Design Speed of 60 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
2. Existing I-81 is posted 45 mph between I-690 and Butternut Street, then 55 mph between Butternut Street and Hiawatha Boulevard.
3. On inside of horizontal curves, the proposed shoulder width varies to 12 feet maximum to meet Horizontal Stopping Sight Distance criteria.
4. 16-ft clearance exemption. New I-81 is the designated 16-ft route.
5. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.
6. A 10-ft. left side shoulder and 10-ft. right side shoulder is to be provided in sections with 3 or more lanes, except at two locations between Butternut Street and Spencer Street. See Non-Standard Justification form in AMR **Attachment 3** for more information.

TABLE 4-5

DESIGN CRITERIA FOR BL 81, NORTHERN SEGMENT, COMMUNITY GRID ALTERNATIVE

PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		BL 81 and NY-481 at Northern Interchange		**Functional Classification:**	Urban Principal Arterial – Other Freeway/Expressway
Project Type:		Reconstruction		**Design Classification:**	Freeway/Expressway
% Trucks:		9%		**Terrain:**	Rolling
ADT (2050):		114,300		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	70 mph (1)	Posted 65 mph	70 mph	HDM § 2.7.1.1.A
2	Travel Lane Width (Min.)	12 ft.	12 ft.	12 ft.	HDM § 2.7.1.1.B
3	Shoulder Width (Min.) Right Left (2-lanes per direction) Left (3-lanes per direction)	 10 ft. 4 ft. 10 ft.	 10 ft. 4 ft. 4 ft.*	 10 ft. (2) 4 ft. (2) 10 ft. (2)	HDM § 2.7.1.1.C Exhibit 2-2
4	Grade (Max.)	4%	4%	4%	HDM § 2.7.1.1.G Exhibit 2-2
5	Horizontal Curve Radius (Min. Radius)	1815 ft. @ 8%	> 1815 ft.	2712 ft.	HDM § 2.7.1.1.D Exhibit 2-2
6	Superelevation	8%	7.8%	8%	HDM § 2.7.1.1.E
7	Stopping Sight Distance (Min.)	730 ft.	> 730 ft.	> 730 ft..	HDM § 2.7.1.1.F Exhibit 2-2
8	Vertical Clearance	14 ft. Min. (3, 4) 14.5 ft. Desired	14 ft. (Min.)	14.5 ft. Min. (3, 4)	HDM § 2.7.1.1.I / NYSDOT Brg. Man. § 2.3.1 Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.1.1.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. The Regional Traffic Engineer has concurred that the use of a Design Speed of 70 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
2. On inside of horizontal curves, the proposed shoulder width varies to 12 feet maximum to meet Horizontal Stopping Sight Distance criteria.
3. In addition to New I-81 being on the designated 16-ft clearance route, the section of BL 81, between I-90 and the northern limit (North Interchange) is also on the designated 16-ft clearance route.
4. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.

TABLE 4-6

DESIGN CRITERIA, URBAN PRINCIPAL ARTERIAL OTHER, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes (1, 2)
Route No. & Name:		Business Loop 81 (speed transition segment), including segment approximately between East Colvin Street and East Kennedy Street **See Note 1, 2**		**Functional Classification:**	Urban Principal Arterial - Other
Project Type:		Reconstruction		**Design Classification:**	Urban Arterial
% Trucks:		3%		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	45 mph (3)	Posted 55 mph	45 mph design, 40 mph posted	HDM § 2.7.2.4.A
2	Travel Lane Width	12 ft.	12ft.	12 ft. (4)	HDM § 2.7.2.4.B Exhibit 2-4a
3	Uncurbed Left Shoulder Width Right Shoulder Width Curbed Left Shoulder Width Right Shoulder Width	 4 ft 8 ft 0-2 ft 0-4 ft	 6 ft. 10 ft. N/A N/A	 4 ft 8 ft 2 ft 4 ft	HDM § 2.7.2.4.C Exhibit 2-3a (uncurbed) and Exhibit 2-4a (curbed)
4	Grade (Max.)	7.0%	<7%	<7.0%	HDM § 2.7.2.4.G Exhibit 2-4a
5	Horizontal Curve Radius (Min. Radius)	711ft. @ e=4%	>711 ft.	>711 ft.	HDM § 2.7.2.4.D Exhibit 2-4a
6	Superelevation	4.0% max.	4.0% max.	4.0% max.	HDM § 2.7.2.4.E Exhibit 2-1b
7	Stopping Sight Distance (Min.)	360 ft.	>360 ft.	>360 ft.	HDM § 2.7.2.4.F Exhibit 2-4a
8	Vertical Clearance	14 ft. Min. (2, 3) 14.5 ft. Desired	14 ft. Min.	16.5 ft. Min. (5, 6)	HDM § 2.7.2.4.I / NYSDOT Brg. Man. § 2.3.1
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	2.0%	1.5% min, 2.5% max	HDM § 2.7.2.4.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS-20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5
11	Americans with Disabilities (ADA Compliance)	Comply with PROWAG and HDM Chapter 18	N/A	N/A (7)	HDM § 2.7.2.4.K

* Nonstandard feature

Notes

1. See **Appendix C-6, Table C-6.5** for more detailed description of street segment limits where NHS and Functional Class limits apply and **Table 5-49** for proposed changes associated with the Community Grid Alternative.
2. Some street segment Classifications are based on anticipated changes proposed by SMTC as well as changes that would result as part of the Community Grid Alternative.
3. The Regional Traffic Engineer has concurred that the use of a Design Speed of 45 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
4. 12 ft. lane required on Qualifying Highway segments.
5. While the new I-81 is the designated 16-ft route, a minimum vertical clearance of 16.5 feet is to be provided along the section of BL 81 from the south interchange to the Van Buren St/BL 81 intersection.
6. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.
7. This section of BL 81 has full access control and is transitioning to/from a freeway section. As such, pedestrians and bicycles are prohibited. In addition, there are adjacent city streets which would accommodate pedestrians and bicycles.

TABLE 4-7

DESIGN CRITERIA, BL 81 (CITY STREET SECTION), COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes (1, 2)
Route No. & Name:		Business Loop 81 (city street segments), including: Almond Street, Erie Boulevard East (between Oswego Boulevard and Almond Street), Oswego Boulevard, Pearl Street (between Erie Boulevard and on-ramps to BL 81) **See Note 1, 2**		**Functional Classification:**	Urban Principal Arterial - Other
Project Type:		Reconstruction		**Design Classification:**	Urban Arterial
% Trucks:		3%		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
	DESIGN ELEMENT	**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	35 mph (3)	Posted 30 mph	35 mph	HDM § 2.7.2.4.A
2	Outside Lane Width Inside Lane Width Shared Lane Width Turn Lane Width Parking Lane Width	12 ft. 12 ft. 13 ft. 12 ft. 8 ft.	11ft. and varies	12 ft. (4) 12 ft. (4) 12 ft. (5) * 12 ft. 8 ft.	HDM § 2.7.2.4.B Exhibit 2-4a
3	Shoulder Width (Min.)	0-4 ft. (6)	1 ft. Curb Offset	0 ft. (6)	HDM § 2.7.2.4.C Exhibit 2-4a
4	Grade (Max.)	8.0%	8%	8.0%	HDM § 2.7.2.4.G Exhibit 2-4a
5	Horizontal Curve Radius (Min. Radius)	371 ft.	>371 ft.	>371 ft.	HDM § 2.7.2.4.D Exhibit 2-4a
6	Superelevation	4.0%	4.0%	4.0%	HDM § 2.7.2.4.E
7	Stopping Sight Distance (Min.)	250 ft.	>250 ft.	>250 ft.	HDM § 2.7.2.4.F Exhibit 2-4a
8	Vertical Clearance	Varies 14 Min. (7, 8, 9) Varies 14.5 Desired	Varies 14 - 16 ft. Min.	Varies 14.5 ft. min. to 16.5 ft. min. (7, 8, 9)	HDM § 2.7.2.4.I / NYSDOT Brg. Man. § 2.3.1
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	2.0%	1.5% min, 2.5% max	HDM § 2.7.2.4.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5
11	Americans with Disabilities (ADA Compliance)	Comply with PROWAG and HDM Chapter 18	Varies	Complies with PROWAG and HDM Chapter 18	HDM § 2.7.2.4.K

* Nonstandard feature

Notes

1. See **Appendix C-6, Table C-6.5** in the FDR/FEIS for more detailed description of street segment limits where NHS and Functional Class limits apply and **Table 5-49** in the FDR/FEIS for proposed changes associated with the Community Grid Alternative.
2. Some street segment classifications are based on anticipated changes proposed by SMTC as well as changes that would result as part of the Community Grid Alternative.
3. The Regional Traffic Engineer has concurred that the use of a Design Speed of 35 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
4. 12 ft. lane required on Qualifying Highway segments, which also meets lane criteria on Almond Street since it contains a separated bicycle facility.
5. Shared travel lanes not provided on Erie Boulevard, Oswego Boulevard and Pearl Street. There are adjacent streets which have designated bicycle facilities. Refer to Non-Standard Justification forms in AMR **Attachment 3** for more information.
6. A 0-4 ft. shoulder may be used in locations where a separate bicycle facility is provided or where the lane width is a minimum of 13 feet (refer to note 5).
7. 14.5 ft. minimum except on BL 81, between the BL 81/I-81 south interchange and the Van Buren St./BL 81 intersection, where a minimum of 16.5 ft. is required.
8. 16-ft clearance exemption. New I-81 is the designated 16-ft route.
9. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.

TABLE 4-8

DESIGN CRITERIA, INTERSTATE DIRECT CONNECTOR RAMPS, COMMUNITY GRID ALTERNATIVE

PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Interstate Direct Connector Ramps (1)		**Functional Classification:**	Urban Principal Arterial - Interstate
Project Type:		Reconstruction		**Design Classification:**	Ramp (Direct Connection) (2)
% Trucks:		Varies		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING (4) CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	40 mph (3)	40 mph	40 mph	HDM § 2.7.5.3.A
2	Travel Lane Width (Min.)	16 ft. (1 lane) for R=485 ft. 15 ft. (1 lane) for R>500 ft. (5)	16 ft.	16 ft. (1 lane) for R=485 15 ft. (1 lane) for R>500 (5)	HDM § 2.7.5.3.B Exhibit 2-9
3	Shoulder Width (Min.) Right Left	 6 ft. 4 ft.	 5 ft.* 9 ft.	 Varies 8-14 ft. (6) 4 ft.	HDM § 2.7.5.3.C Exhibit 2-10a
4	Grade (Max.)	6%	1.5%	6%	HDM § 2.7.5.3.G Exhibit 2-10a
5	Horizontal Curve Radius (Min. Radius)	444 ft. @ 8%	411 ft. *	485 ft. Min.	HDM § 2.7.5.3.D Exhibit 2-10a
6	Superelevation	8%	7.0% *	8%	HDM § 2.7.5.3.E
7	Stopping Sight Distance (Min.)	305 ft.	225 ft.*	305 ft.	HDM § 2.7.5.3.F Exhibit 2-10a
8	Vertical Clearance	14 ft. Min. (7, 8) 14.5 ft. Desired	14 ft. Min.	14.5 ft. Min. (7, 8)	HDM § 2.7.5.3.I / NYSDOT Brg. Man. § 2.3.1, Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.5.3.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. This table applies to one connector ramp under the Community Grid Alternative, SB BL 81 to EB I-690.
2. Ramp to be designed with provision for passing a WB-67 stalled vehicle (Case IIC).
3. The Regional Traffic Engineer has concurred that the use of a Design Speed of 40 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
4. Existing values based on existing NB I-81 to EB I-690 connector ramp.
5. Lane width based on deducting right and left shoulder widths from the Exhibit 2-9 Traveled Way Width, Case IIC, and applying the minimum Case I lane width. Per Exhibit 2-9, where the combined shoulder width is 4 ft. or wider, a 12-foot lane width may be used on tangents (radius greater than or equal to 1000 ft.).
6. On inside of curves, the proposed shoulder width varies from 8 feet to 14 feet maximum to meet HSSD criteria along the horizontal curve and to match abutting highway shoulders.
7. 16-ft clearance exemption. New I-81 is the designated 16-ft route.
8. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.

TABLE 4-9

DESIGN CRITERIA, INTERSTATE DIRECT CONNECTOR RAMPS, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Interstate Direct Connector Ramps (1)		**Functional Classification:**	Urban Principal Arterial - Interstate
Project Type:		Reconstruction		**Design Classification:**	Ramp (Direct Connection) (2)
% Trucks:		Varies		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
	DESIGN ELEMENT	**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	45 mph (3)	45 mph	45 mph	HDM § 2.7.5.3.A
2	Travel Lane Width (Min.)	12 ft. (1 lane) for R > 1000 ft. (4, 5)	15 ft.	12 ft. (1 lane) for R > 1000 ft. (4)	HDM § 2.7.5.3.B, Exhibit 2-9
3	Shoulder Width (Min.) Right Left	 8 ft. 4 ft.	 3 ft.* 2 ft.*	 8 ft. Min. & varies (5) 4 ft. Min. & varies (5)	HDM § 2.7.5.3.C Exhibit 2-10a, Note 2
4	Grade (Max.)	5%	3.9%	5%	HDM § 2.7.5.3.G Exhibit 2-10a
5	Horizontal Curve Radius (Min. Radius)	587 ft. @ 8%	411 ft. & Varies*	1000 ft. Min.	HDM § 2.7.5.3.D Exhibit 2-10a
6	Superelevation	8%	7.0% *	8%	HDM § 2.7.5.3.E
7	Stopping Sight Distance (Min.)	360 ft.	180 ft. & Varies*	360 ft.	HDM § 2.7.5.3.F Exhibit 2-10a
8	Vertical Clearance	14 ft. Min. (6, 7) 14.5 ft. Desired	14 ft.	14.5 ft. Min. (6, 7)	HDM § 2.7.5.3.I / NYSDOT Brg. Man. § 2.3.1 Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%-	1.5% min, 2.5% max	HDM § 2.7.5.3.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5

* Nonstandard feature

Notes

1. This table applies to one ramp under the Community Grid Alternative (WB I-690 to NB BL 81).
2. Ramp to be designed with provision for passing a WB-67 stalled vehicle (Case IIC).
3. The Regional Traffic Engineer has concurred that the use of a Design Speed of 45 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
4. Lane width based on deducting right and left shoulder widths from the Exhibit 2-9 Traveled Way Width, Case IIC, and applying the minimum Case I lane width. Per Exhibit 2-9, where the combined shoulder width is 4 ft. or wider, a 12-foot lane width may be used on tangents (radius greater than or equal to 1000 ft.).
5. On inside of curves, the proposed shoulder width varies up to a maximum of 12 feet to meet HSSD criteria along the horizontal curve and to match abutting highway shoulders
6. 16-ft clearance exemption. New I-81 is the designated 16-ft route.
7. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft. greater.

TABLE 4-10

DESIGN CRITERIA FOR DIAGONAL RAMPS, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Interstate/Freeway Diagonal Ramps (1)		**Functional Classification:**	Urban Principal Arterial – Interstate and Other Freeway
Project Type:		Reconstruction		**Design Classification:**	Ramp (Diagonal) (1)
% Trucks:		Varies		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	30 mph (2)	30 mph	30 mph	HDM § 2.7.5.3.A
2	Travel Lane Width (Min.) (3, 4) Turn Lane	12 ft. (1 lane) R>1000 ft., Tangent 16 ft. (1 lane) R=200 ft-499 ft. 17 ft. (1 lane) R=150 ft-199 ft. 33 ft. (2 lane) R=150 ft-199 ft. 12 ft.	12 ft.	12 ft. (1 lane) R>1000 ft., Tangent 16 ft. (1 lane) R=200 ft-499 ft. 17 ft. (1 lane) R=150 ft-199 ft. 33 ft. (2 lane) R=150 ft-199 ft. 12 ft.	HDM § 2.7.5.3.B Exhibit 2.9.
3	Shoulder Width (Min.) Right Left 2 Lane Ramp	 6 ft. (1 lane ramp) 4 ft. (1 lane ramp) Add 2 ft. for curb section	1ft & Varies*	 6 ft. 4 ft. Add 2 ft. for curb section	HDM § 2.7.5.3.C Exhibit 2-10a
4	Grade (Max.)	7%	7%	7%	HDM § 2.7.5.3.G Exhibit 2-10
5	Horizontal Curve Radius (Min. Radius)	214 ft. @ 8%	57 ft. *	158 ft. * (5)	HDM § 2.7.5.3.D Exhibit 2-10
6	Superelevation	8%	3.8% *	8%	HDM § 2.7.5.3.E
7	Stopping Sight Distance (Min.)	200 ft.	160 ft. & Varies*	129 ft. * (6)	HDM § 2.7.5.3.F Exhibit 2-10
8	Vertical Clearance	14 ft. Min. (7, 8) 14.5 ft. Desired	14 ft. Min.	14.5 ft. Min. (7, 8)	HDM § 2.7.5.3.I / NYSDOT Brg. Man. § 2.3.1 Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.5.3.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5
11	Americans with Disabilities (ADA Compliance)	Comply with PROWAG and HDM Chapter 18 (9)	At Ramp Terminal	Complies with PROWAG and HDM Chapter 18 (9)	HDM § 2.7.5.3.K

* Nonstandard feature

Note

1. Table applies to all interstate and freeway diagonal ramps where the mainline design speed = 60 mph or less.
2. The Regional Traffic Engineer has concurred that the use of a Design Speed of 30 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
3. Ramps to be designed with provision for passing a WB-67 stalled vehicle (Case IIC) except for the SB BL 81 off-ramp to N. Clinton St., the SB BL 81 on-ramp from N. Clinton St. and the WB I-690 on-ramp from Irving Ave under the Community Grid Alternative which would be designed for Case IC.
4. Lane width based on deducting right and left shoulder widths from the Exhibit 2-9 Traveled Way Width, Case IIC, and applying the minimum Case I lane width. Per Exhibit 2-9, where the combined shoulder width is 4 ft. or wider, a 12-foot lane width may be used on tangents (radius greater than or equal to 1000 ft.).
5. Proposed Horizontal Curve Radius is non-standard along three ramp curves (See Non-Standard Feature Justification Forms in AMR **Attachment 3**). All other locations meet design criteria.
6. Proposed Horizontal Stopping Sight Distance is non-standard along one ramp curve (See Non-Standard Feature Justification Forms in AMR **Attachment 3**). All other locations meet design criteria.
7. 16-ft clearance exemption. New I-81 is the designated 16-ft route.
8. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.
9. At Ramp Terminal only.

TABLE 4-11

DESIGN CRITERIA FOR DIAGONAL RAMPS, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes
Route No. & Name:		Interstate Diagonal Ramps (1)		**Functional Classification:**	Urban Principal Arterial - Interstate
Project Type:		Reconstruction		**Design Classification:**	Ramp (Diagonal) (2)
% Trucks:		Varies		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE**
1	Design Speed (Min.)	40 mph (3)	40 mph	40 mph	HDM § 2.7.5.3.A
2	Travel Lane Width (Min.)	12 ft. (1 lane) R>1000 ft., Tangent (4)	12 ft.	12 ft. (1 lane) R>1000 ft., Tangent (4)	HDM § 2.7.5.3.B Exhibit 2.9
3	Shoulder Width (Min.) Right Left	6 ft. 4 ft.	1ft & Varies*	6 ft. 4 ft.	HDM § 2.7.5.3.C Exhibit 2-10a
4	Grade (Max.)	6%	6%	6%	HDM § 2.7.5.3.G Exhibit 2-10a
5	Horizontal Curve Radius (Min. Radius)	444 ft. @ 8%	> 444 ft.	444 ft. @ 8%	HDM § 2.7.5.3.D Exhibit 2-10a
6	Superelevation	8%	8%	8%	HDM § 2.7.5.3.E
7	Stopping Sight Distance (Min.)	305 ft.	160 ft. & Varies*	305 ft.	HDM § 2.7.5.3.F Exhibit 2-10a
8	Vertical Clearance	16 ft. Min. (5, 6) 16.5 ft. Desired	16 ft. Min.	16.5 ft. Min. (5, 6)	HDM § 2.7.5.3.I / NYSDOT Brg. Man. § 2.3.1 Table 2-2
9	Cross Slope (Pavement) (Min.) / (Max.)	1.5% min, 2.5% max	1.5% / 2.0%	1.5% min, 2.5% max	HDM § 2.7.5.3.H
10	Design Loading Structural Capacity	NYSDOT Bridge Manual, Section 2.5	HS20	NYSDOT Bridge Manual, Section 2.5	NYSDOT Bridge Manual, Section 2.5
11	Americans with Disabilities (ADA Compliance)	Comply with PROWAG and HDM Chapter 18 (7)	At Ramp Terminal	Complies with PROWAG and HDM Chapter 18 (7)	HDM § 2.7.5.3.K

* Nonstandard feature

Note

1. Table applies to all diagonal ramps where the mainline design speed= 70 mph.
2. Ramps to be designed with provision for passing a WB-67 stalled vehicle (Case IIC).
3. The Regional Traffic Engineer has concurred that the use of a Design Speed of 40 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
4. Lane width based on deducting right and left shoulder widths from the Exhibit 2-9 Traveled Way Width, Case IIC, and applying the minimum Case I lane width. Per Exhibit 2-9, where the combined shoulder width is 4 ft. or wider, a 12-foot lane width may be used on tangents (radius greater than or equal to 1000 ft.).
5. New I-81 is the designated 16-ft route.
6. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.
7. At Ramp Terminal only.

TABLE 4-12

DESIGN CRITERIA, URBAN PRINCIPAL ARTERIAL OTHER, COMMUNITY GRID ALTERNATIVE					
PIN:		3501.60		**NHS (Y/N):**	Yes (1, 2)
Route No. & Name:		Business Loop 81 Roundabout **See Note 1, 2**		**Functional Classification:**	Urban Principal Arterial - Other
Project Type:		Reconstruction		**Design Classification:**	Urban Arterial
% Trucks:		3%		**Terrain:**	Rolling
ADT (2050):		Varies		**Truck Access/Qualifying:**	Qualifying Highway
DESIGN ELEMENT		**STANDARD CRITERIA**	**EXISTING CONDITION**	**PROPOSED CONDITION**	**REFERENCE (4, 5)**
1	Design Speed (Min.) **(3)**	<30 mph	Posted 30 mph	<30 mph	NCHRP Report 672 **(4)**
2	Entry Width – 2-lane Entry Width – 3-lane	26-32 ft. typical 39-45 ft. typical	N/A	North Leg = 30 ft. East Leg = 30 ft. South Leg = 30 ft.	NCHRP Report 672 **(4)** Per Equation 6.3 (10)
3	Entry Radius	65-150 ft. typical 90-110 ft. typical	N/A	North Leg = 100 ft. East Leg = 100 ft. South Leg = 100 ft.	NCHRP Report 672 **(4)**
4	Entry Angle Criteria #1 **(6)** Criteria #2 **(7)**	20° - 60° 30° - 40° desired ≥ ⅔ obstructed view? (yes or no)	N/A N/A	North Leg = N/A East Leg = 43.0° South Leg = 47.3° No	NCHRP Report 672 **(4)**
5	Entry Angle of Visibility	≥ 75°	N/A	North Leg = 85.3°. East Leg = 80.8°. South Leg = 130.8°	NCHRP Report 672 Section 6.7.4 **(4, 5)**
6	Splitter Island Length	≥ 50 ft. (≥ 80 ft. desirable)	N/A	North Leg = >50 ft. East Leg = 52 ft. South Leg = >50 ft.	NCHRP Report 672 **(4)**
7	Control of Access & Parking	Note 8	N/A	N/A	NCHRP Report 672 **(4)**
8	Approach Stopping Sight Distance	Per Section 6.7.3	N/A	North Leg = >197.8 ft. East Leg = >152.7 ft. South Leg = >197.8 ft.	NCHRP Report 672 Section 6.7.3 **(4, 5)**
9	Circulating Roadway Sight Distance	Per Section 6.7.3	N/A	>77.0 ft.	NCHRP Report 672 Section 6.7.3 **(4, 5)**
10	Intersection Sight Distance	Per Section 6.7.3	N/A	North Leg = >220.2 ft. East Leg = >183.5 ft. South Leg = >220.2 ft.	NCHRP Report 672 Section 6.7.3 **(4, 5)**
11	Sight Distance to Crosswalk	Per Section 6.7.3	N/A	North Leg = >197.8 ft. East Leg = >152.7 ft. South Leg = >197.8 ft.	NCHRP Report 672 Section 6.7.3 **(4, 5)**
12	Inscribed Circle Diameter 2 Lane	140 ft. – 220 ft.	N/A	150 ft.	NCHRP Report 672 **(4)**
13	Circulatory Roadway 2 Lane:	14 ft. - 18 ft. typical	N/A	15 ft.	NCHRP Report 672 **(4)**
14	Min. Exit Radius (9) 1-Lane 2-Lane	 65 ft. – ∞ 400 ft. - 800 ft. typical	N/A	North Leg = 700 ft. East Leg = 350 ft. South Leg = 400 ft.	NCHRP Report 672 **(4)**
15	Americans with Disabilities (ADA Compliance)	Comply with PROWAG and HDM Chapter 18 & NCHRP 672	N/A	Complies with PROWAG and HDM Chapter 18 & NCHRP 672	NCHRP Report 672 **(4)**
16	Truck Access	Per HDM 5.7.1	N/A	Complies with HDM 5.7.1	HDM § 5.7.1
17	Design Vehicle	WB-67	N/A	WB-67	HDM § 5.7.1

* Nonstandard feature

Notes

1. See **Appendix C-6, Table C-6.5** for more detailed description of street segment limits where NHS and Functional Class limits apply and **Table 5-49** for proposed changes associated with the Community Grid Alternative.
2. Some street segment Classifications are based on anticipated changes proposed by SMTC as well as changes that would result as part of the Community Grid Alternative.
3. Design is based on the Entry Path Radius Method. The Regional Traffic Engineer has concurred that the use of a of Maximum Entry Speed of 30 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
4. Parameters per NCHRP Report 672, "Roundabouts: An Informational Guide (Second Edition)" and/or Main Office Intersection Design Squad, as applicable.
5. Section numbers and equations listed in the table above refer to NCHRP Report 672, "Roundabouts: An Informational Guide (Second Edition)"

TABLE 4-12

DESIGN CRITERIA, URBAN PRINCIPAL ARTERIAL OTHER, COMMUNITY GRID ALTERNATIVE

6. Criteria #1 for the entry angle shall be the angle (in degrees) that represents the degree of curvature of the approach entry radius. It is understood that this may be contrary to what is illustrated on Figure 1 in EI 00-021.
7. To determine Criteria #2 for the entry angle, the designer shall project the tangent portions of the right approach lane's left and right lane lines into the circulating roadway. At the splitter island's bull-nose in the vicinity of the projection (between the approach and circulating roadways), it is preferred that 2/3 or more of the width of the projection at the bull-nose, measured perpendicular to the projections, is taken up by the splitter island.
8. No parking or access within 20' of crosswalk or 80' of yield line, whichever is more restrictive. If ≤ 200' of yield line indicate distance, otherwise indicate "N/A".
9. Exit radius is measured along the right curb line at exit.
10. Equation 6-3 on page 6-58 incorrectly contains an addition sign (+) as an operator. The correct operator should be a subtraction sign (-).
11. 14.5 ft. minimum. (16-ft clearance exemption. New I-81 is the designated 16-ft route).
12. The minimum vertical clearance for sign structures and pedestrian bridges shall be 1-ft greater.

ATTACHMENT 3

Exceptions to FHWA's Ten Controlling Design Criteria (Non-Standard Features)

see **Table 3-1** and attached non-standard feature justification forms

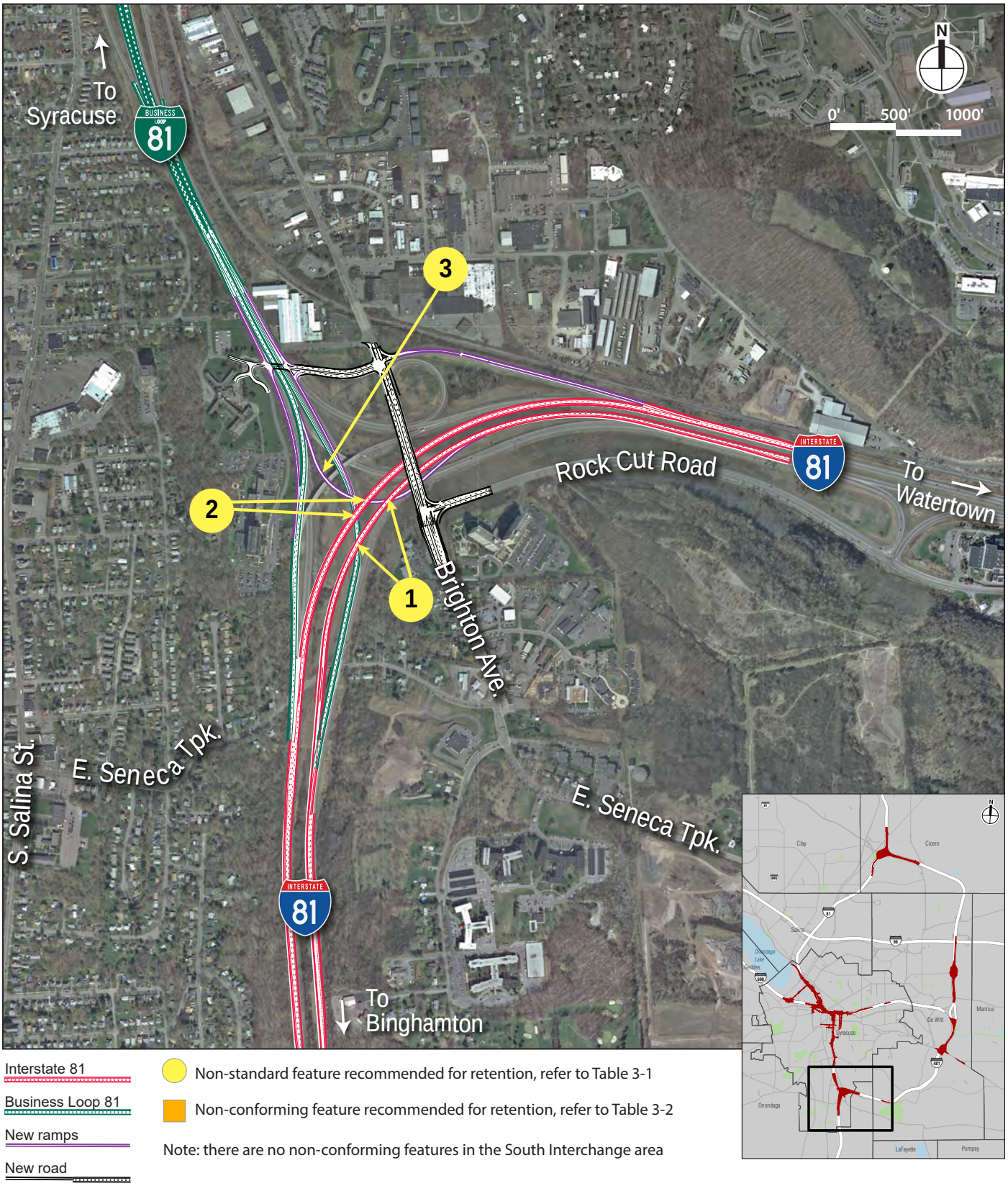
Non-Conforming Features

see **Table 3-2** for summary listing of non-conforming features

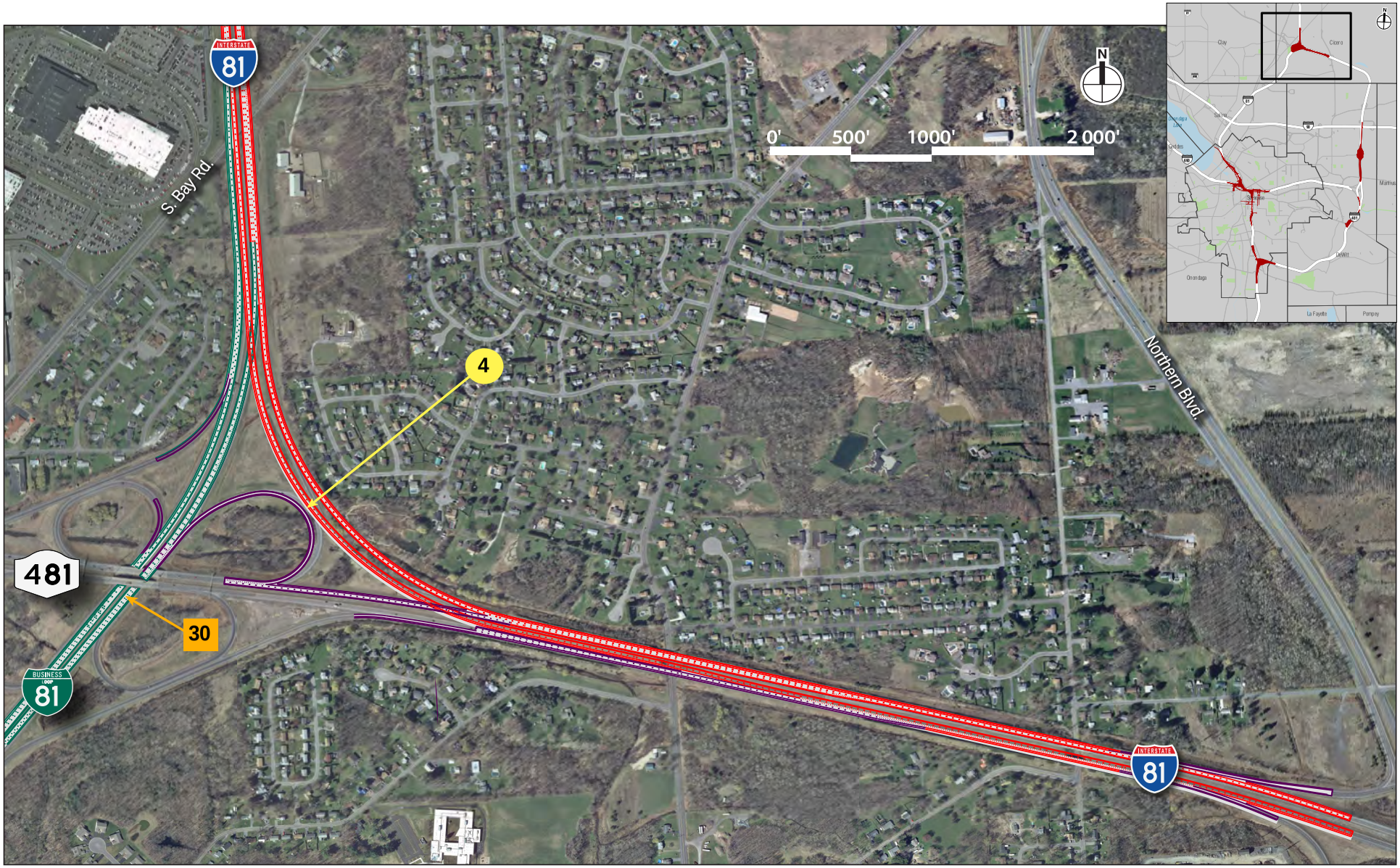
The Non-Standard Features recommended to be retained under the Community Grid Alternative are exceptions to the ten controlling design criteria as designated by FHWA and are listed in **Table 3-1**. The locations of the Non-Standard Features recommended to be retained are shown on **Figures 3-1 to 3-9** and followed by the Non-Standard Feature Justification forms.

Table 3-1
Exceptions to FHWA's Ten Controlling Design Criteria
Non-Standard Freeway Features Recommended to be Retained
Community Grid Alternative

Location See Figures 3-1 to 3-8	Location Description	Design Element (1)	Design Criteria (2)	Proposed Design	NSF Justification Form (3)
1	Northbound I-81 (at south interchange)	HSSD	730 ft.	679/524 ft.	AMR-3-01
2	Southbound I-81 (at south interchange)	HSSD	730 ft.	542/703 ft.	AMR-3-02
3	Interstate Ramp, Southbound BL-81 to new Northbound I-81	HSSD	305 ft.	236 ft.	AMR-3-03
4	Southbound I-81 (at north interchange)	HSSD	730 ft.	542/703 ft.	AMR-3-04
5	Northbound and Southbound I-81 at Route 5/92 bridge area.	Left Shoulder Width	10 ft. (3-lane) 4 ft. (2-lane)	5 ft. 2.5 ft.	AMR-3-05
6	Northbound and Southbound I-81 at Route 5/92 bridge area.	Right Shoulder Width	10 ft.	2.5 ft.	AMR-3-06
7	BL 81 Northern Segment, Butternut St. to Hiawatha Blvd.	Left and Right Shoulder Width	10 ft.	7 ft.	AMR-3-07
8	Interstate Ramp, Eastbound I-690 to off-ramp to Irving Ave.	Horizontal Curve	214 ft.	158 ft.	AMR-3-08
9	Interstate Ramp, Eastbound I-690 to off-ramp to Irving Ave.	HSSD	200 ft.	129 ft.	AMR-3-09
10	Interstate Ramp, Westbound I-690 on-ramp from Irving Ave.	Horizontal Curve	214 ft.	159 ft.	AMR-3-10
11	Interstate Ramp, Southbound BL 81 off-tamp to N. Clinton St.	Horizontal Curve	214 ft.	167 ft.	AMR-3-11
12	Southbound I-481 at Interchange 4	Horizontal Curve	1,815 ft.	1,235 ft.	AMR-3-12
	Notes: 4) HSSD = Horizontal Stopping Sight Distance 5) Refer to Design Criteria Tables in **Attachment 2.** 6) Refer to following pages for Non-Standard Feature Justification Forms				



Community Grid Alternative: Modifications to Existing I-81/I-481 South Interchange (Interchange 16A)



Interstate 81

Business Loop 81

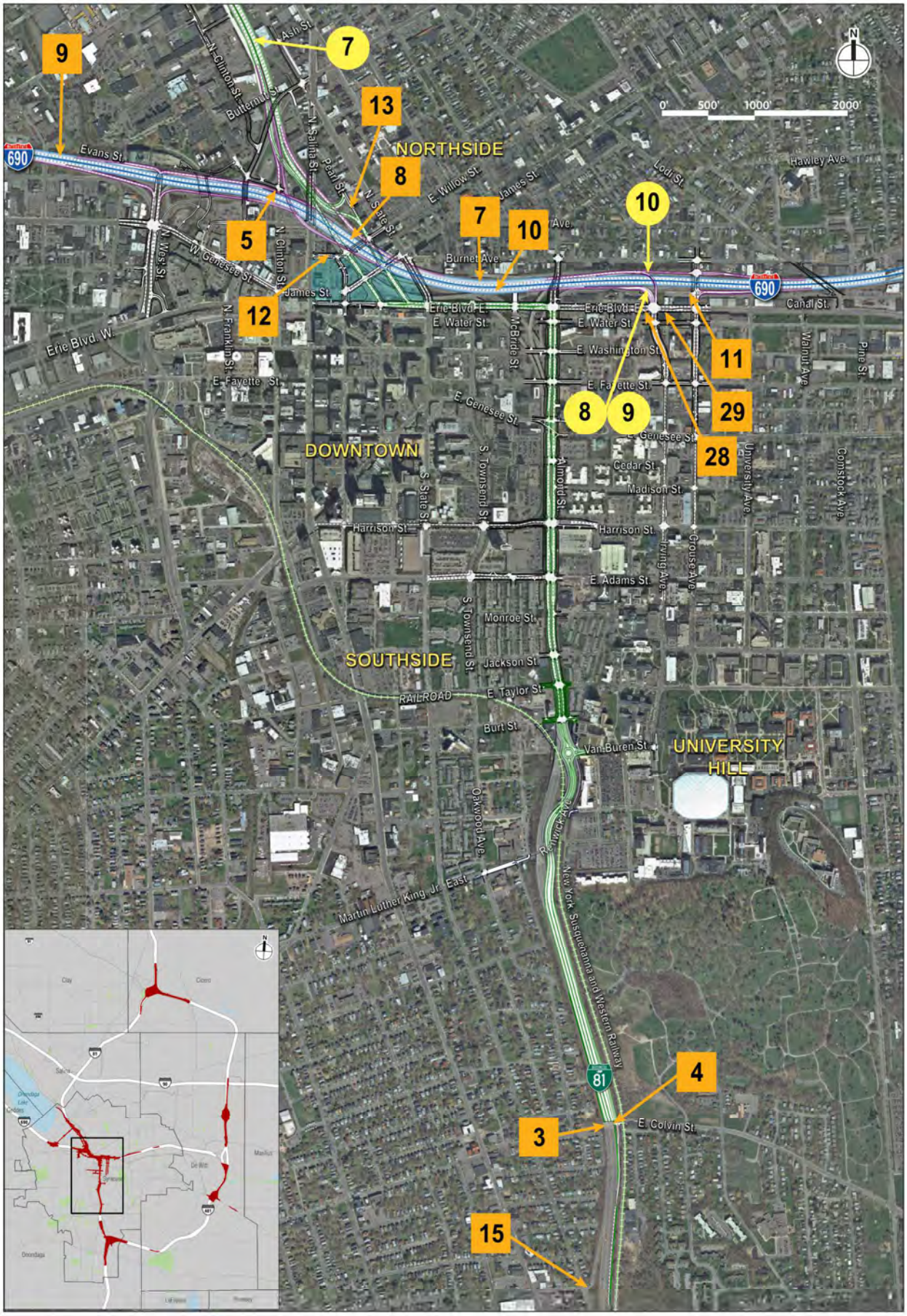
New ramps

New road

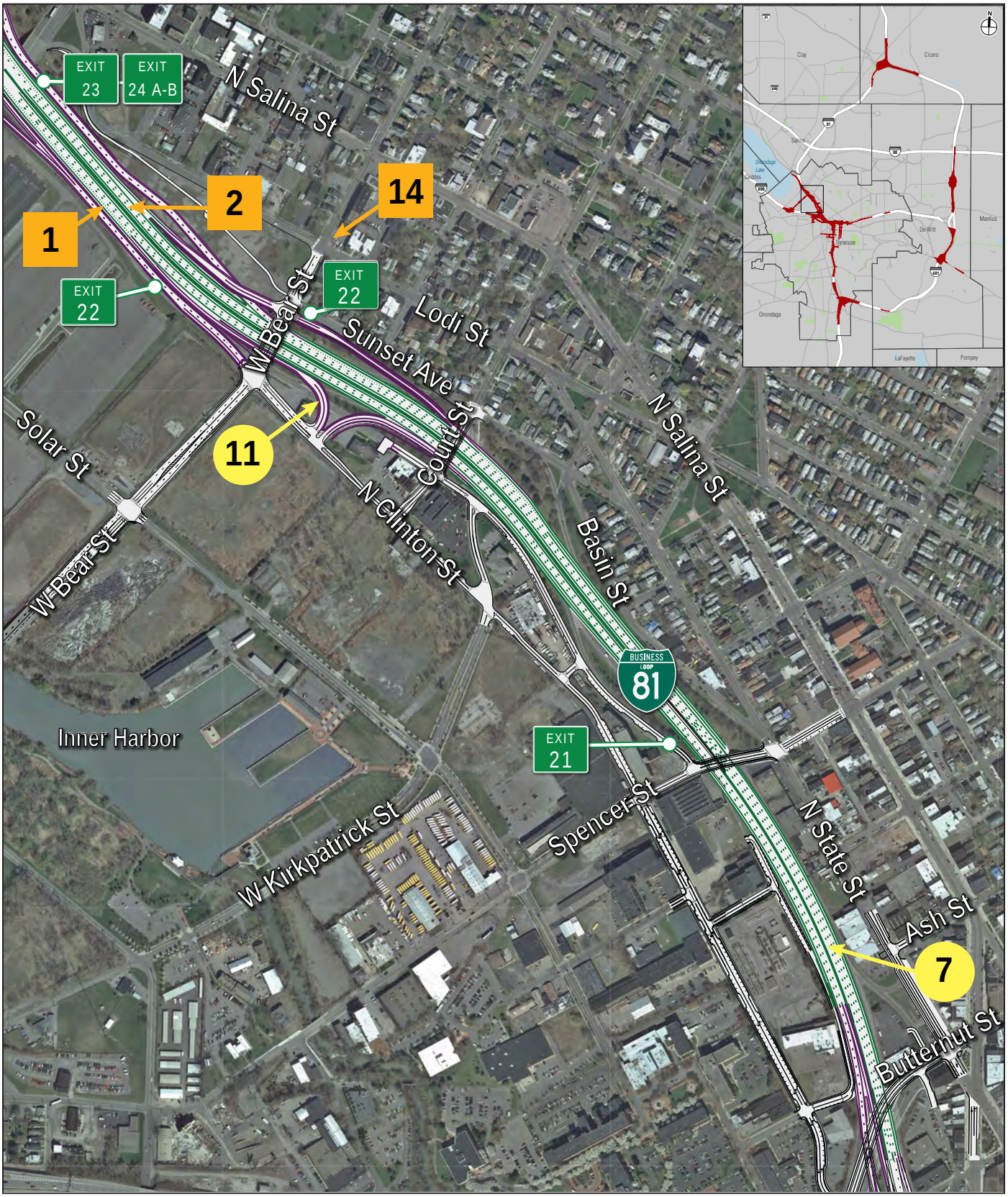
Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Community Grid Alternative: North Interchange of the New I-81 (existing I-481)



Community Grid Alternative: Colvin Street to Butternut Street



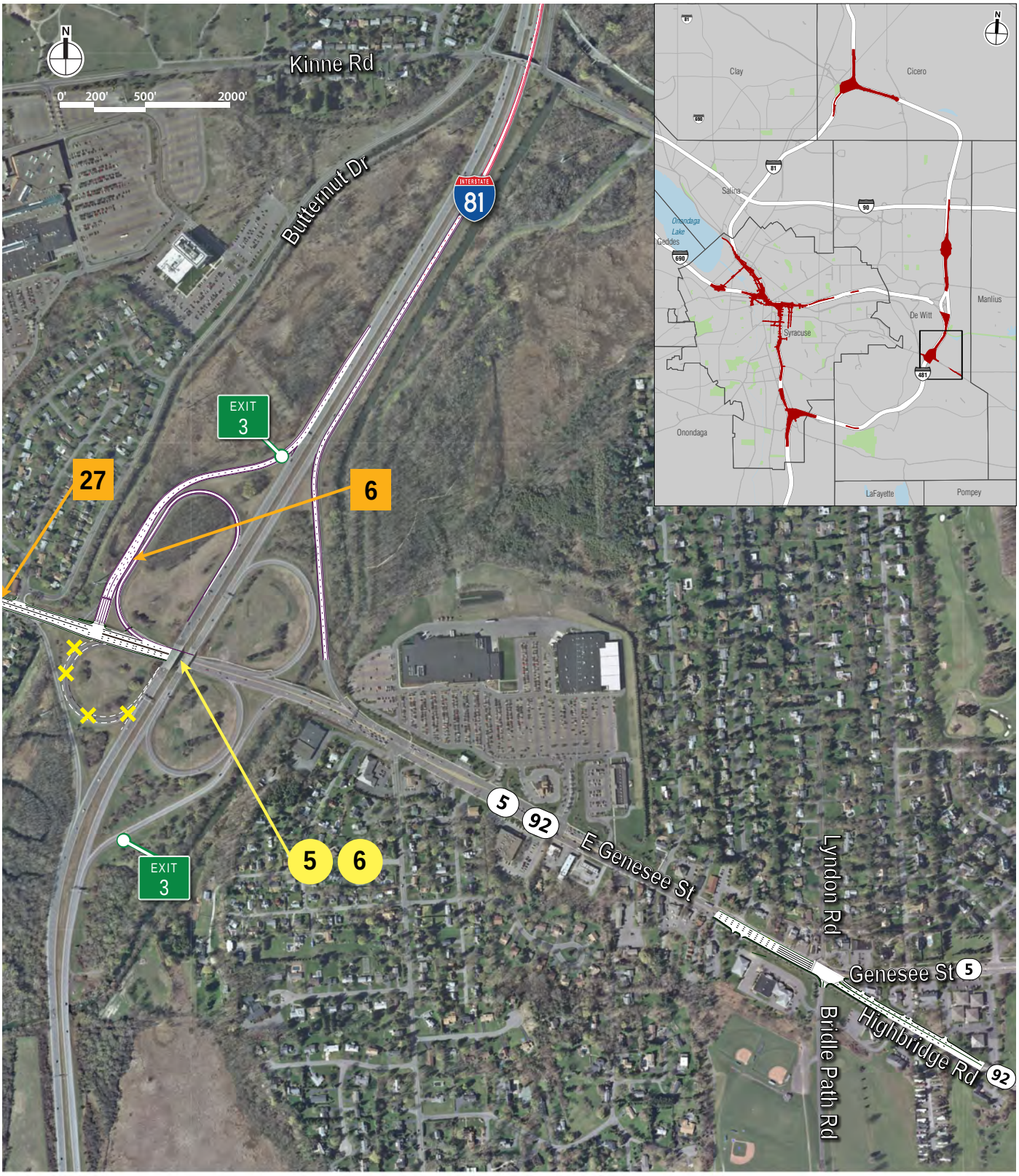
BL 81
Ramps
Local streets

Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Community Grid Alternative:
Butternut Street to Bear Street

Figure AMR ATT 3-4



Interstate 81

New ramps

Local roads

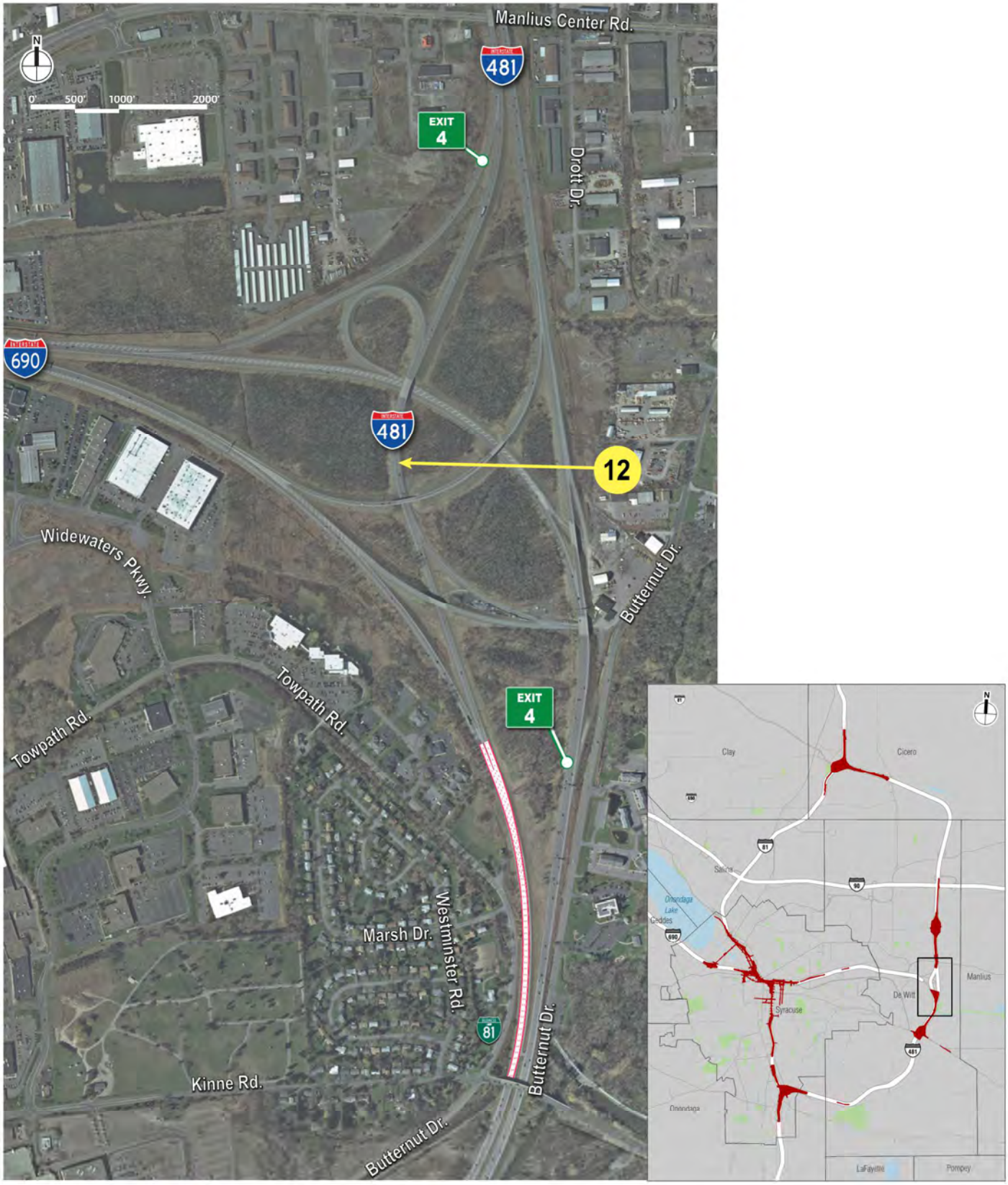
Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Note: there are no non-standard features in the existing I-481 area from Exit 3 to I-90

Community Grid Alternative: Modifications to Existing I-481 at Exit 3

Figure AMR ATT 3-5



Interstate 81

New ramps

Local roads

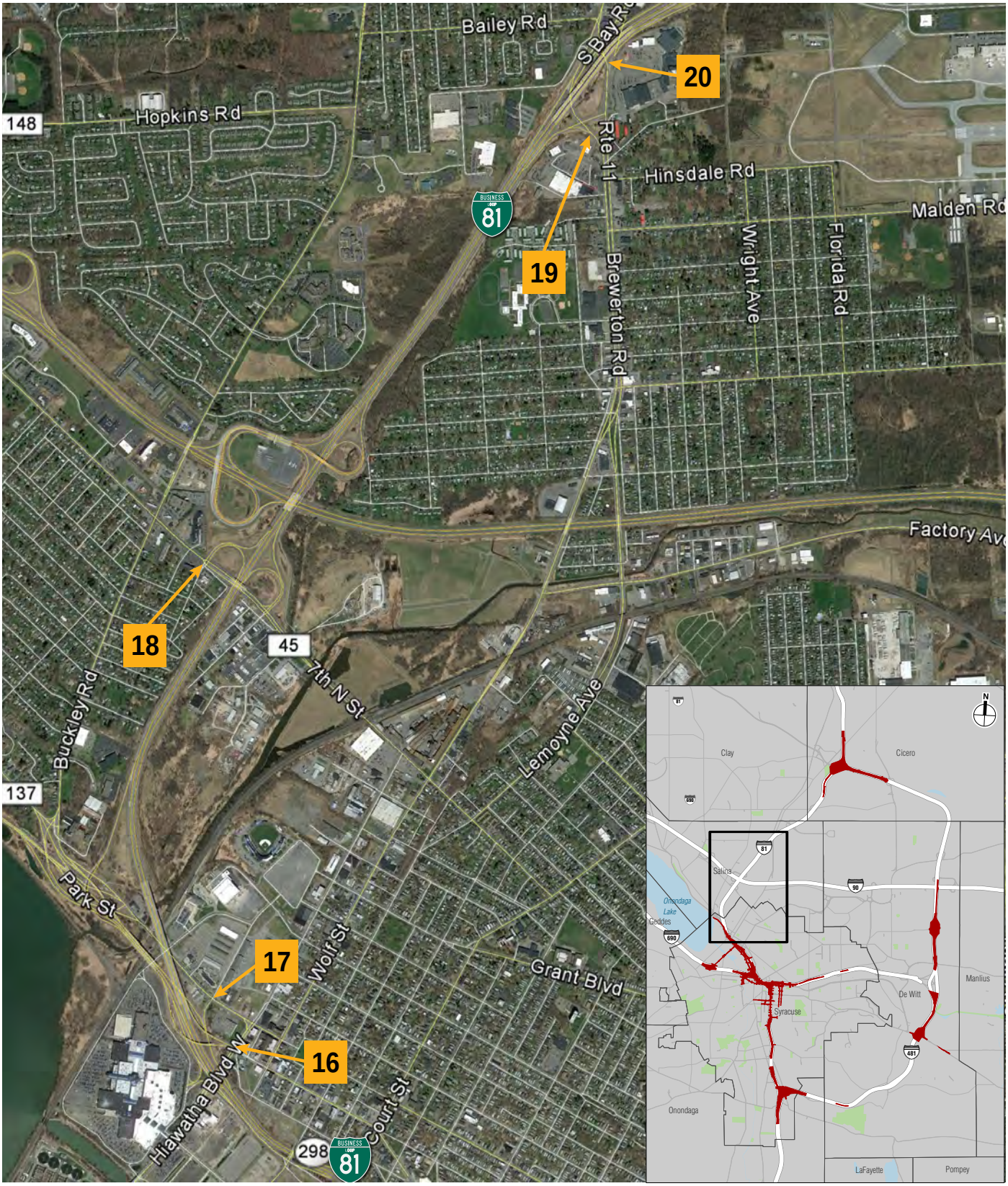
Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Community Grid Alternative: Modification to Existing I-481 in Vicinity of I-690

I-81 Viaduct Project

Figure AMR ATT 3-6



Interstate 81

New ramps

Local roads

Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Community Grid Alternative: BL 81, Hiawatha Blvd. to Route 11

Interstate 81

Business Loop 81

New ramps

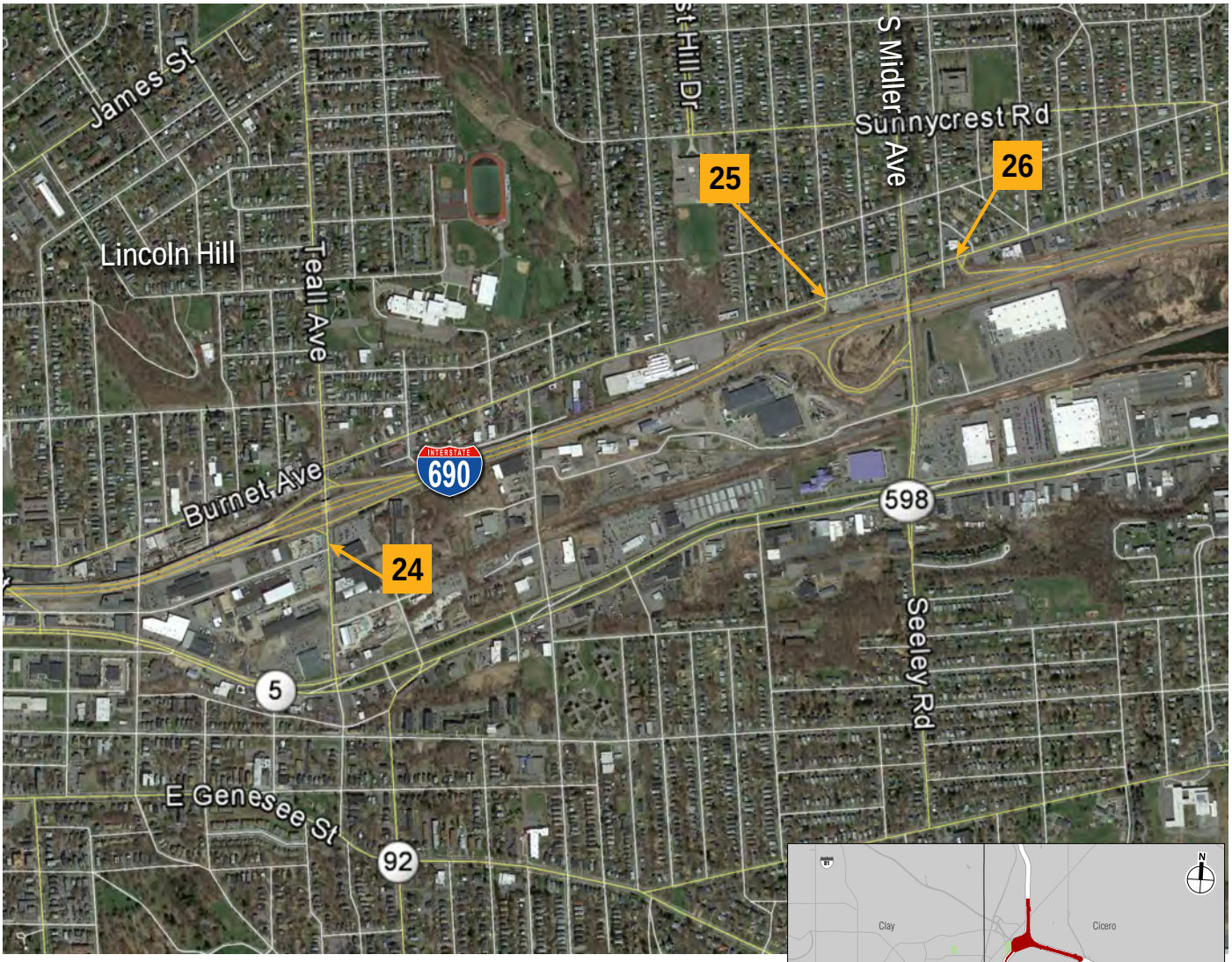
New road

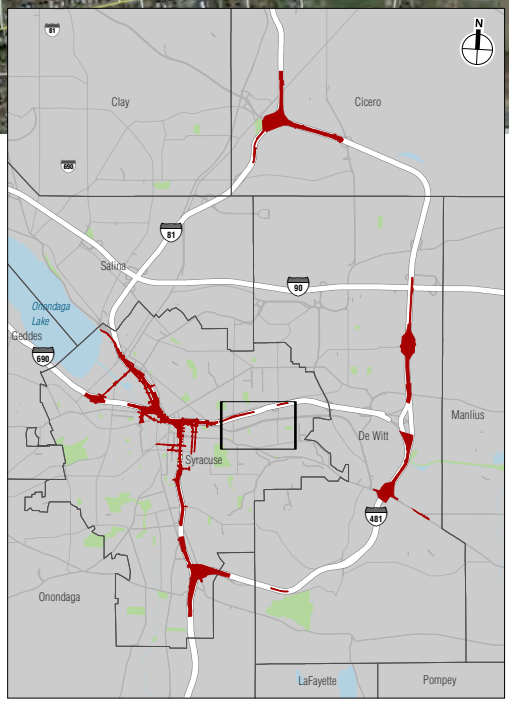
Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Community Grid Alternative: I-690, Bear St. to Geddes St.

Figure AMR ATT 3-8





Interstate 81

New ramps

Local roads

Non-standard feature recommended for retention, refer to Table 3-1

Non-conforming feature recommended for retention, refer to Table 3-2

Community Grid Alternative:
I-690, Teall Ave. to Midler Ave.

Justification Number AMR-3-01

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** I-81 Northbound at South Interchange - Communitiy Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Interstate -Urban	
ADT: 8700	**% Trucks:** 10%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Stopping Sight Distance (Horizontal)

Location: STA H2 32+50 TO H2 STA 44+00 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.002716 Long: -76.134350 **TO** Lat: 43.005822 Long: -76.133080

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 730 ft	**Design Speed:** 70 mph
Existing Value: N/A, New Construction	**Recommended Speed - Existing:** 15 mph uction
Proposed Value: 679 ft (Left Lane), 524 ft (Right Lane) (See note 1)	**Recommended Speed - Proposed:** 55 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: $3.2 Million (see note 2)	**Cost(s) for incremental improvements:** $0.4 Million (see note 3)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

Right side shoulder will be constructed using a width of 12 ft., instead of the minimum 10 ft., on the bridge and approach to maximize sight distance around the bridge barrier. Highway guiderail to be box beam or cable to avoid sight line restrictions other than at bridge. R8-7 signs (Emergency Stopping Only) will be used on the bridge to discourage any voluntary stopping on the bridge that may create a hazard.

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

See Attachment (note 4).

7. Proposed Treatment (i.e., recommendation)

Provide non-standard stopping sight distance with a 12 foot inside (right) shoulder on bridge and bridge approaches. Provide highway guiderail that will not cause sight line restrictions other than at the bridge.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

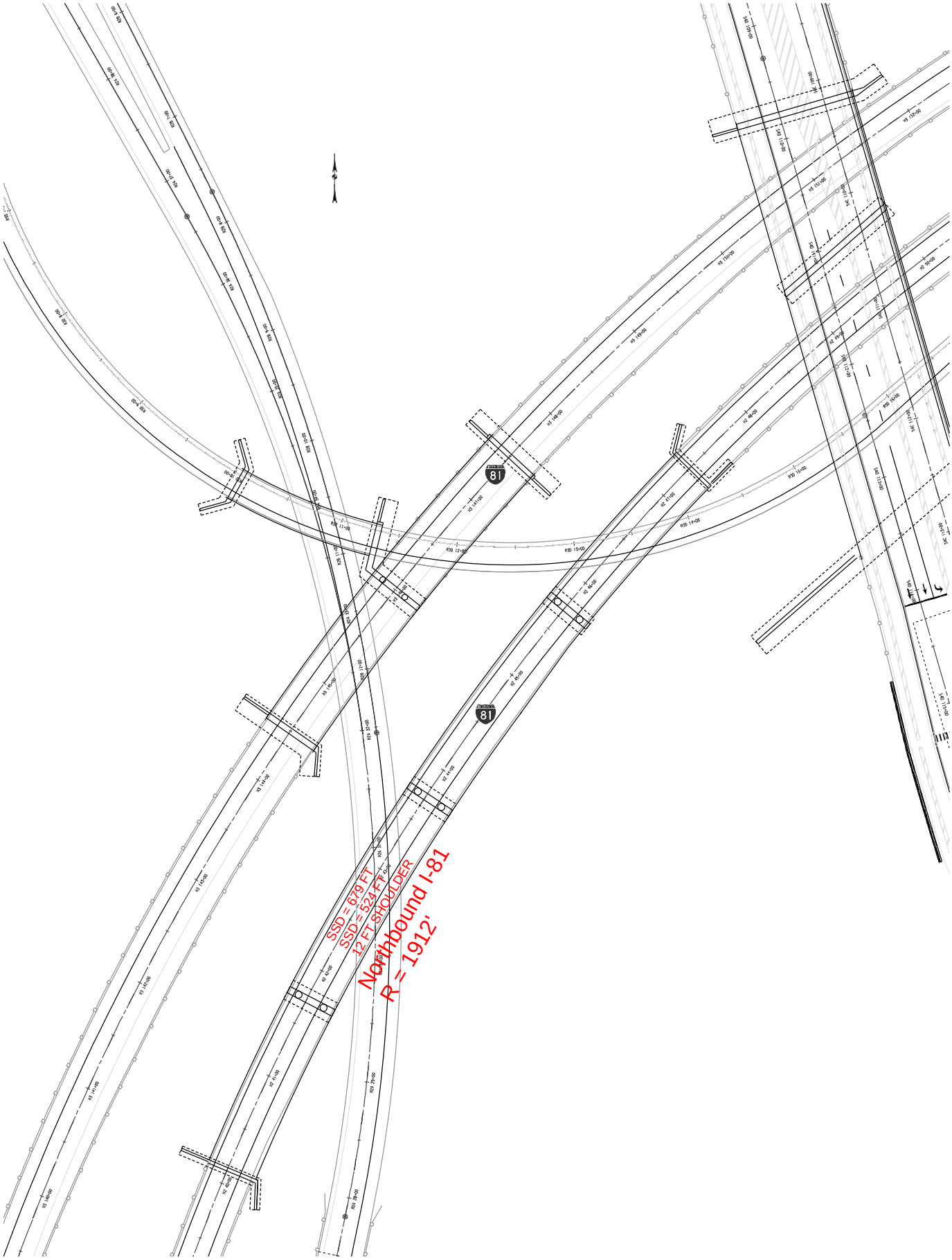
Nonstandard Feature Justification
AMR-3-01
(Attachment)

1. For the inside lane, the typical 10-foot shoulder width would provide a HSSD of 494 feet. Implementation of the incremental improvement, (widening shoulder to 12 feet), would provide an HSSD of 524 feet achieving approximately 72% of the design criteria. For the outside lane, the typical 10-foot shoulder width would provide a HSSD of 656 feet. Implementation of the incremental improvement (widening shoulder to 12 feet), would provide a HSSD of 679 feet achieving 93% of the design criteria.

2. The proposed design meets all other design standards except for HSSD at the bridge location (due to bridge barrier). One alternative evaluation to meet HSSD criteria was to over widen the shoulder from a standard of 10ft. to 29ft. An estimated $ 3.2 million construction cost is based on further widening of bridge shoulder from 12 feet to 29 feet and tapering the approach and trailing shoulders. Another option to fully meet standards is described in note 4.

3. An incremental improvement of over widening the shoulder to 12 feet was also considered and adopted. An estimated $0.4 million construction cost is based on widening the bridge shoulder from 10-foot standard to 12 feet and tapering the approach and trailing shoulder. See Attached Figure.

4. Trucks with a higher sightline, which compose of 10% of total traffic, will not be subjected to the restricted sight distance since they will be able to see over the barrier. Providing standard stopping sight distance would require a 29’ inside (right) shoulder on the bridge using the proposed curve radius. This 29’ wide shoulder may be mistaken for an additional travel lane and increase the risk of additional accidents. Flattening the radius to accommodate the required sight distance using a 12’ shoulder would create severe impacts in the southeast quadrant of the interchange. This would require acquisition of over 40 acres of property and demolition of numerous residences and high-rise buildings and was determined infeasible.


SSD = 679 FT
SSD = 524 FT
12 FT SHOULDER
Northbound I-81
R = 1912'

Justification Number AMR-3-02

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** I-81 southbound at South Interchange - Community Grid Alternative
Project Type: Reconstruction	☑ **National Network/Qualifying Highway** ☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate	**Design Classification (AASHTO Class):** Interstate -Urban
ADT: 9,100	**% Trucks:** 8% ◉ **NHS** ○ **Non-NHS** **Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Stopping Sight Distance (Horizontal)

Location: STA H3 145+50 TO STA H3 152+50 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.005863 Long: -76.133327 **TO** Lat: 43.007364 Long: -76.131432

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 730 ft	**Design Speed:** 70 mph
Existing Value: N/A, New Construction	**Recommended Speed - Existing:** 15 mph uction
Proposed Value: 542 ft (Left Lane) 703 ft (Right Lane) (See note 1)	**Recommended Speed - Proposed:** 55 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: $1.7 Million (see note 2)	**Cost(s) for incremental improvements:** $1.5 Million (see note 3)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The left side shoulder will be constructed using a width of 12', instead of the minimum 4', on the curve/bridge to maximize sight distance around the bridge barrier. The additional shoulder width also serves as extra space for any evasive maneuvering around obstructions in the left lane. Highway guiderail to be box beam or cable to avoid sight line restrictions other than at bridge. R8-7 signs (Emergency Stopping Only) will be used on the bridge to discourage any voluntary stopping on the bridge that may create a hazard.

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

See Attachment (note 4).

7. Proposed Treatment (i.e., recommendation)

Provide non-standard stopping sight distance with a 12' inside (left) shoulder. Provide highway guiderail that will not cause sight line restrictions other than at the bridge.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

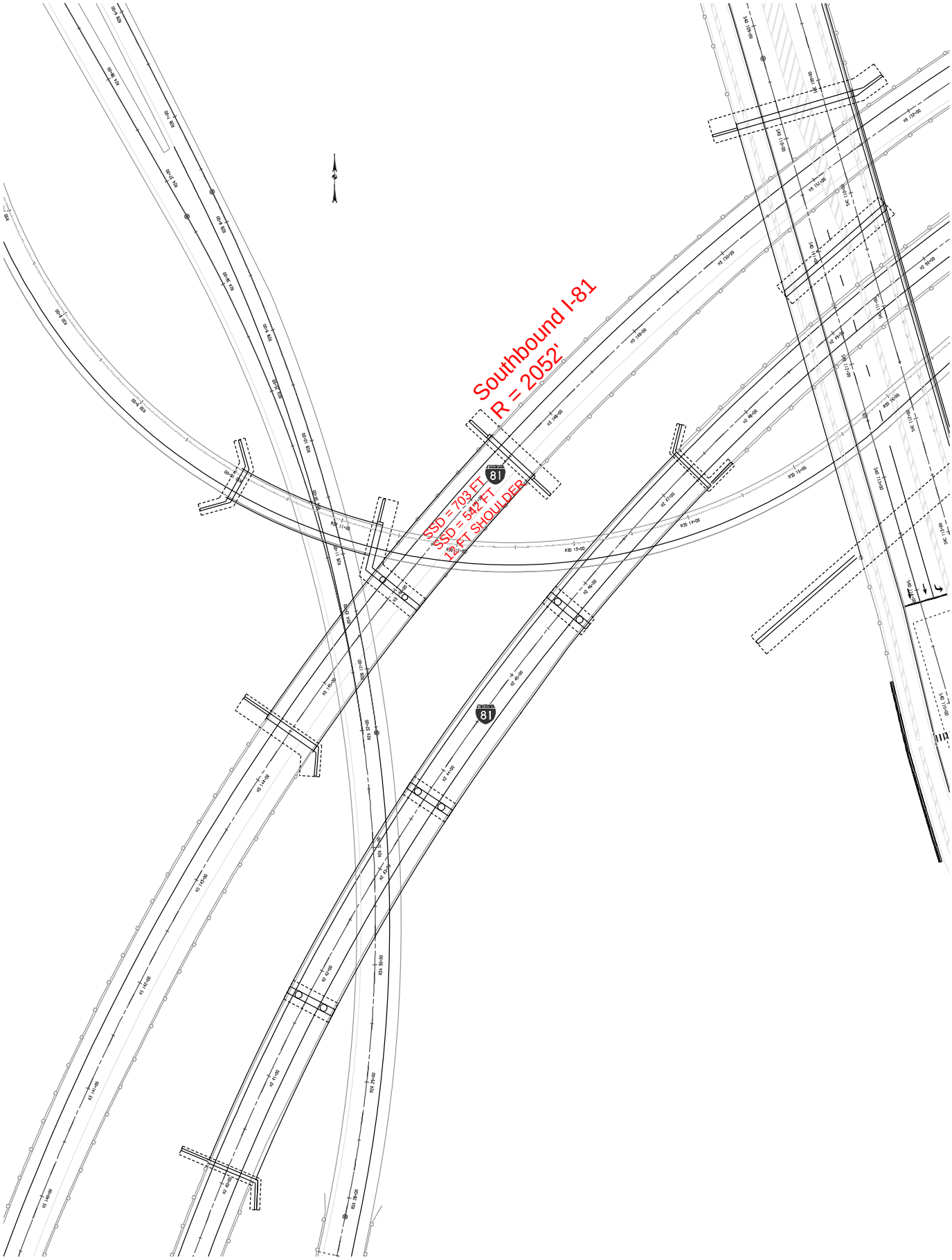
Nonstandard Feature Justification
AMR-3-02
(Attachment)

1. For the inside lane, the typical 4-foot shoulder width would provide a HSSD of 404 feet. Implementation of the incremental improvement, (widening shoulder to 12 feet), would provide an HSSD of 542 feet achieving approximately 74% of the design criteria. For the outside lane, the typical 4-foot shoulder width would provide a HSSD of 602 feet. Implementation of the incremental improvement (widening shoulder to 12 feet), would provide a HSSD of 703 feet achieving 96% of the design criteria.

2. The proposed design meets all other design standards except for HSSD at the bridge location (due to bridge barrier). One Alternative evaluation to meet HSSD criteria was to over widen the shoulder from a standard of 10 feet to 29 feet. An estimated $1.7 million construction cost is based on further widening of bridge shoulder from 12 feet to 27 feet and tapering approach and trailing the shoulders. Another option to fully meet standards is described in note 4.

3. An incremental improvement of over widening the shoulder to 12 feet was also considered and adopted. An estimated $1.5 million construction cost is based on widening the bridge shoulder from 4-foot standard to 12 feet and tapering the approach and trailing shoulders. See Attached Figure.

4. Trucks with a higher sightline, which compose of 8% of total traffic, will not be subjected to the restricted sight distance since they will be able to see over the barrier. Providing standard stopping sight distance would require a 27’ inside (left) shoulder on the bridge using the proposed curve radius. This 27’ wide shoulder may be mistaken for an additional travel lane and increase the risk of additional accidents. Flattening the radius to accommodate the required sight distance using a 12’ shoulder would create severe impacts in the southeast quadrant of the interchange. This would require acquisition of over 40 acres of property and demolition of numerous residences and high-rise buildings and was determined infeasible.


Southbound I-81
R = 2052'
SSD = 703 FT
SSD = 542 FT
12 FT SHOULDER
81
81

Justification Number AMR-3-03

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** BL-81 Southbound to I-81 Northbound Ramp at South Interchange-Communitiy Grid Alternative
Project Type: Reconstruction	☑ **National Network/Qualifying Highway** ☐ **Access Highway**
Functional Class: Urban Principal Arterial - Other Freeway/Expressway	**Design Classification (AASHTO Class):** Other Freeway - Urban
ADT: N/A	**% Trucks:** N/A ◉ **NHS** ○ **Non-NHS** **Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Stopping Sight Distance (Horizontal)

Location: STA R3D 9+00 TO 11+45 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.002716 Long: -76.134350 **TO** Lat: 43.005822 Long: -76.133080

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 305 ft	**Design Speed:** 40 mph
Existing Value: N/A, New Construction	**Recommended Speed - Existing:** 15 mph uction
Proposed Value: 236 ft (see note 1)	**Recommended Speed - Proposed:** 35 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 0.18 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: $1.17 Million (see note 2)	**Cost(s) for incremental improvements:** $0.35 Million

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The left side shoulder will be constructed using a width of 8', instead of the minimum 4', on the curve/bridge to improve horizontal sight distance around the bridge barrier. The additional shoulder width also serves as extra space for any evasive maneuvering around obstructions in the left lane. Highway guiderail to be box beam or cable to avoid sight line restrictions other than at bridge. R8-7 signs (Emergency Stopping Only) will be used on the bridge to discourage any voluntary stopping on the bridge that may create a hazard.

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

See Attachment. (see note 3)

7. Proposed Treatment (i.e., recommendation)

Provide 8 foot wide left side shoulder on the bridge and bridge approach to provide an incremental improvement in the resultant non-standard stopping sight distance. Provide appropriate transition to highway guiderail that will not cause sight line restrictions other than at the bridge.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Non-Standard Feature Justification

HSSD - BL-81 Southbound to I-81 Northbound Ramp at South Interchange-CG Alternative

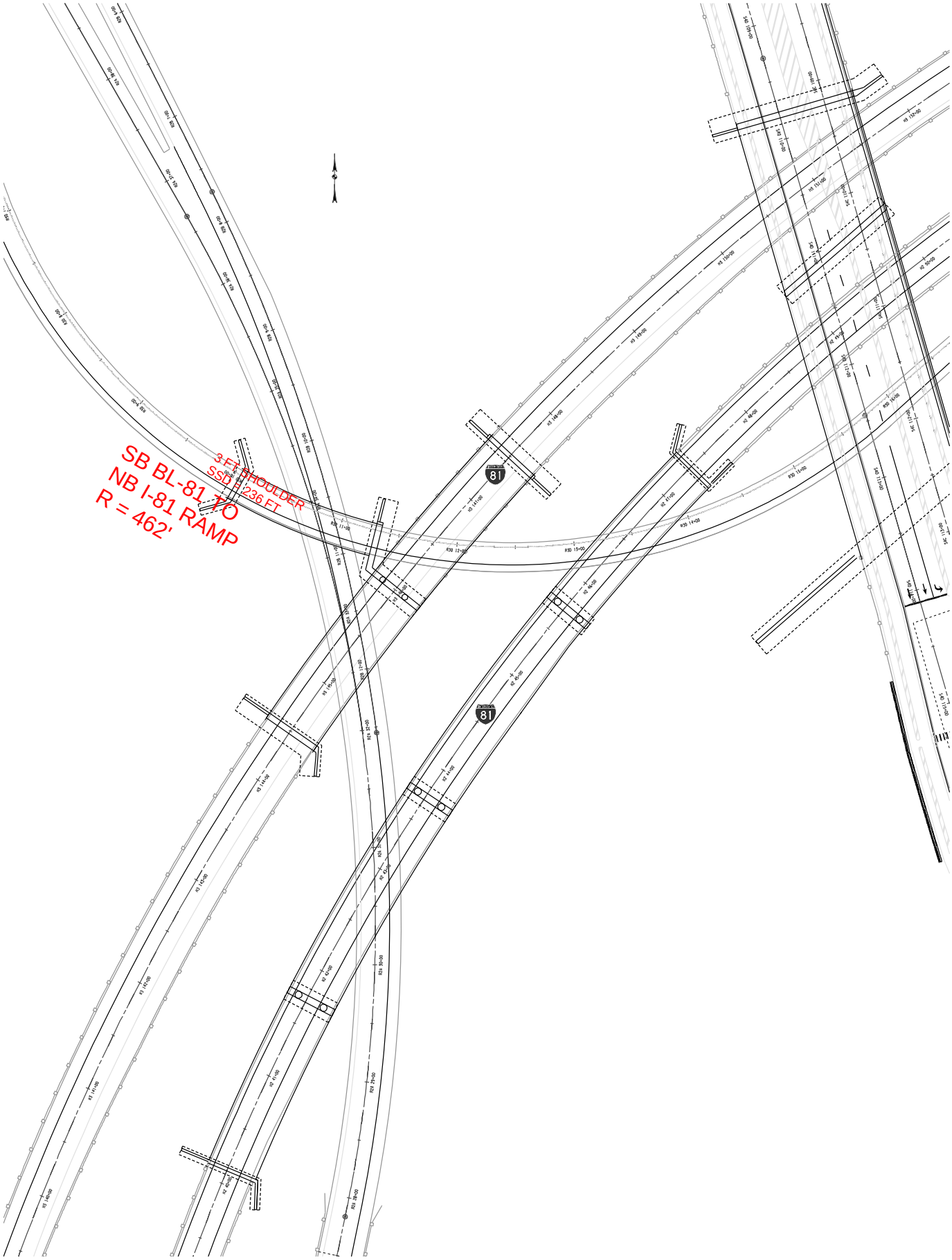
AMR-3-03

(Attachment)

1. For the proposed southbound BL 81 to northbound I-81 ramp, the normal 4-foot wide left shoulder width would provide a HSSD of 202 feet (Design Standard = 305 feet) for the section of the ramp that is on a bridge and adjacent to bridge barrier. Trucks with a higher sightline, will not be subjected to the restricted sight distance since they will be able to see over the barrier. Implementation of an incremental improvement (widening shoulder to 8 feet, see note 2), would provide a HSSD of 236 feet achieving approximately 77% of the design standard.

2. The proposed design meets all other design standards except for HSSD at the bridge location (due to the bridge barrier). One alternative evaluated to meet HSSD criteria, was to over widen the shoulder to 17.5 feet. To further widen the left shoulder from the proposed 8-foot width to a 17.5-foot width would cost an additional $0.82 million, including tapering the approach and trailing shoulders. In addition, a 17.5-foot wide shoulder may be mistaken for an additional travel lane and increase the risk of additional accidents Another option to fully meet standards is described in note 3.

3. An alternative to over-widening the shoulder would be to flatten the horizontal curve radius to accommodate the required sight distance with a standard 4-foot wide shoulder. However, a flatter horizontal curve is not feasible as it would not fit without substantially changing the design of the interchange, which would inevitably require additional property acquisitions and result in other non-standard and/or non-conforming features.


SB BL-81 TO
NB I-81 RAMP
R = 462'
3 FT SHOULDER
SSD = 236 FT
81
81

Justification Number AMR-3-04

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** I-81 southbound at North Interchange - Community Grid Alternative
Project Type: Reconstruction	☑ **National Network/Qualifying Highway** ☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate	**Design Classification (AASHTO Class):** Interstate -Urban
ADT: 13,800	**% Trucks:** 12.7% ◉ **NHS** ○ **Non-NHS** **Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Stopping Sight Distance (Horizontal)

Location: STA H8 121+50 TO STA H8 152+00 (SeeAttached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.146512 Long: -76.109914 **TO** Lat: 43.140500 Long: -76.103513

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 730 ft	**Design Speed:** 70 mph
Existing Value: N/A New Construction	**Recommended Speed - Existing:** 15 mph ruction
Proposed Value: 542 ft (Left Lane) 703 ft (65 mph) (See note 1)	**Recommended Speed - Proposed:** 55 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: $8.7 Million (see note 2)	**Cost(s) for incremental improvements:** $4.5 Million (see note 3)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The left side shoulder will be constructed using a width of 12', instead of the minimum 4', on the curve/bridge to maximize sight distance around the bridge barrier. The additional shoulder width also serves as extra space for any evasive maneuvering around obstructions in the left lane. Highway guiderail to be box beam or cable to avoid sight line restrictions other than at bridge. R8-7 signs (Emergency Stopping Only) will be used on the bridge to discourage any voluntary stopping on the bridge that may create a hazard.

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

See Attachment (note 4).

7. Proposed Treatment (i.e., recommendation)

Provide non-standard stopping sight distance with a 12' inside (left) shoulder. Provide highway guiderail that will not cause sight line restrictions other than at the bridge.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

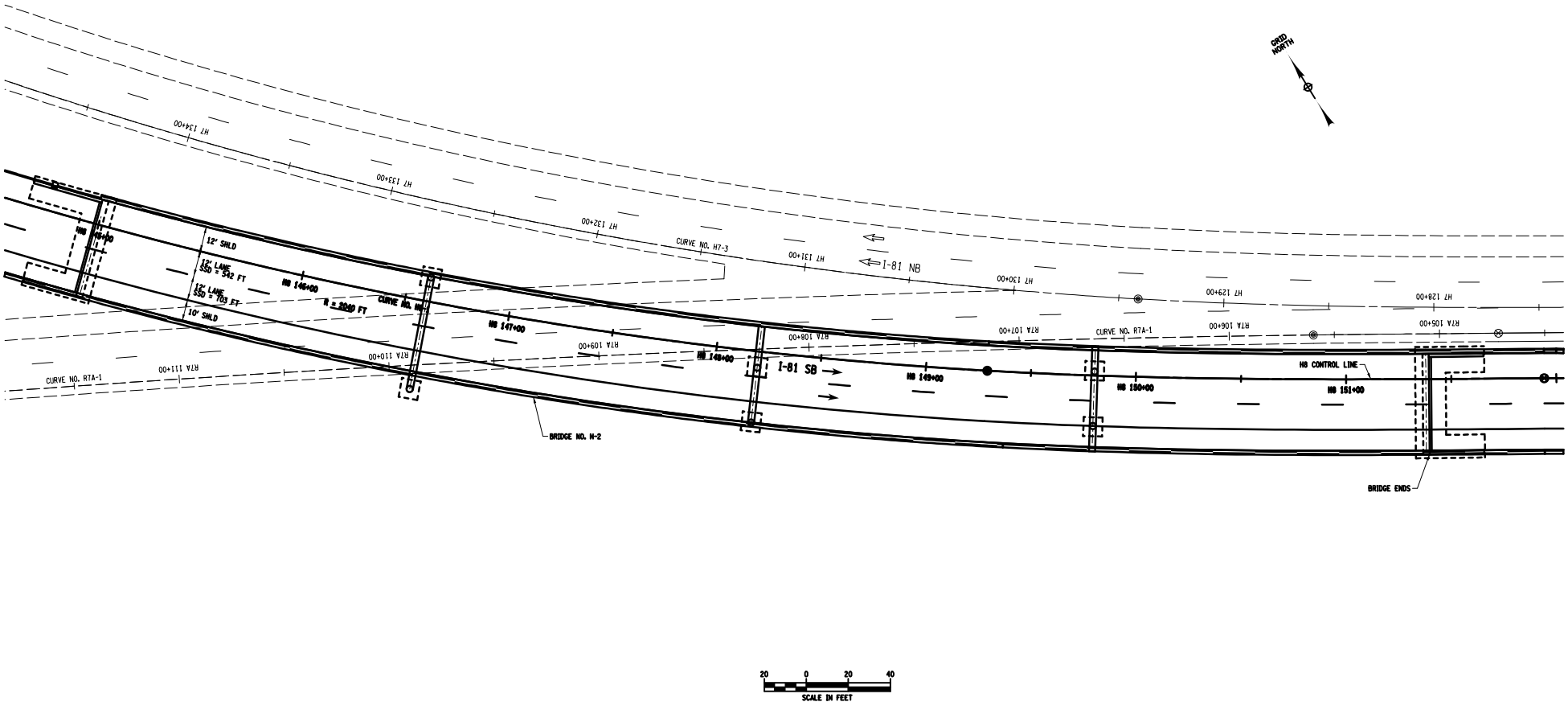
Nonstandard Feature Justification
AMR-3-04
(Attachment)

1. For the inside lane, the typical 4-foot shoulder width would provide a HSSD of 403 feet. Implementation of the incremental improvement, (widening shoulder to 12 feet), would provide an HSSD of 542 feet achieving approximately 74% of the design criteria. For the outside lane, the typical 4-foot shoulder width would provide a HSSD of 600. feet. Implementation of the incremental improvement (widening shoulder to 12 feet), would provide a HSSD of 703 feet achieving 96% of the design criteria.

2. The proposed design meets all other design standards except for HSSD at the bridge location (due to bridge barrier). One Alternative evaluation to meet HSSD criteria was to over widen the shoulder from a standard of 10 feet to 29 feet. An estimated $8.7 million construction cost is based on further widening of bridge shoulder from 12 feet to 27 feet and tapering the approach and trailing shoulders. Another option to fully meet standards is described in note 4.

3. An incremental improvement of over widening the shoulder to 12 feet was also considered and adopted. An estimated $ 4.5 million construction cost is based on widening the bridge shoulder from 4-foot standard to 12 feet and tapering the approach and trailing shoulder. See Attached Figure.

4. Trucks with a higher sightline, which compose of 12.7% of total traffic, will not be subjected to the restricted sight distance since they will be able to see over the barrier. Providing standard stopping sight distance would require a 27’ inside (left) shoulder on the bridges using the proposed curve radius. This 27’ wide shoulder may be mistaken for an additional travel lane and increase the risk of additional accidents. Flattening the radius to accommodate the required sight distance using a 12’ shoulder would create severe impacts in the northeast quadrant of the interchange. This would require acquisition of 20+ acres of property and demolition of 30+ residences in the Brigadier Drive neighborhood and was determined infeasible.


GRID NORTH
I-81 NB
I-81 SB
HT 134+00
HT 133+00
HT 132+00
HT 131+00
HT 130+00
HT 129+00
HT 128+00
CURVE NO. H7-3
CURVE NO. R7A-1
RTA 111+00
RTA 110+00
RTA 109+00
RTA 108+00
RTA 107+00
RTA 106+00
RTA 105+00
NB 146+00
NB 147+00
NB 148+00
NB 149+00
NB 150+00
NB 151+00
NB CONTROL LINE
12' SHLD
12' LANE
550 = 542 FT
12' LANE
550 = 703 FT
10' SHLD
R = 2050 FT
CURVE NO. R7A
BRIDGE NO. N-2
BRIDGE ENDS
20 0 20 40
SCALE IN FEET

Justification Number AMR-3-05

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.60	**Route No. and Name:** I-81, Eastern Segment, Rte5 to Kinne Rd - Community Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Interstate -Urban	
ADT: NB-23890; SB-25680	**% Trucks:** NB-8%; SB-6%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Shoulder Width

Location: I-81 NB STA R6C 32+50 TO R6C 37+50 and I-81 SB STA R6C 32+50 TO R6C 37+50

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.056156° Long: -76.153300° **TO** Lat: 43.061359° Long: -76.156533°

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 10 ft. Left (3 lane); 4 ft. Left (2 lane)	**Design Speed:** 70 mph
Existing Value: NB 2.5 ft (2 lane); SB 5 ft. (3 lane)	**Recommended Speed - Existing:** 65 mph
Proposed Value: NB 2.5 ft (2 lane); SB 5 ft. (3 lane)	**Recommended Speed - Proposed:** 65 mph

2. Accident Analysis

Current Accident Rate[1]**:** 1.60 (note 3) ◉ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From Sep. 01, 2014 **to** Aug. 31, 2017	**Is the Nonstandard Feature a contributing factor?** ◉ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

See note 3.

3. Cost Estimates

Cost to fully meet standards: 2.58 M (Note 2)	**Cost(s) for incremental improvements:** N/A (Note 2)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The existing left side shoulder widths across the existing bridges over Route 5/92 would be retained. The existing bridges are in good condition and would not otherwise require modification for this project. Widening the bridges to meet the shoulder width design standard would be implemented at a future date when the bridges are in need of rehabilitation or replacement.

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

None.

7. Proposed Treatment (i.e., recommendation)

The existing non-standard left shoulder width in the Rte 5/92 bridge area, for both directions of freeway, will be retained. (See note 1)

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Non-Standard Feature Justification

Left Shoulder Width – New I-81 Eastern Segment at Interchange 3 area - CG Alternative

AMR-3-05

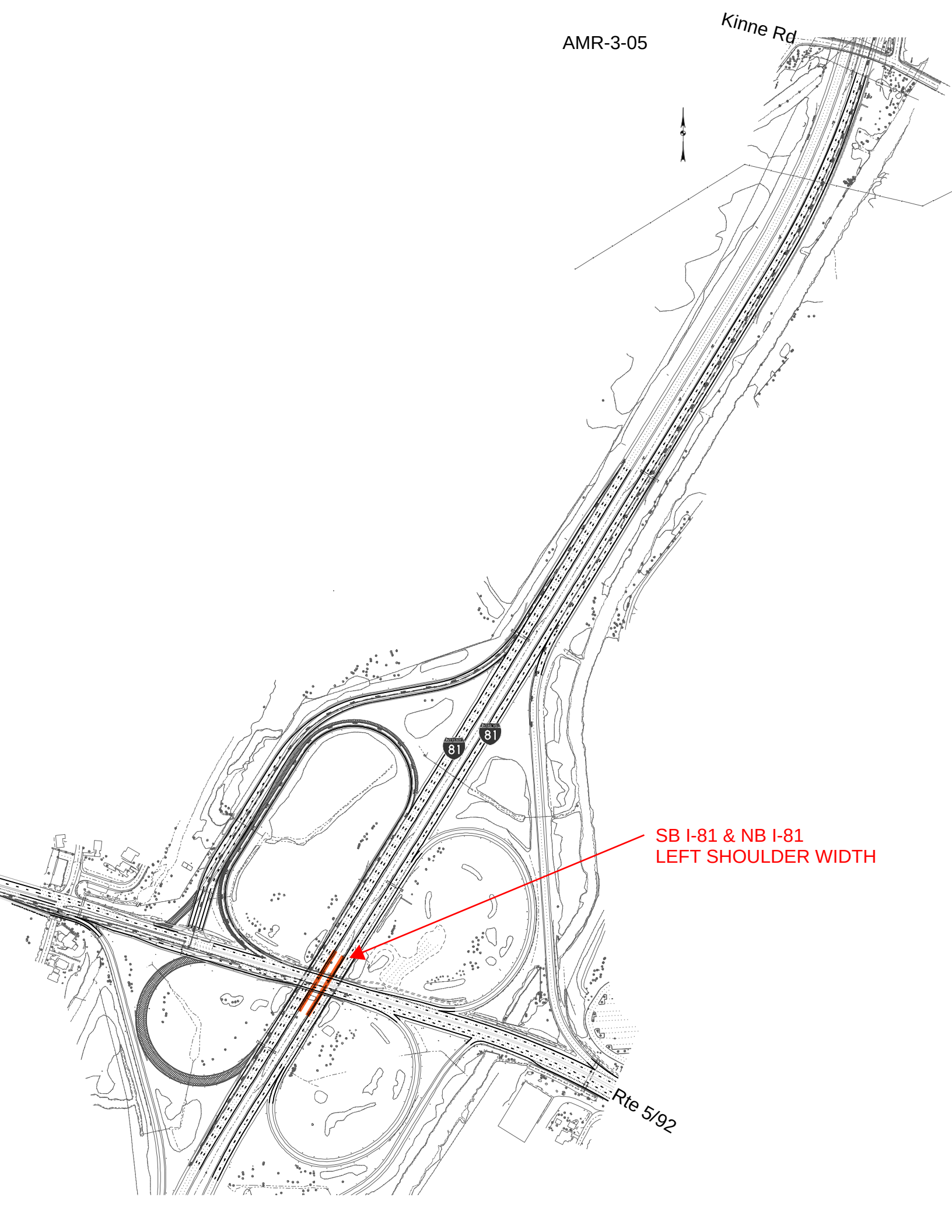
(Attachment)

1. Where re-designated I-81 crosses over Route 5/92, the left-side shoulders on the existing bridges in both directions, and their approaches (a distance of approximately 500 feet), are non-standard. The existing non-standard left shoulder width of about 2.5 feet (NB) and 5 feet (SB) are less than the 4-foot and 10-foot design standard, respectively. In addition, portions of re-designated I-81, between Route 5/92 and Kinne Road, a distance of approximately 4950 feet, include sections of freeway having 3 or more travel lanes. In the northbound direction, between the northbound on-ramp gore and Kinne Road, the northbound freeway section consists of 3 travel lanes plus an auxiliary lane. In the southbound direction, the entire section from just south of the Route 5/92 bridge to Kinne Road consists of 3-travel lanes. The existing left side shoulders on the highway segments are about 5-6 feet wide and will be widened to 10 feet as part of the project, but the existing shoulders on the bridges, will be retained. The existing bridges are in good condition and would not otherwise require modification for this project. Widening the bridges to meet the shoulder width design standard would be implemented at a future date when the bridges are in need of rehabilitation or replacement.

2. The cost estimate is based on widening the left side bridge shoulders to fully meet the design standard of 4 feet (northbound) or 10 feet (southbound) and replacement of 50 % of the bridge deck. The other 50% of the bridge deck is included in the "Right Side" shoulder estimate – see NSF Justification form A-3-3-03b. The cost estimate also includes widening the approach shoulders as needed to transition to the adjacent highway segments.

3. During the three-year analysis period from September 1, 2014 through August 31, 2017, a total of 5 crashes occurred along NB I-481, of which 1 crash was identified to be potentially related to the existing non-standard shoulder width feature. The number of crashes potentially related to the existing non-standard feature equates to 20% of total crashes, and a crash rate of 0.28 acc/mvm). Along the SB I-481 segment of this highway, a total of 33 crashes occurred during the analysis period, of which 2 crashes were identified to be potentially related to the existing non-standard shoulder width feature. The number of crashes potentially related to the existing non-standard feature equates to 6.1% of total crashes, and a crash rate of 0.35 acc/mvm).

AMR-3-05



Justification Number AMR-3-06

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.60	**Route No. and Name:** I-81, Eastern Segment at Rte5/92- Community Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Interstate -Urban	
ADT: NB-16220; SB-26670	**% Trucks:** NB-8%; SB-6%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Shoulder Width

Location: I-81 NB STA R6C 32+50 TO R6C 37+50; I-81 SB STA R6C 32+50 TO R6C 37+50

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.056156° Long: -76.153300° **TO** Lat: 43.061359° Long: -76.156533°

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 10 ft. Right	**Design Speed:** 70 mph
Existing Value: 2.5 ft.	**Recommended Speed - Existing:** 65 mph
Proposed Value: 2.5 ft.	**Recommended Speed - Proposed:** 65 mph

2. Accident Analysis

Current Accident Rate[1]**:** 3.56 (note 3) ◉ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From Sep. 01, 2014 **to** Aug. 31, 2017	**Is the Nonstandard Feature a contributing factor?** ◉ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

See note 3.

3. Cost Estimates

Cost to fully meet standards: 3.41 M (Note 2)	**Cost(s) for incremental improvements:** N/A (see Note 3)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The existing right side shoulder widths across the existing bridges over Route 5/92 would be retained. The existing bridges are in good condition and would not otherwise require modification for this project. Widening the bridges to meet the shoulder width design standard would be implemented at a future date when the bridges are in need of rehabilitation or replacement.

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

None.

7. Proposed Treatment (i.e., recommendation)

The existing non-standard right shoulder width in the Rte 5/92 bridge area, for both directions of freeway, will be retained. (See note 1)

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Non-Standard Feature Justification

Right Shoulder Width – New I-81 Eastern Segment at Interchange 3 Area - CG Alternative

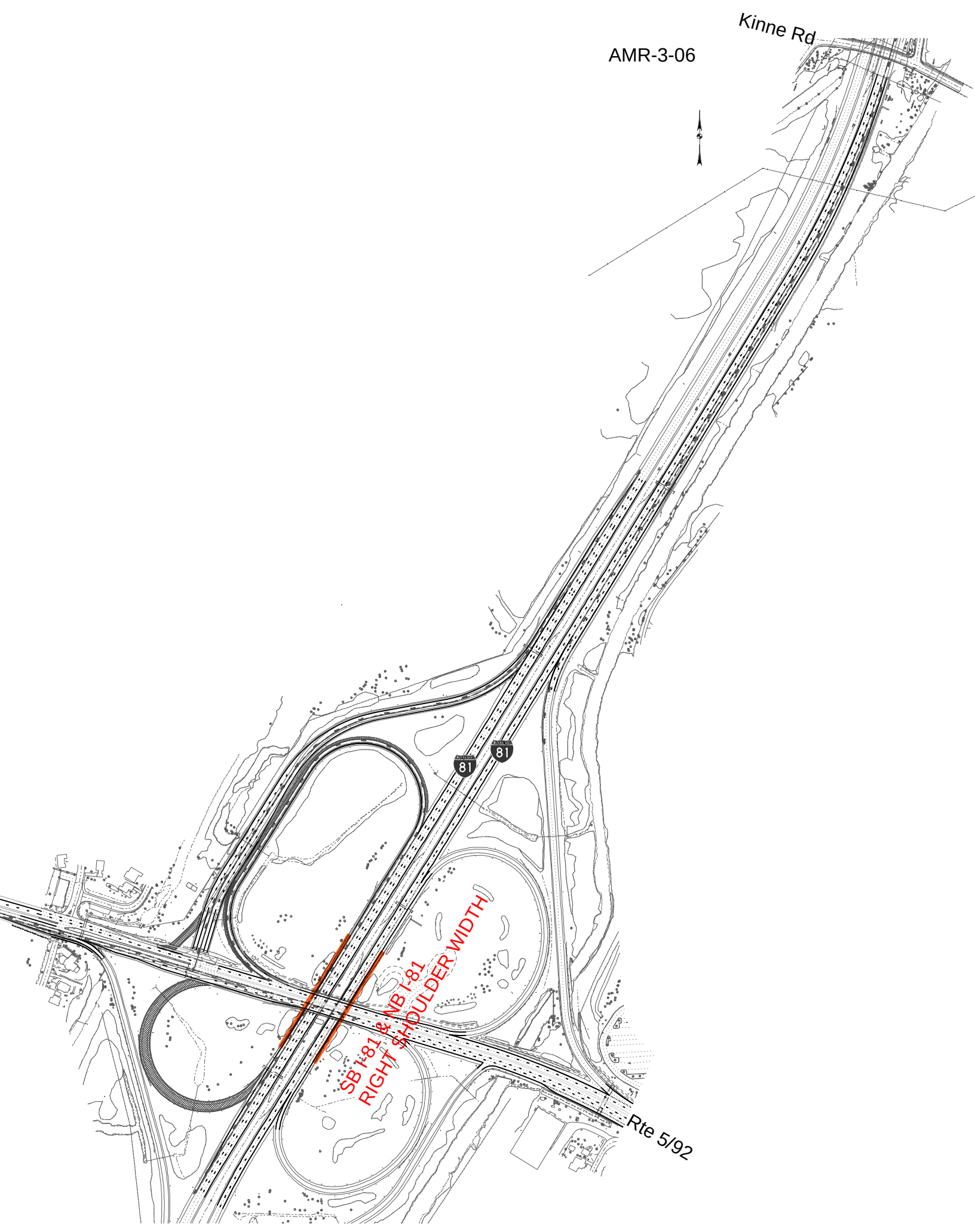
AMR-3-06

(Attachment)

1. Where re-designated I-81 crosses over Route 5/92, the right-side shoulders on the existing bridges in both directions, and their approaches (a distance of approximately 500 feet), are non-standard. The existing non-standard right shoulder width of about 2.5 feet is less than the 10-foot design standard. The existing bridges are in good condition and would not otherwise require modification for this project. Widening the bridges to meet the shoulder width design standard would be implemented at a future date when the bridges are in need of rehabilitation or replacement.

2. The cost estimate is based on widening the right-side bridge shoulders to fully meet the design standard of 10 feet (both northbound and southbound) and replacement of 50 % of the bridge deck. The other 50% of the bridge deck is included in the "Left Side" shoulder estimate – see NSF Justification form A-3-3-03a. The cost estimate also includes widening the approach shoulders as needed to transition to the adjacent highway segments.

3. During the three-year analysis period from September 1, 2014 through August 31, 2017, a total of 5 crashes occurred along NB I-481, of which 1 crash was identified to be potentially related to the existing non-standard shoulder width feature. The number of crashes potentially related to the existing non-standard feature equates to 20% of total crashes, and a crash rate of 0.28 acc/mvm). Along the SB I-481 segment of this highway, a total of 33 crashes occurred during the analysis period, of which 2 crashes were identified to be potentially related to the existing non-standard shoulder width feature. The number of crashes potentially related to the existing non-standard feature equates to 6.1% of total crashes, and a crash rate of 0.35 acc/mvm).


AMR-3-06
Kinne Rd
81
81
SB I-81 & NB I-81
RIGHT SHOULDER WIDTH
Rte 5/92

Justification Number AMR-3-07

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.60	**Route No. and Name:** BL 81, Northern Segment, Butternut St. to Hiawatha Blvd. - Community Grid Alternative
Project Type: Reconstruction	☑ **National Network/Qualifying Highway** ☐ **Access Highway**
Functional Class: Urban Principal Arterial - Other Freeway/Expressway	**Design Classification (AASHTO Class):** Other Freeway - Urban
ADT: 46,512 NB; 48,487 SB	**% Trucks:** 16 ◉ **NHS** ○ **Non-NHS** **Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Shoulder Width

Location: BL-81 NB STA R16 29+00 TO R16 33+00; BL-81 SB STA R25 130+00 TO C22 105+80

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.056156° Long: -76.153300° **TO** Lat: 43.061359° Long: -76.156533°

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 10 ft. Left and Right	**Design Speed:** 60 mph
Existing Value: 3 ft. Left and 6 ft. Right	**Recommended Speed - Existing:** 55 mph
Proposed Value: Varies 7 to 10 ft. Left and 7 to 10 ft. Right (see Note 1)	**Recommended Speed - Proposed:** 55 mph

2. Accident Analysis

Current Accident Rate[1]**:** 2.96 ◉ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From 09/01/2014 **to** 08/31/2017	**Is the Nonstandard Feature a contributing factor?** ◉ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

See note 4.

3. Cost Estimates

Cost to fully meet standards: 0.15M + ROW & Building Acquisition (Note 2)	**Cost(s) for incremental improvements:** N/A (see Note 3)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

Provide standard 10 ft. left and right shoulder widths to the extent practical and provide limited sections of 7 ft. shoulder in select locations to avoid significant increases in property and building impacts (see Note 1).

5. Compatibility with Adjacent Segments and Future Plans

Proposed configuration is compatible with adjacent segments. There are no future plans to modify adjacent segments

6. Other Factors

e.g., social, economic, and environmental

NB STA R16 29+00 TO R16 33+00 Right Shoulder: in order to provide a left (curve inner side) shoulder width of 10 ft, the maximum right shoulder width that can be provided is 7 ft. (vs. 10' right shoulder criteria), for a total length of ~400 ft, to avoid impacting Adirondack Furniture building;
SB STA R25 130+00 TO C22 105+80 Left Shoulder: provide 7 ft. left side shoulder to avoid impacts to the chimney just south of Spencer Street, and to Genant Drive and the properties abutting Genant Drive. The proposed median barrier width will be reduced to 3 ft between the cross bridges, to provide room for a 7 foot left shoulder width, except at the cross bridges, where the shoulder width would be 4 feet to accomodate the bridge piers.

7. Proposed Treatment (i.e., recommendation)

In the northbound direction, provide 10 ft. left and right shoulders except from NB STA R16 29+00 TO R16 33+00, where a 7 foot right shoulder will be provided adjacent to the existing retaining wall and Adirondack Furniture building. In the southbound direction, provide a 10 ft. left and right shoulder width except from SB STA R25 130+00 TO C22 105+80 where a left shoulder width of 7 ft (4 ft at bridge piers) would be used.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Non-Standard Feature Justification
AMR-3-07
(Attachment)

1. Along the northern segment of re-designated BL-81, between Butternut Street and Hiawatha Boulevard, a distance of approximately 1.3 miles, the highway consists 4 travel lanes in the northbound direction and 3 travel lanes in the southbound direction. The freeway ends at the southern limit of this section, but to the north, the adjacent section of BL 81 consists of extended miles of 6 lane highway. It is anticipated that at some point in the future, the adjacent segment to the north would be reconstructed, and at that time, the median side shoulders would be widened to meet current design criteria. Within this northern segment of BL 81, it is proposed that both the left shoulder along the median side and the outside right shoulders would meet the current 10 ft. width criteria for both bounds of highway, except for two sections:

   BL-81 NB STA R16 29+00 TO R16 33+00

   To provide for a uniform 10 ft. left shoulder width, a relatively short length (400 feet) of right side shoulder would be limited to 7 feet, due to the proximity of an existing large retaining wall and the Adirondack Furniture building;

   BL-81 SB STA R25 130+00 TO C22 105+80

   Between Spencer and Butternut streets, additional alignment shifting would be needed to provide for a 10-foot wide left shoulder, which would cause significant additional property impacts, including impacts to the chimney just south of Spencer Street, additional impacts to Genant Drive that would require closure of additional sections of that street, as well as additional ROW impacts to the properties abutting Genant Drive. As a result, a total length of approximately 1,360 feet of southbound highway would have a non-standard left shoulder width. But as an incremental improvement, a width of 7 feet of left shoulder width would be achieved by reducing the median width from 6 feet to 3 feet, except at the Spencer Street Bridge, where a short length of 4-foot shoulder would be needed adjacent to the bridge pier.

2. The cost estimate is based on the cost estimate report dated January 11, 2018, to fully meet the standard of 10 ft. shoulder width, which is providing additional widening of the shoulder (NB-right shoulder; SB-left shoulder) width from 7 ft. to 10 ft. within the two separate areas described above. This cost does not include additional costs that may be needed such as retaining walls, building demolitions, ROW, etc. While widening the shoulder an additional 3 feet would satisfy the 10 ft. shoulder criteria, there are other concerns that this would introduce. Additional concerns include: impacts to the existing retaining wall and furniture store on the east side of NB BL-81 and impacts to the chimney and to Genant Drive on the west side of SB BL 81.

3. The cost of incremental improvement is included in the revised base design.

4. During the three-year analysis period from September 1, 2014 through August 31, 2017, a total of 160 crashes occurred along this highway segment, of which 20 crashes were identified to be potentially related to the existing non-standard shoulder width feature. The number of crashes potentially related to the existing non-standard feature equates to 12.5% of total crashes, and a crash rate of 0.35 acc/mvm). The proposed design includes an incremental improvement (shoulder widened to 7-10' on both sides from 3' Left and 6' Right shoulder width) which would increase approximately 67-130% above the existing shoulder width and achieve 70-100% of the design criteria standard.

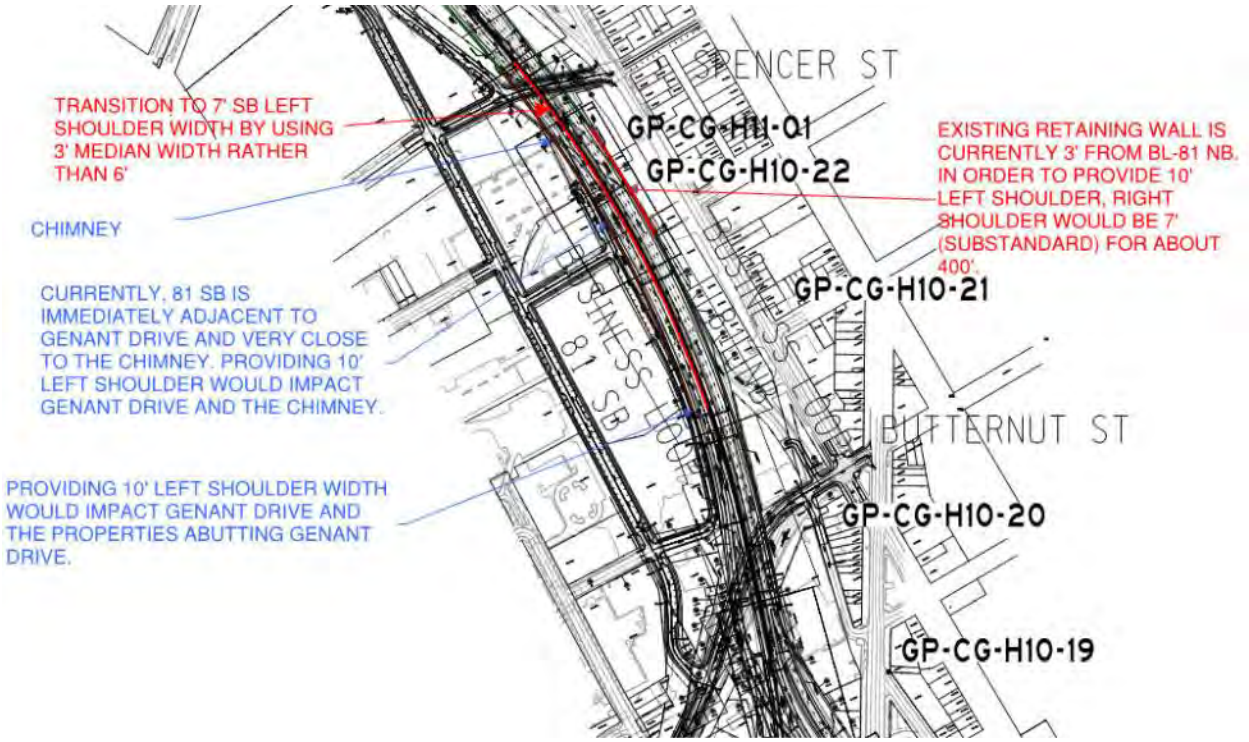

SPENCER ST
TRANSITION TO 7' SB LEFT SHOULDER WIDTH BY USING 3' MEDIAN WIDTH RATHER THAN 6'
GP-CG-H11-01
GP-CG-H10-22
EXISTING RETAINING WALL IS CURRENTLY 3' FROM BL-81 NB. IN ORDER TO PROVIDE 10' LEFT SHOULDER, RIGHT SHOULDER WOULD BE 7' (SUBSTANDARD) FOR ABOUT 400'.
CHIMNEY
GP-CG-H10-21
CURRENTLY, 81 SB IS IMMEDIATELY ADJACENT TO GENANT DRIVE AND VERY CLOSE TO THE CHIMNEY. PROVIDING 10' LEFT SHOULDER WOULD IMPACT GENANT DRIVE AND THE CHIMNEY.
81 SB
BUTTERNUT ST
PROVIDING 10' LEFT SHOULDER WIDTH WOULD IMPACT GENANT DRIVE AND THE PROPERTIES ABUTTING GENANT DRIVE.
GP-CG-H10-20
GP-CG-H10-19

Figure 1

Justification Number AMR-3-08

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** Eastbound I-690 to Irving Ave. Off-Ramp - Community Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Interstate -Urban	
ADT: 16,100	**% Trucks:** 7.4%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Horizontal Curve Radius

Location: STA R35 111+84 TO STA R35 114+37 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.051321 Long: -76.138847 **TO** Lat: 43.050830 Long: -76.138263

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 214 ft	**Design Speed:** 30 mph
Existing Value: N/A	**Recommended Speed - Existing:** 15 mph ıction
Proposed Value: 158 ft	**Recommended Speed - Proposed:** 25 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.43 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: N/A (see note 1)	**Cost(s) for incremental improvements:** N/A (see note 2).

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

Available sight distance to the curve is slightly below the decision sight distance needed for drivers to adjust their speeds for this type of maneuver, as per AASHTO. Overhead curve warning and signal ahead signs will be placed in advance of the curve. Chevron alignments signs will be placed along the curve, as per the MUTCD.

5. Compatibility with Adjacent Segments and Future Plans

No future plans for adjacent segments of this ramp.

6. Other Factors

e.g., social, economic, and environmental

Providing a standard curve radii would create additional impacts to historic property and create a skewed intersection at Erie Boulevard. Traffic analysis has determined that the majority of trips on this ramp are destined for University Hill, therefore resulting in the proposed design of the ramp curve onto Irving Ave.

7. Proposed Treatment (i.e., recommendation)

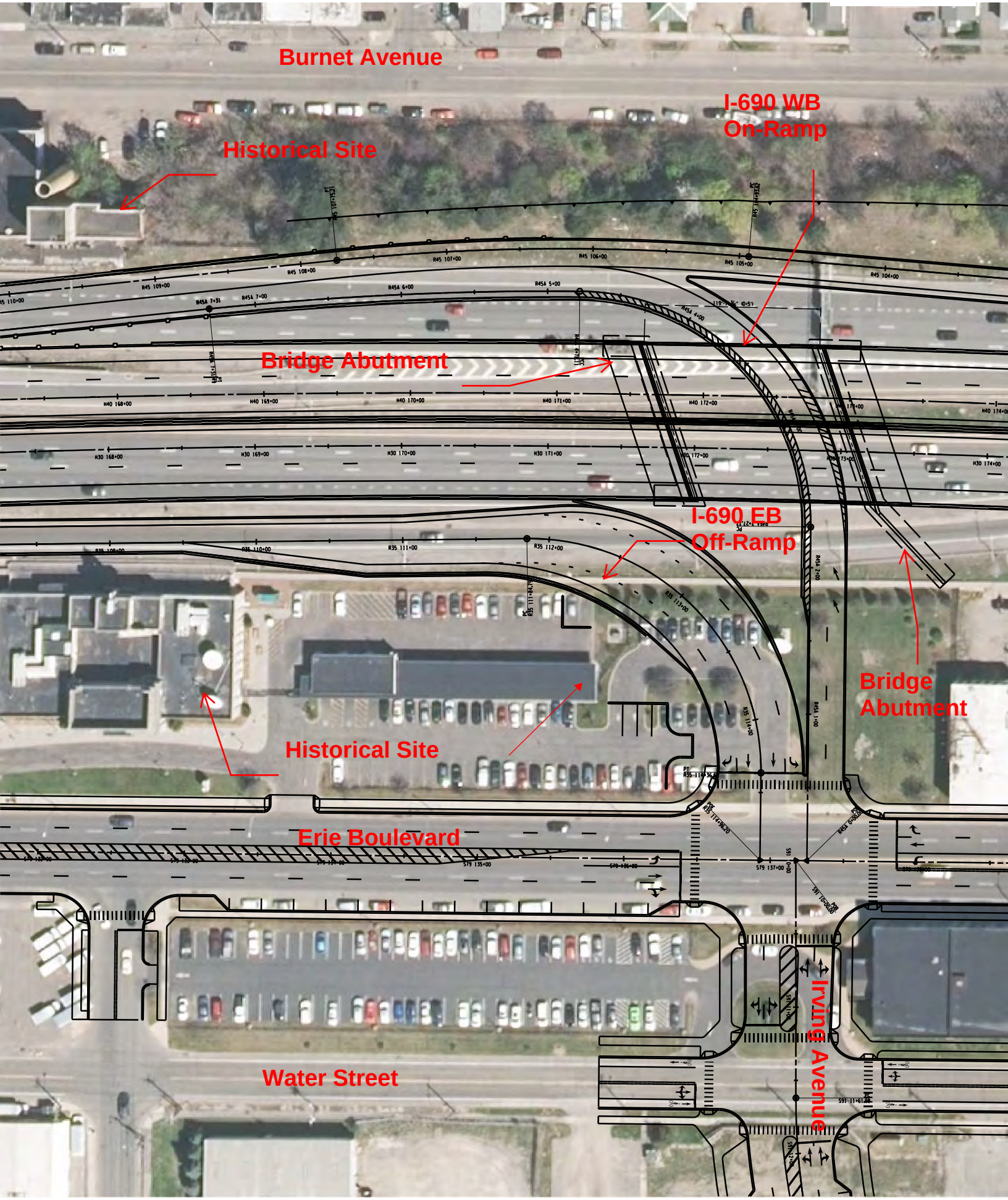
Propose non-standard curve radii with curve warning signs, signal ahead signs and chevron alignment signs.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Nonstandard Feature Justification
AMR-3-08
(Attachment)

1. The Proposed Design meets horizontal curve criteria for a 25 mph design speed. There is no feasible alternative design that would meet horizontal curve standards due to the close proximity to several East-West city streets (i.e. Erie Boulevard, Water street, etc.). Providing a standard curve radius would create extensive ROW impacts, including impact to property listed on the National Register of Historic Places and create a severely skewed intersection at Erie Boulevard. Additionally, the non-standard curve is immediately adjacent to the new signalized intersection between the new off-ramp and Erie Boulevard which is expected to cause traffic to be traveling well below the design speed.

2. Similarly, there are no feasible incremental improvements (see note 1).


Burnet Avenue
I-690 WB
On-Ramp
Historical Site
Bridge Abutment
I-690 EB
Off-Ramp
Bridge
Abutment
Historical Site
Erie Boulevard
Irving Avenue
Water Street

Justification Number AMR-3-09

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** Eastbound I-690 to Irving Ave. Off-Ramp - Community Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Interstate -Urban	
ADT: 16,100	**% Trucks:** 7.4%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Stopping Sight Distance (Horizontal)

Location: STA R35 110+50 TO STA R35 112+75 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.051320 Long: -76.139356 **TO** Lat: 43.051317 Long: -76.138803

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 200 ft	**Design Speed:** 30 mph
Existing Value: N/A	**Recommended Speed - Existing:** 15 mph
Proposed Value: 129 ft (Right Lane Only)	**Recommended Speed - Proposed:** 25 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.43 ◉ **acc/mvm** ○ **acc/mev**
From date **to** date	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: N/A (see note 1)	**Cost(s) for incremental improvements:** N/A (see note 2)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The non-standard curve radius coupled with the proposed warning signs in this area is expected to reduce vehicle speeds below the design speed.

5. Compatibility with Adjacent Segments and Future Plans

No future plans for adjacent segments of this ramp.

6. Other Factors

e.g., social, economic, and environmental

To eliminate the need for roadside barrier, which obstructs the sight line, additional property would have to be acquired to install recoverable side slopes. This would increase impacts to the historic property adjacent to the ramp. This property is listed on the National Register of Historic Places. In addition, this sight restriction only applies to cars in the right lane. Heavy vehicles with a higher sightline are not affected.

7. Proposed Treatment (i.e., recommendation)

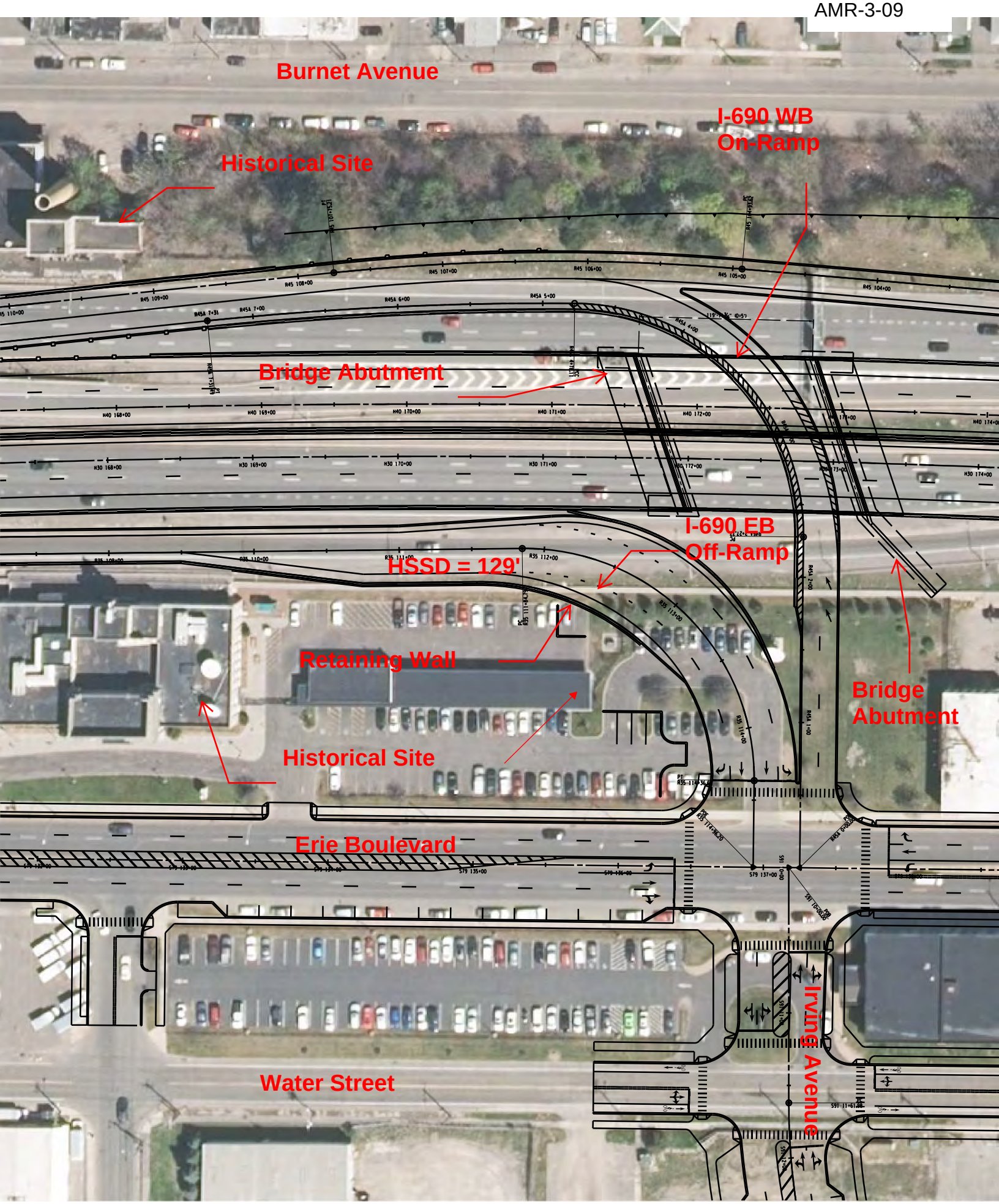
Propose non-standard horizontal stopping sight distance.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Nonstandard Feature Justification
AMR-3-09
(Attachment)

1. The sight line is obstructed by a roadside barrier on the top of a retaining wall. In order for the ramp to meet design criteria additional acquisition of property listed on the National Register of Historic Places would be required. The Proposed Design meets HSSD criteria for a 25 mph design speed. There are no feasible alternative design that would meet horizontal curve standards that would not increase ROW impacts, including impacts to a property listed on the National Register of Historic Places. Additionally, all but a short (150 foot) section of the ramp would meet HSSD criteria. Only the segment immediately adjacent to the horizontal curve leading to the signalized intersection with Erie Boulevard would have a non-standard HSSD and traffic speeds at that location are expected to be traveling well below the design speed due to the horizontal curve and the signalized intersection.

2. Similarly, there are no feasible incremental improvements, (see Note 1).


Burnet Avenue
I-690 WB
On-Ramp
Historical Site
Bridge Abutment
I-690 EB
Off-Ramp
HSSD = 129'
Retaining Wall
Bridge
Abutment
Historical Site
Erie Boulevard
Irving Avenue
Water Street

Justification Number AMR-3-10

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.6	**Route No. and Name:** Irving Ave. to Westbound I-690 On-Ramp - Community Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Local - Urban	
ADT: 1,270	**% Trucks:** 7.4%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Horizontal Curve Radius

Location: North of Erie Blvd. STA R45A 2+17.07 TO R45A 4+65.86 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.051311 Long: -76.138117 **TO** Lat: 43.051754 Long: -76.138667

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 214 ft	**Design Speed:** 30 mph
Existing Value: N/A	**Recommended Speed - Existing:** 15 mph ıction
Proposed Value: 159 ft	**Recommended Speed - Proposed:** 25 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.43 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: N/A (see note 1)	**Cost(s) for incremental improvements:** N/A (see note 2)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

The location of this curve is shortly after a signalized intersection. Vehicles turning onto this ramp are expected to remain at near turning speeds and therefore drive through the curve below the ramp design speed of 30mph. Vehicles approaching the curve from Irving Ave. have available sight distance that is slightly below the decision sight distance needed for drivers to adjust their speeds for this type of maneuver, as per AASHTO. Curve warnings signs as well as Chevron alignments signs will be placed along the curve, as per the MUTCD.

5. Compatibility with Adjacent Segments and Future Plans

No future plans for adjacent segments of this ramp.

6. Other Factors

e.g., social, economic, and environmental

Providing a standard curve radii would reduce the available distance to tie in with the mainline, requiring the gore to shift further west along westbound I-690. This would result in a reduction of the weaving distance on the mainline therefore impacting operations on the mainline. This would also be a further reduction of a non-conforming ramp spacing.

7. Proposed Treatment (i.e., recommendation)

Propose non-standard curve radii with curve warning signs and chevron alignment signs.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

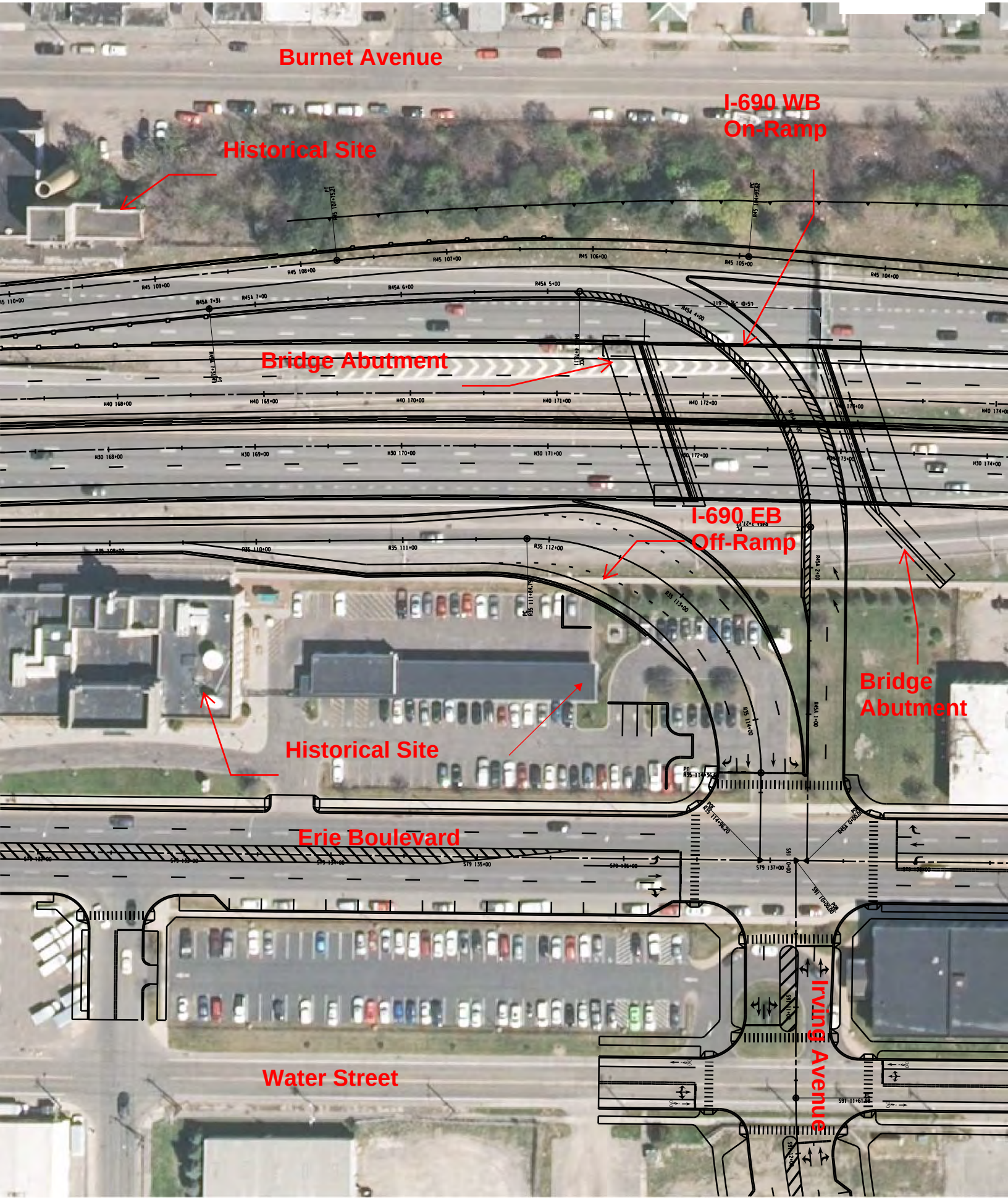
Nonstandard Feature Justification

AMR-3-10

(Attachment)

1. The Proposed Design meets horizontal curve criteria for a 25 mph design speed. There is no feasible alternative design that would meet horizontal curve standards due to the close proximity of Burnet Avenue, the merging with the ramp segment from Crouse Avenue and the angle of the WB I-690 bridge crossing. Providing a standard curve radius would create extensive ROW impacts between I-690 and Burnet Avenue, including impact to property listed on the National Register of Historic Places and would require the length of the on-ramp to be extended which would then cause a non-conforming ramp spacing. Additionally, due to the ramp curves proximity to the signalized intersection on Erie Boulevard and Irving Avenue vehicles are expected to remain under the design speed of 30 mph.

2. There are no feasible incremental improvements, (see note 1).


Burnet Avenue
I-690 WB
On-Ramp
Historical Site
Bridge Abutment
I-690 EB
Off-Ramp
Bridge
Abutment
Historical Site
Erie Boulevard
Irving Avenue
Water Street

Justification Number AMR-3-11

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.60	**Route No. and Name:** I-81 Southbound Off-Ramp to Clinton Street - Community Grid Alternative
Project Type: Reconstruction	☑ **National Network/Qualifying Highway** ☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate	**Design Classification (AASHTO Class):** Interstate -Urban
ADT: 10461	**% Trucks:** 6% ◉ **NHS** ○ **Non-NHS** **Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Horizontal Curve Radius

Location: R27 STA 10+23 to R27 STA 13+27 (See Attachment)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.065820 Long: -76.163120 **TO** Lat: 43.065084 Long: -76.162942

Latitude and Longitude (Point Feature) Lat: N/A Long: N/A

Standard Value: 214'	**Design Speed:** 30 mph
Existing Value: N/A New Construction	**Recommended Speed - Existing:** 30 mph on
Proposed Value: 167'	**Recommended Speed - Proposed:** 25 mph

2. Accident Analysis

Current Accident Rate[1]**:** N/A ○ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.43 ◉ **acc/mvm** ○ **acc/mev**
From N/A **to** N/A	**Is the Nonstandard Feature a contributing factor?** ○ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

N/A - New Construction

3. Cost Estimates

Cost to fully meet standards: N/A (see note 1)	**Cost(s) for incremental improvements:** N/A (see note 2)

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

Overhead curve warning and signal ahead signs will be placed in advance of the curve. Chevron alignments signs will be placed along the curve, as per the MUTCD.

5. Compatibility with Adjacent Segments and Future Plans

No future plans for adjacent segments of this ramp.

6. Other Factors

e.g., social, economic, and environmental

Providing a standard curve radius would require that North Clinton Street be relocated further west creating extensive ROW impacts with adjacent property and not relocating North Clinton Street would create a skewed intersection at North Clinton Street. (See Attached Figure)

7. Proposed Treatment (i.e., recommendation)

Propose non-standard curve raii with curve warning signs, signal ahead signs and chevron alignment signs.

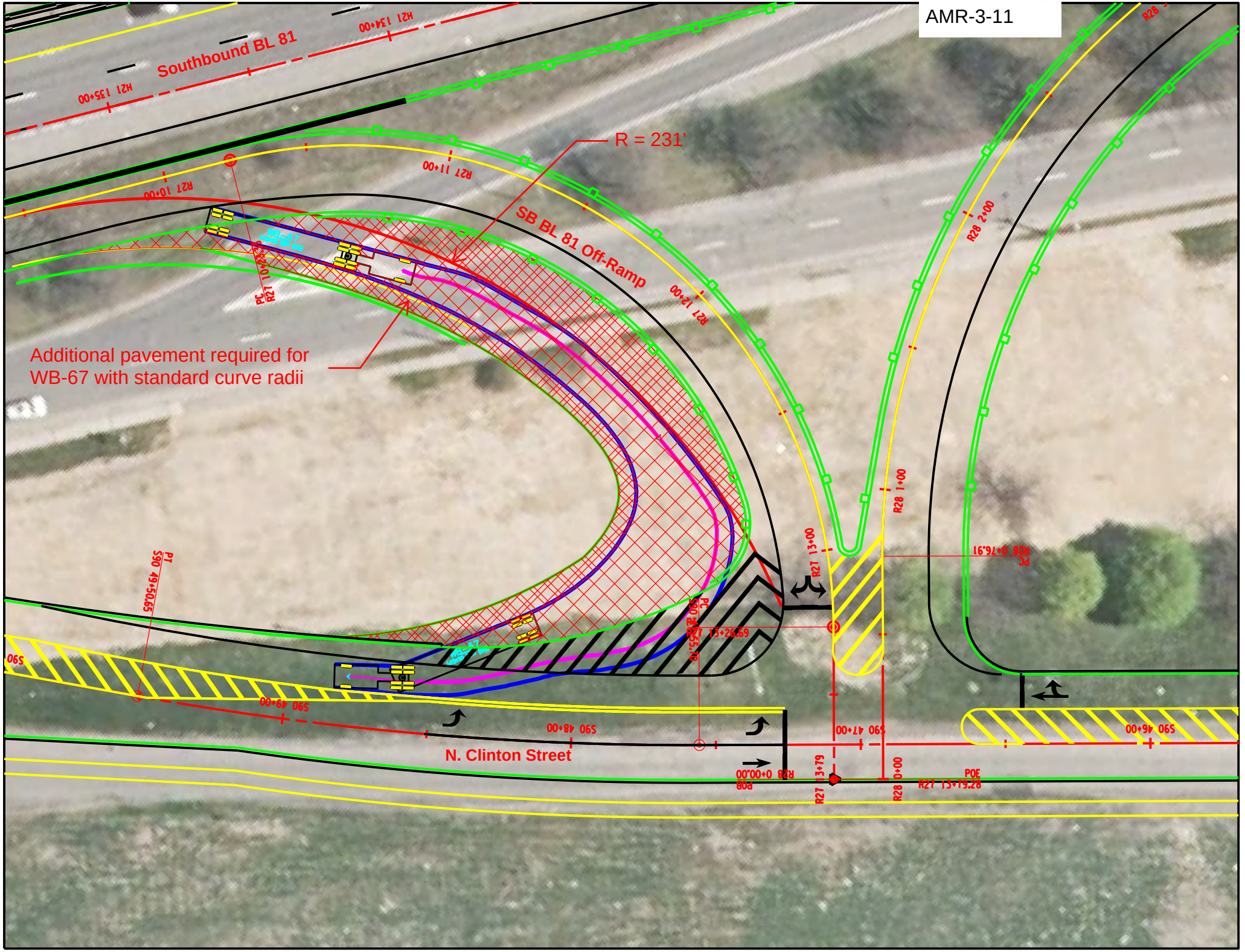
[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Nonstandard Feature Justification
AMR-3-11
(Attachment)

1. The Proposed Design meets horizontal curve criteria for a 25 mph design speed. Providing a standard curve radius would require the relocation of North Clinton Street to the west creating extensive ROW impacts with adjacent property or create a skewed intersection at North Clinton Street. Providing a skewed intersection (see attached figure) would significantly widen the throat of the intersection to provide for truck turns. A much wider intersection could increase driver confusion. Additionally, the non-standard curve is immediately adjacent to the new signalized intersection between the new off-ramp and North Clinton which is expected to cause traffic to be traveling well below the design speed.

2. Similarly, there are no feasible incremental improvements (see note 1).

AMR-3-11


Southbound BL 81
R = 231'
SB BL 81 Off-Ramp
Additional pavement required for
WB-67 with standard curve radii
N. Clinton Street

Justification Number AMR-3-12

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: 3501.60	**Route No. and Name:** Southbound I-481 (Future I-81) at Interchange 4 - Community Grid Alternative		
Project Type: Reconstruction		☑ **National Network/Qualifying Highway**	☐ **Access Highway**
Functional Class: Urban Principal Arterial - Interstate		**Design Classification (AASHTO Class):** Interstate -Urban	
ADT: 23,104 (southbound only)	**% Trucks:** 6%	◉ **NHS** ○ **Non-NHS**	**Terrain:** Rolling

1. Description of Nonstandard Feature

Type of Feature: Horizontal Curve Radius

Location: RM 481I 33012159 TO RM 481I 33012063 (See Attached Figure)

Latitude and Longitude (Linear Feature) **FROM** Lat: 43.053576 Long: -76.054176 **TO** Lat: 43.057175 Long: -76.053809

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: 1815 ft @ 8% superelevation	**Design Speed:** 70 mph
Existing Value: 1235 ft	**Recommended Speed - Existing:** 55 mph
Proposed Value: 1235 ft @ existing superelevation	**Recommended Speed - Proposed:** 55 mph

2. Accident Analysis

Current Accident Rate[1]**:** 1.26 ◉ **acc/mvm** ○ **acc/mev**	**Statewide Accident Rate:** 1.14 ◉ **acc/mvm** ○ **acc/mev**
From 7/1/2016 **to** 6/30/2019	**Is the Nonstandard Feature a contributing factor?** ◉ **Yes** ○ **No**

Anticipated accident rates, severity, and costs:

1.There were a total of 10 crashes at this location for the 3-year period, of which 6 crashes were potentially related to the non-standard feature. See note 1

3. Cost Estimates

Cost to fully meet standards: $ 6.2 Million (see note 2)	**Cost(s) for incremental improvements:** N/A (see note 3).

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

Curve warning signs will be placed in advance of the curve.

5. Compatibility with Adjacent Segments and Future Plans

No future plans for adjacent segments of this ramp.

6. Other Factors

e.g., social, economic, and environmental

Providing a standard curve would require approximately 1,400 LF of mainline reconstruction as well as a retaining wall (see attached figure). The cost of the reconstruction would exceed the estimated safety benefit. See Notes 2 and 3.

7. Proposed Treatment (i.e., recommendation)

Propose retention of existing non-standard curve radii, add curve warning signs and continue NYSDOT monitoring.

[1] *Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.*

Non-Standard Feature Justification

Horizontal Curve – I-481 (Future I-81) at existing I-481 Interchange 4 - CG Alternative

AMR 3-12

(Attachment)

1. The existing crash rate is slightly higher than the statewide average rate at this location. For the 3-year period, there were a total of 10 crashes, 6 of which are potentially related to the non-standard horizontal curve along southbound I-481. A cluster of crashes occurred on the horizontal curve in the approximate center of the existing I-481 Interchange 4. The majority of these crashes are fixed object crashes resulting from a loss of control in adverse weather conditions. A pavement friction evaluation was conducted in accordance with the Department's Comprehensive Pavement Design Manual. The measured FN(40) values were between 37.3 and 59.3, which are above 32 (the friction value utilized in the stopping sight distance criteria for wet pavements). With measured friction values higher than 32, it appears skid resistance is not contributing to the crash history at this location.

2. Modification of the horizontal curve to meet current design standards would require approximately 1,400 LF of mainline reconstruction as well as a retaining wall (see attached figure). The cost of the reconstruction would exceed the estimated safety benefit.

3. An incremental improvement was evaluated, which involved adjusting the superelevation to the maximum 8%, which would increase the allowable speed to approximately 60 mph vs the 70 mph Design Speed. However, the existing mainline passes under an existing ramp bridge with minimum vertical clearance, so it is not possible to adjust the superelevation without either replacing the existing bridge or introducing a non-standard vertical clearance. In addition, adjusting the superelevation would also affect the overpass bridge on the north end of the curve. The shim depth required to obtain an 8% superelevation would likely cause the load carrying capacity of the bridge to be exceeded, resulting in the need to replace or heavily modify a second bridge. Both of the potentially impacted existing bridges are in good condition with good remaining service life.

Existing Southbound I-481 (Future I-81) to Westbound I-690 Ramp
Existing Northbound I-481 (Future I-81)
Existing Ramp Closed to Traffic (Maintenance Use Only)
Existing Southbound I-481 (Future I-81)
Adjust Ramp Merge As Needed
Begin Realignment
Mill, Widen and Overlay
Replace Bridge Over Existing NB to WB Ramp
Existing Northbound I-481 (Future I-81) to Westbound I-690 Ramp
Mainline Reconstruction
Existing Eastbound I-690 to Northbound I-481 (Future I-81) Ramp
Transition to Mill, Widen and Overlay
Existing bridge to remain
Approximate Location of Existing Abutment
Retaining Wall (set minimum of 31 feet from edge of travel lane to meet HSSD).
Existing Ramp Closed to Traffic (Maintenance Use Only)
Adjust Exit Ramp Gore As Required.
End Work, Meet Existing
Existing Eastbound I-690 to Southbound I-481 (Future I-81) Ramp
Existing Ramp Closed to Traffic (Maintenance Use Only)

The Non-Conforming Freeway Features recommended to be retained under the Community Grid Alternative are listed in **Table 3-2**. A non-conforming feature is a design element that does not meet other recommended design parameters established by NYSDOT and AASHTO (such as control of access, ramp spacing, etc.), that are in addition to the ten controlling criteria as designated by FHWA. The locations of the Non-Conforming Features recommended to be retained are shown on **Figures 3-1 to 3-9.** Refer to FDR/FEIS Appendix A-3 for more information regarding the justification for retention of these non-conforming features.

Table 3-2
Non-Conforming Freeway Features Recommended to be Retained
Community Grid Alternative

Location See Figures 3-1 to 3-9	Location Description	Design Element	Recommended Design Standard (2)	Proposed Design Standard (3)
1	SB BL 81, STA H21 144+78 to 151+34	Broken Back Curve	1500 ft.	657 ft.
2	NB BL 81, STA H11 144+82 to 152+26	Broken Back Curve	1500 ft.	744 ft.
3	SB BL-81, H20 STA 82+29 to STA 82+55	Broken Back Curve	1500 ft.	26 ft.
4	NB BL-81, H10 STA 82+35 to STA 82+61	Broken Back Curve	1500 ft.	26 ft.
5	Ramp - WB I-690 to West St., STA R44 105+28 to STA 108+39	Broken Back Curve	1500 ft.	312 ft.
6	Ramp – SB I-81 (Existing I-481) to RTE 5, R6A STA 28+49 to 32+97	Broken Back Curve	1500 ft	448 ft.
7	WB I-690, Irving Ave. on-ramp to NB BL 81 off-ramp. H40 STA 144+28 to 160+66	Ramp Spacing	2000 ft.	1,638 ft.
8	WB I-690, NB BL 81 off-ramp to West St. off-ramp. H40 STA 136+22 to 144+28.	Ramp Spacing	1000 ft.	806 ft.
9	WB I-690, West St. on-ramp to Geddes St. off-ramp.	Ramp Spacing	1600 ft.	1425 ft.
10	EB I-690, SB BL 81 on-ramp to Irving Ave. off-ramp H30 STA 142+36 to 159+03	Ramp Spacing	2000 ft.	1,667 ft.
11	EB I-690 On-Ramp at Crouse Ave., proximity to driveway (former Canal Street (4)	Control of Access	50 ft.	0 ft.
12	SB BL 81 Off-Ramp to E. Willow, proximity to driveway at 123-29 Willow St. (4)	Control of Access	100 ft.	70 ft.
13	NB BL 81 On-Ramp, proximity to driveway at 320 Pearl Street. (4)	Control of Access	100 ft.	0 ft.
14	NB BL 81 Off-Ramp, proximity to two driveways at 424 Sunset Ave. and 2523 Lodi St.	Control of Access	300 ft.	120 ft.
15	SB BL 81 to S. State St. Off-Ramp, proximity to driveways at 2407-2415 S. State St.	Control of Access	300 ft.	70 ft.
16	Hiawatha Blvd to NB BL 81 On-Ramp - Proximity to driveway at 1800 N Salina St.	Control of Access	50 ft.	25 ft.
17	NB BL 81 to Hiawatha Blvd Off-Ramp - Proximity to driveways at 2027 Park St.	Control of Access	300 ft.	110 ft.
18	SB BL 81 to 7th North St Off/On-Ramps - Proximity to driveway at 400 7th North St.	Control of Access	300 ft.	180 ft.
19	NB BL 81 to Rt 11 Off-Ramp - Proximity to driveways at 2803 - 2807 Rt 11/Brewerton Rd	Control of Access	100 ft.	0 ft.
20	Rt 11 to NB BL 81 On-Ramp - Proximity to driveway at Northern Lights Shopping Center	Control of Access	100 ft.	80 ft.

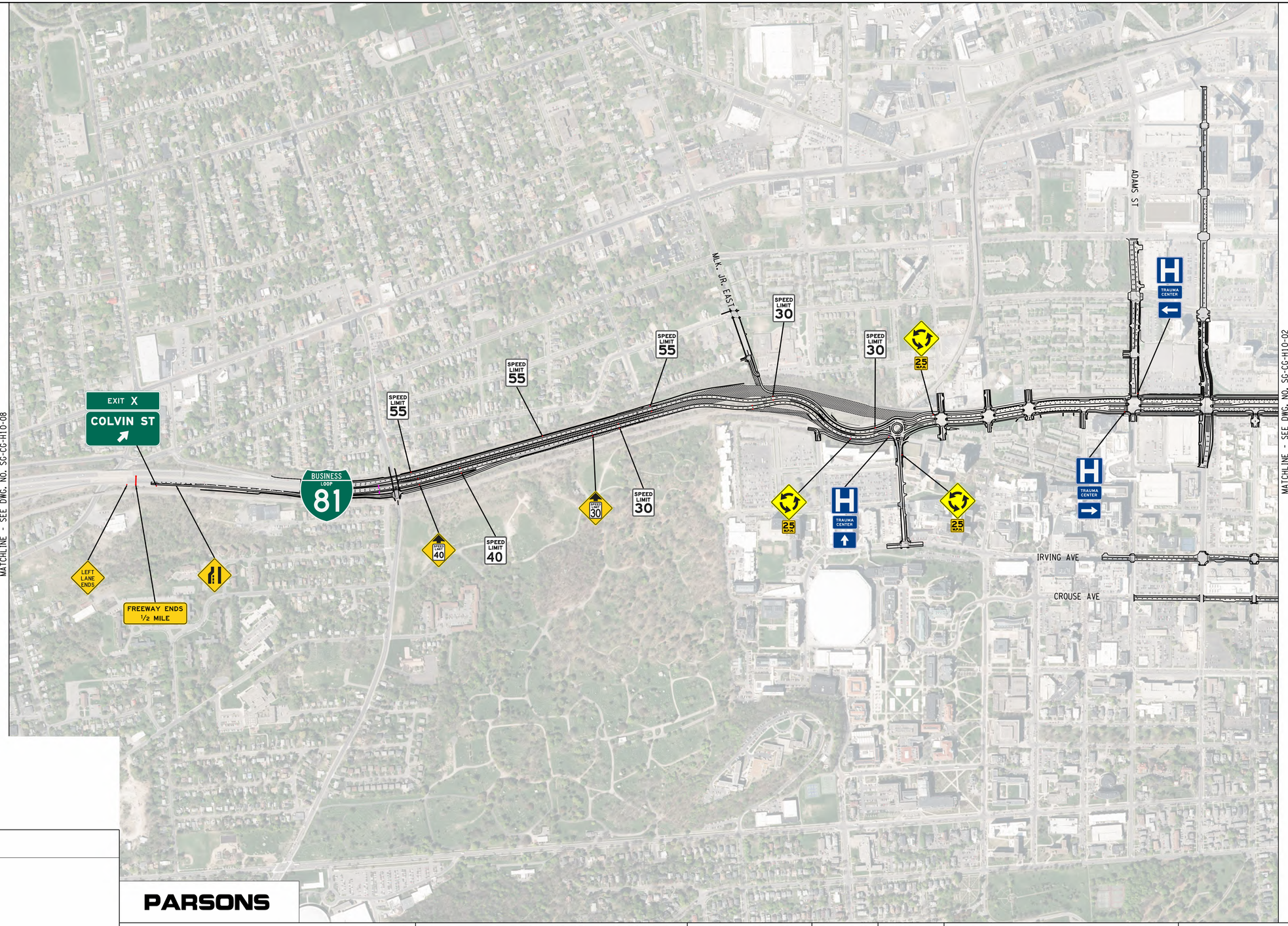
21	WB I-690 to Bear St. On-Ramp - Proximity to driveways at 901, 906 & 945 Spencer St, 920 Bear St.	Control of Access	300/50 ft.	110/15 ft.
22	WB I-690 to Geddes St. Off-Ramp - Proximity to driveways at 807, 814 & 822 N Geddes St.	Control of Access	300/50 ft.	100/0 ft.
23	Geddes St. to EB I-690 On-Ramp - Proximity to driveways at 600 - 612 N Geddes St.	Control of Access	300 ft.	70 ft.
24	Teall Ave. to EB I-690 On-Ramp - Proximity to driveway at 226 Teall Ave.	Control of Access	300 ft.	175 ft.
25	Midler Ave to WB I-690 On-Ramp - Proximity to driveway at 2222 Burnet Ave.	Control of Access	50 ft.	10 ft.
26	WB I-690 to Midler Ave Off-Ramp - Proximity to driveway at 2400-2510 Burnet Ave.	Control of Access	300/50 ft.	45/10 ft.
27	EB Rt 5/92 to SB I-81 Ramp - Proximity to Driveways at 4600 - 4606 NY-5.	Control of Access	100 ft.	0 ft.
28	EB I-690 to Irving Ave Off-Ramp – Proximity to driveway at 815 Erie Blvd. East	Control of Access	300 ft.	237 ft.
29	Irving Ave. to WB I-690 On-Ramp – Proximity to driveways at 911/921 Erie Blvd. East	Control of Access	300 ft.	80/200 ft.
30	NB BL 81, between NY-481 on- and off-ramp gores (North BL 81/I-81/NY-481 Interchange)	LOS (merge)	LOS D or better	LOS E (2056 PM peak)

Notes:

1) LOS = Level of Service
2) Refer to Other Design Parameters in **FDR/FEIS, Chapter 5.**
3) When design advances, further refinements would attempt to further improve this feature.
4) Refer to **FDR/FEIS Appendix A-3** for more information regarding the retention of non-conforming features.

ATTACHMENT 4

Conceptual Signing Plans



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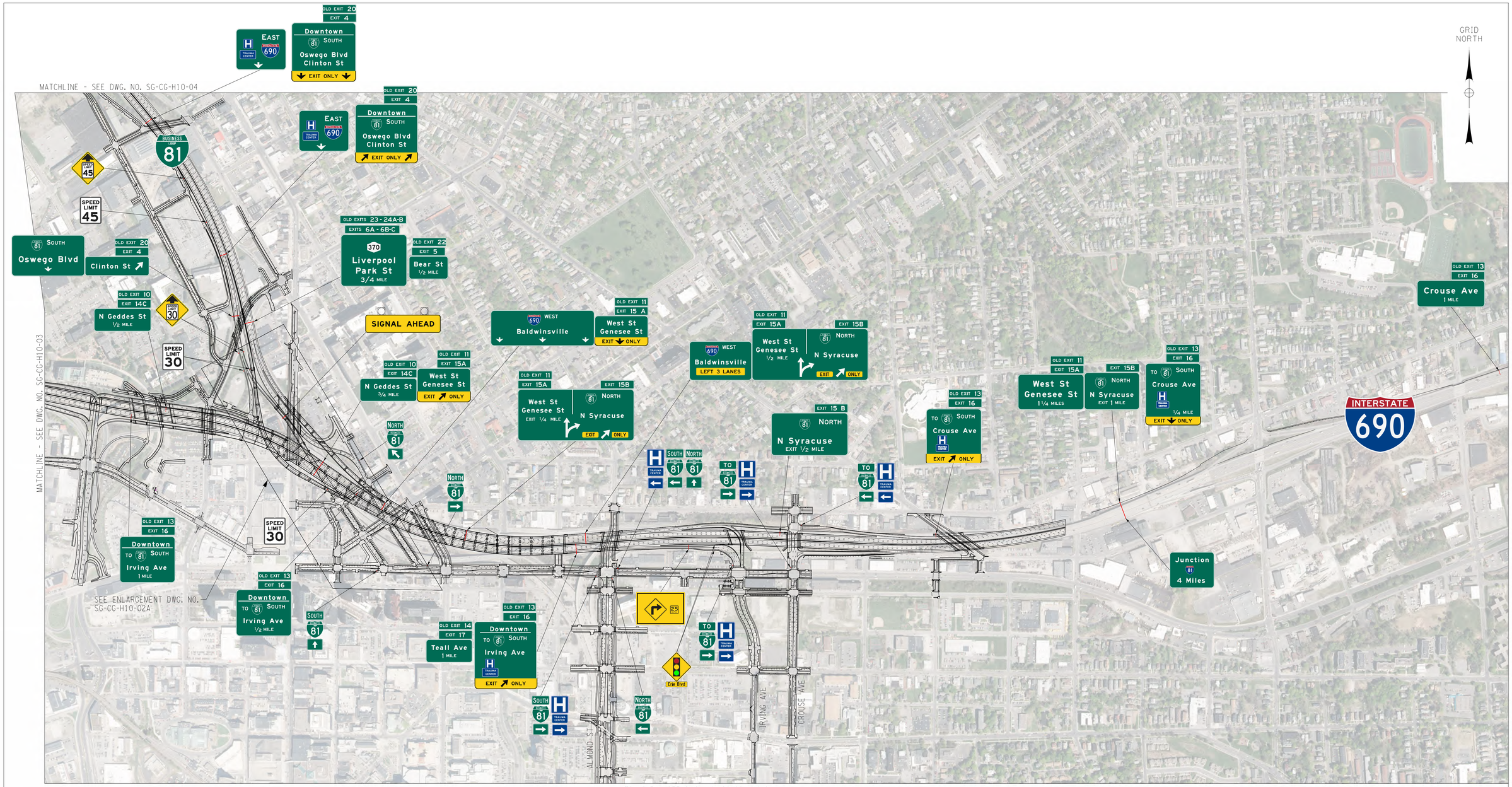

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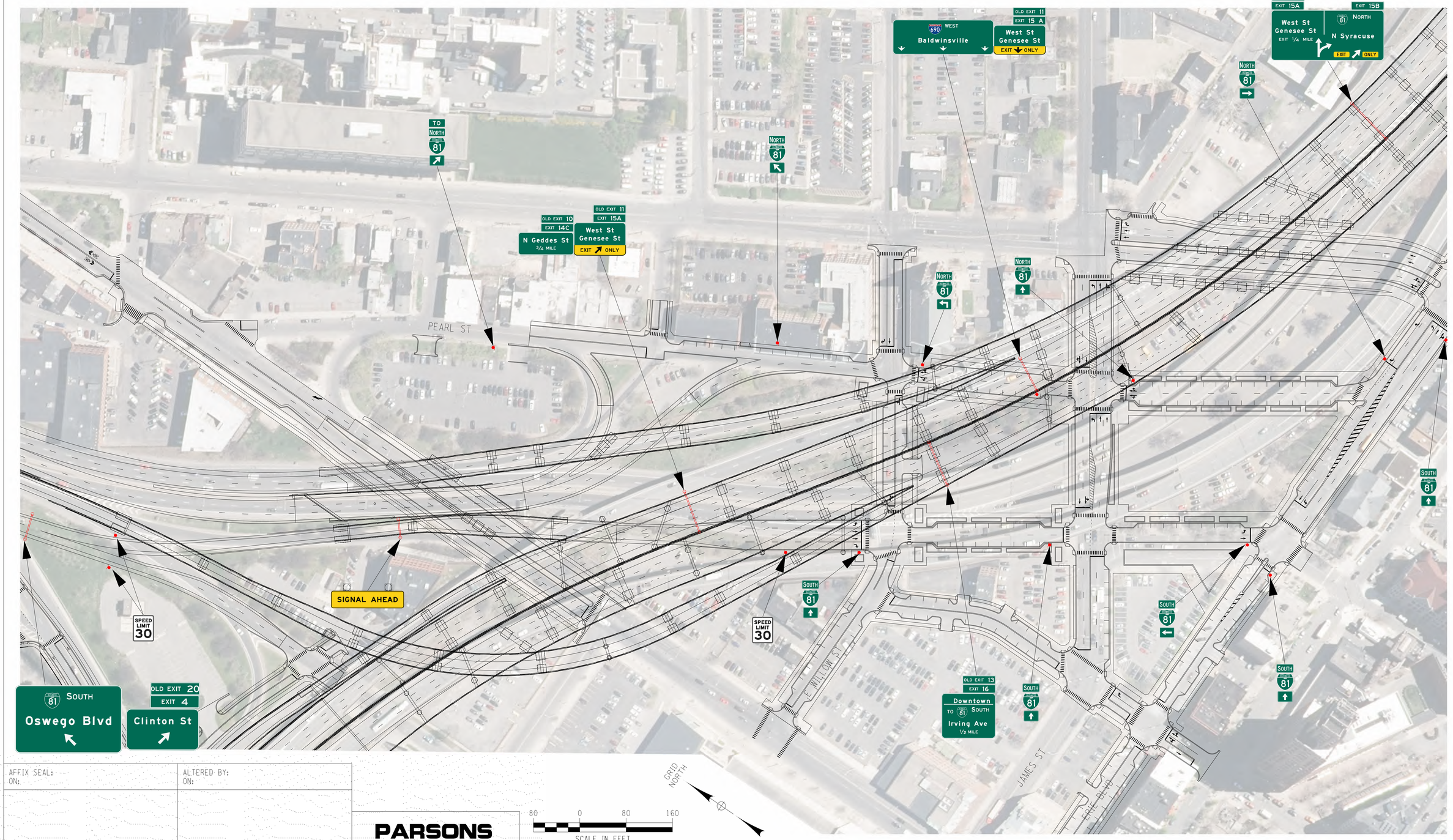

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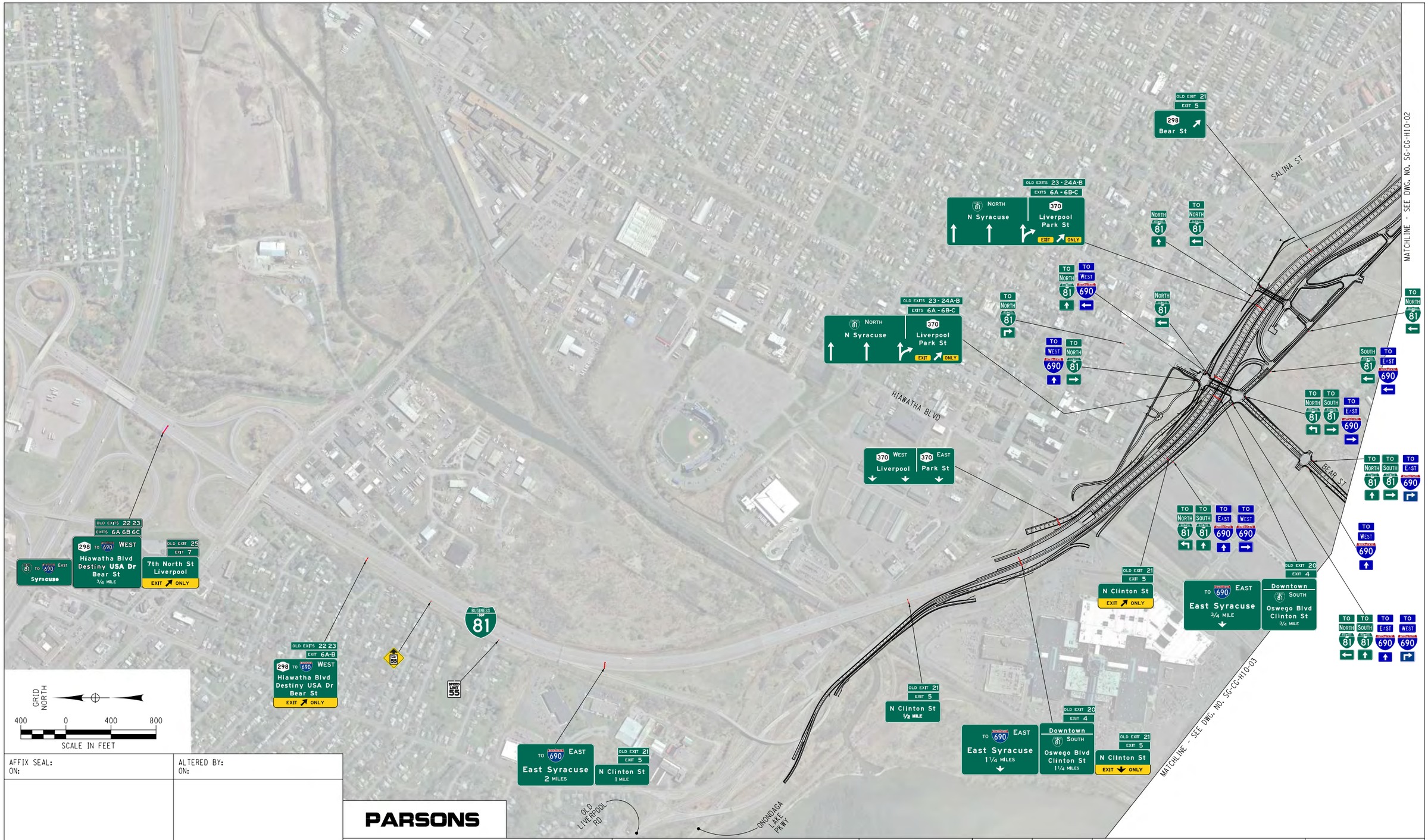

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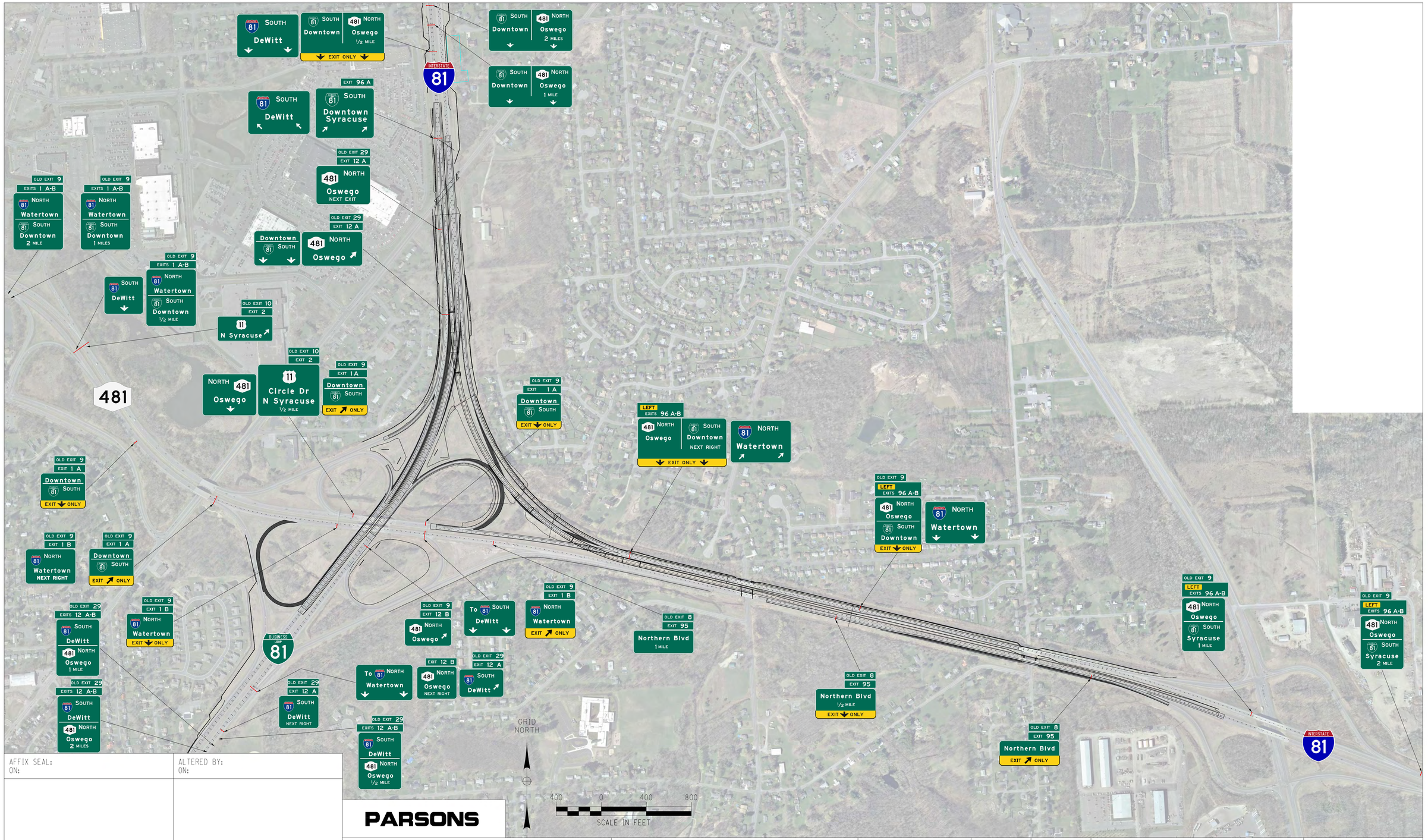

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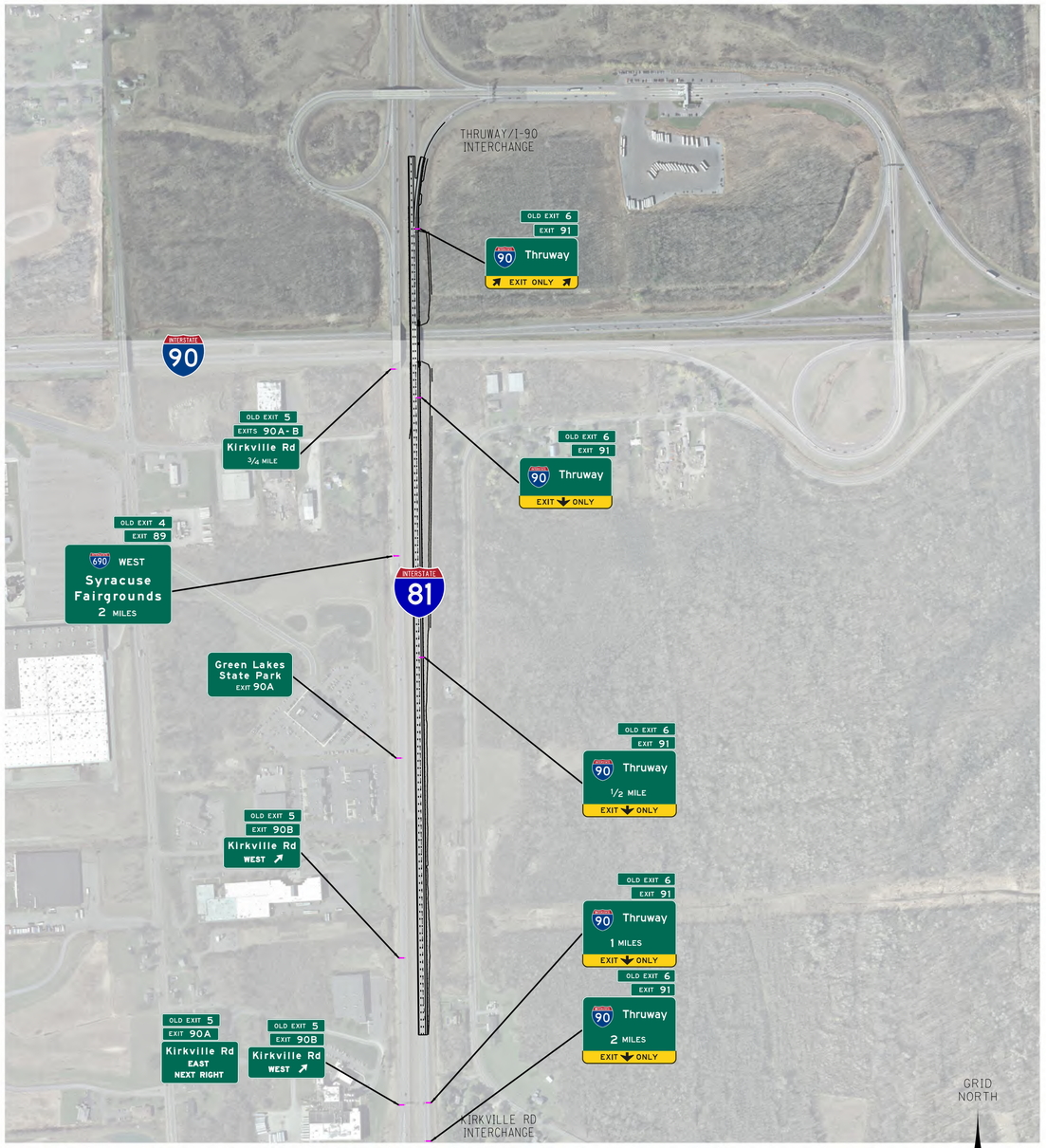

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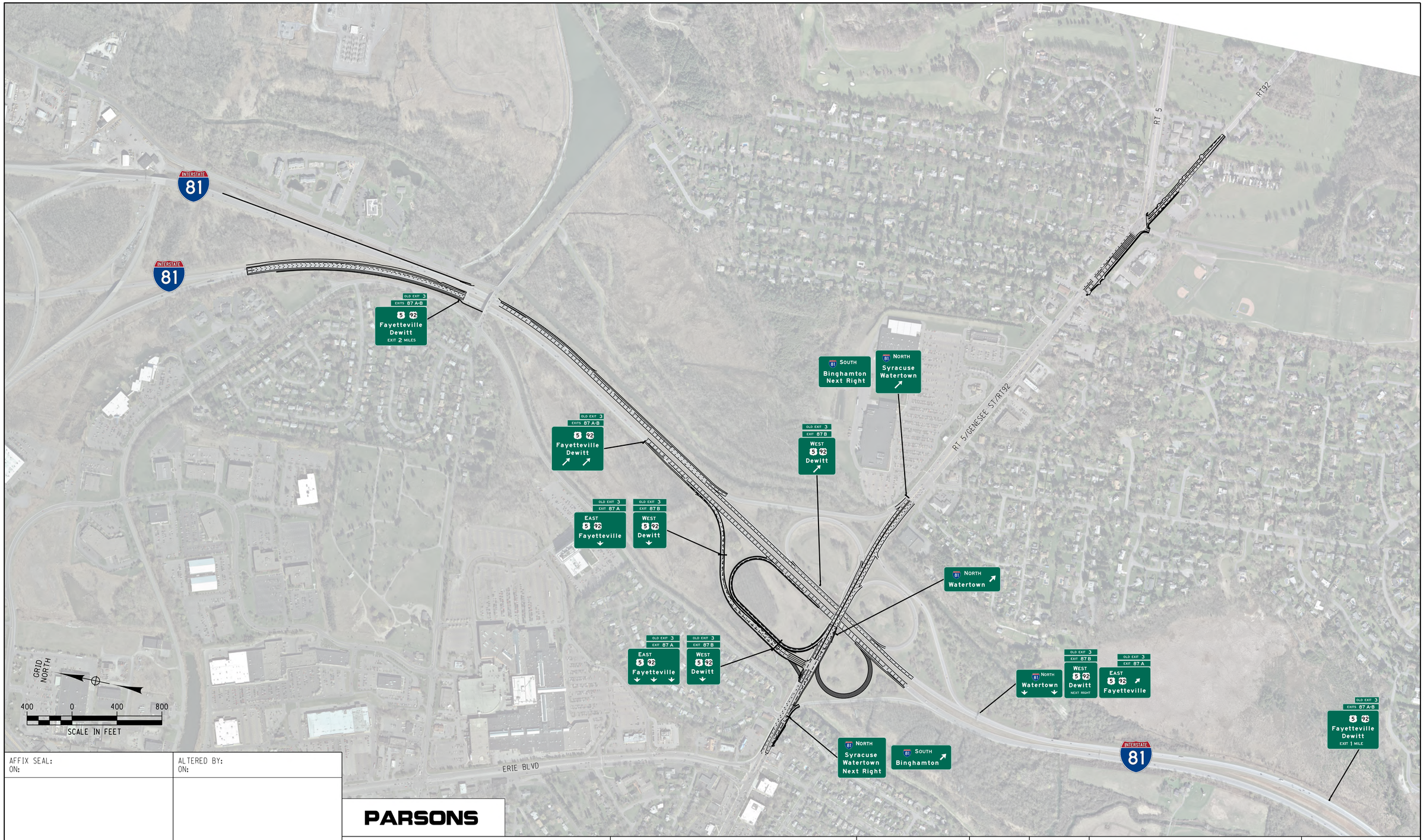

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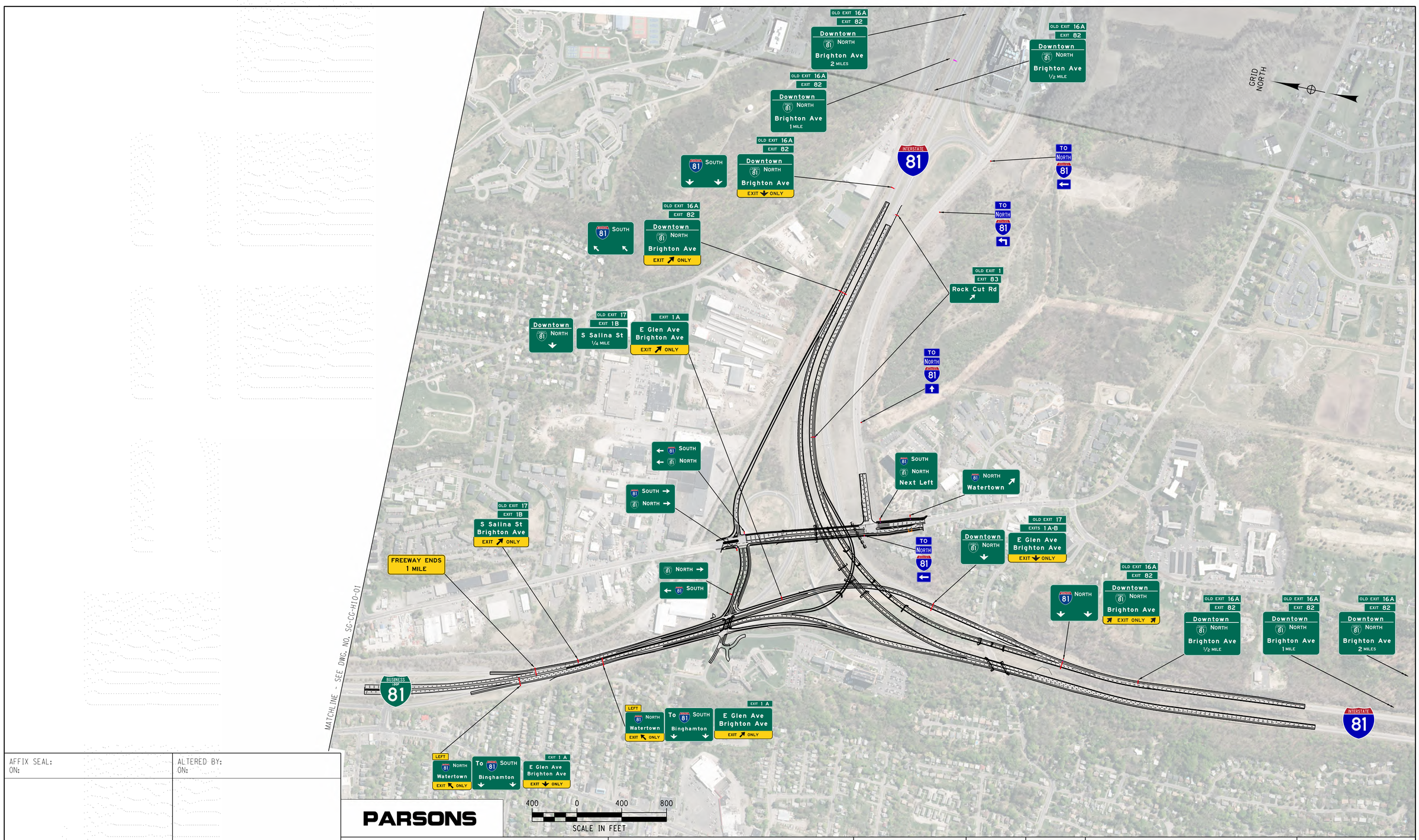

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ATTACHMENT 5

Traffic Data and Analysis

ATTACHMENT 5
Traffic Data and Analysis

5-1: VISSIM Development and Calibration Report

5-2: Traffic Volumes and Levels of Service

- 5-2-1: 2013 Existing Freeway Traffic Volumes and Level of Service
- 5-2-2: 2013 Existing Intersection Traffic Volumes
- 5-2-3: 2013 Existing Freeway Level of Service
- 5-2-4: 2013 Existing Intersection Level of Service
- 5-2-5: 2026 and 2056 Community Grid Alternative Freeway Traffic Volumes and Level of Service
- 5-2-6: 2026 and 2056 Community Grid Alternative Intersection Traffic Volumes
- 5-2-7: 2026 and 2056 Community Grid Alternative Freeway Level of Service
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Attachment 5-1
VISSIM Development and Calibration Report

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

I-81 Viaduct Project

Onondaga County, New York

VISSIM DEVELOPMENT AND CALIBRATION REPORT

Prepared by:

PARSONS

November 2017

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1. INTRODUCTION

The New York State Department of Transportation (NYSDOT) is proposing to address the existing structural, geometric, and operational deficiencies of I-81 from approximately Colvin Street to Hiawatha Boulevard (the "I-81 Viaduct Project") in the City of Syracuse, New York. NYSDOT is also investigating modifications along I-690 between its interchange at West Street and Lodi Street and potential improvements on I-481 from its southern to northern termini. In cooperation with the Federal Highway Administration (FHWA), NYSDOT is preparing an Environmental Impact Statement (EIS) to summarize transportation, social, economic, and environmental impacts of four project alternatives, including No Build Alternative, one Viaduct Alternative, and two Community-Grid Alternatives.

Integral to the EIS process is the development of a traffic simulation model (VISSIM) that will be used to predict the outcome of the proposed roadway system changes and help select a preferred alternative. More specifically, the traffic simulation model would support the following activities:

- Identify existing and future traffic congestion/safety problems.
- Support the development of I-81 Viaduct Project alternatives.
- Provide information for project evaluation.
- Provide inputs for environmental or other analyses (e.g., cost-benefit analysis).
- Address specific concerns of the public and other project stakeholders.

The purpose of this technical memorandum is to document the methodology followed to build and calibrate a detailed VISSIM simulation model for the I-81 Viaduct Project. The methodology describes the approach, source data, assumptions, technical tools, and calibration and validation procedure for developing a VISSIM model capable of serving as a testing tool for the operation of roadway design alternatives and their impact on the transportation system. The methodology builds on currently available state-of-the-practice techniques, with a goal of providing reliable results to meet the Federal mandates and standards for accuracy.

2. VISSIM MODEL DEVELOPMENT

For the I-81 Viaduct Project, a VISSIM model was selected as the environment for simulation modeling and used to investigate detailed geometric and traffic operational and safety issues. The VISSIM model development involves a number of steps, including model area, analysis years, analysis peak periods, data input, base model development, and model calibration and validation. Establishing the model area, analysis years, analysis peak periods, data input, and base model development are discussed below, and model calibration and validation are discussed in Sections 3 and 4).

2.1 Overview of VISSIM Software

The I-81 Viaduct simulation models were developed using the VISSIM simulation software (Version 9.00-10) developed by PTV. VISSIM is a microscopic, time-step and behavior-based model which analyzes multi-modal traffic flows with the flexibility of modeling all types of geometries and traffic control schemes. Therefore, VISSIM simulation modeling is a very useful tool to help predict the outcomes of a

proposed change to the roadway system and assist in evaluating the advantages and disadvantages of design alternatives within the urban environment.

VISSIM can generate a wide range of performance measures for traffic operational analysis, and its trajectory files can be incorporated into FHWA's Surrogate Safety Assessment Model (SSAM) to produce surrogate safety measures used to quantify the likelihood of accident frequency and severity associated with the proposed alternatives. Furthermore, VISSIM simulation modeling can generate AVI files for 3-D simulation runs, to provide a visual tool to help convey operational performance of the improvement alternatives to non-technical audiences. More detailed descriptions of the VISSIM model can be found in the VISSIM User Manual – Version 9.00.

2.2 Simulation Study Area

The VISSIM model extents, as shown in Figure 1, consist of the I-81, I-690, I-481, and I-90 interstate system and surface streets that could be affected by the project, including Downtown Syracuse and University Hill, extending south to East Castle/Stratford Streets, north to Hiawatha Boulevard, west to South West Street, and east to Westcott Street. The model area was purposely defined as the area where a major shift in local traffic using alternate routes could occur as a result of the reconstruction or removal of the I-81 viaduct. The geographic scope and level of detail were developed specifically to allow for a detailed area-wide assessment of transportation needs and options.

2.3 Base Year/Future Analysis Years

The base year selected for the VISSIM traffic analysis is 2013 and the future analysis years include the estimated-time-of-completion (ETC) year 2020 and design year 2050 (ETC+30). Traffic analysis during the worst-case construction year may also be performed if deemed necessary. The ETC year is the calendar year that the built project is expected to commence operation. The design year is the horizon year representing the end of the economic life of a proposed transportation improvement.

2.4 Analysis Peak Periods

Although peak traffic conditions in the study area generally occur for less than a one-hour period, the VISSIM modeling periods for this project include the two-hour AM (7:00 – 9:00) and PM (4:00 – 6:00) periods to reflect build-up of peak congestion and the recovery afterwards. In these two-hour periods, the AM and PM peak hours are identified as 7:30 – 8:30 AM and 4:30 – 5:30 PM, respectively. For traffic simulation, the analysis period is two hours, but simulation was performed for more than two hours, to include the warm-up period. A 30-minute warm-up period is set to span the longest trip that would occur in the network. Empirical testing reveals that a 30-minute warm-up period would load all the simulated traffic onto the network and achieve model equilibrium during the main simulation period.

Within the two-hour time periods, traffic flow rates were adjusted every 15 minutes to reflect the dynamic nature of traffic flow and capture actual time-varying traffic congestion.

Figure 1: VISSIM Model Network Extents

2.5. Data Collection and Preparation

A database of existing physical and operational characteristics of the study area was established to assist in the VISSIM model development, including existing traffic data, transit data, and roadway data. Since the VISSIM model is ultimately used to predict how well the roadways operate under alternative scenarios and future analysis years, data related to future transportation projects to be implemented within the study area and future year traffic volume predictions also were assembled.

To minimize the cost and time for field data collection, this project adopted a three-step procedure to assemble the data:

- Identify readily available data from various public agencies.
- Review the available database to determine whether it is current and suitable for the VISSIM model development.
- Collect supplemental data for model development to fill the gaps and/or to update the available database.

After reviewing all readily available data pertaining to the study area, existing data was utilized to the greatest extent possible. However, additional data were required to supplement existing data, because the traffic network established for this project is larger than those of previous studies. Therefore, traffic data collection plans (see Appendix A) were prepared for collecting new automatic traffic recorder (ATR) volume counts, manual turning movement and vehicle classification counts, pedestrian crosswalk counts, travel time and speeds, and queue lengths for those areas where available data did not exist. All data items collected and used for VISSIM model development are listed in Table 1 and the main data items are briefly described below.

Table 1: Data Items used for VISSIM Development

Data Item	Source(s)	VISSIM Incorporation
Road survey video data (2013)	I-81 Viaduct Project	Roadway geometry, turn restrictions, number of lanes, lane assignment
Streetview imagery	Google	Confirm roadway geometry, turn restrictions, parking regulations
Traffic signal timing plans	City of Syracuse, NYSDOT	Detector placement, signal phasing, splits, offsets
Synchro files (AM and PM weekday peak hours)	City of Syracuse, NYSDOT	Signal phasing, split, offset
Vehicle speed reports	I-81 Corridor Study, NYSDOT website	Speed distributions
ATR counts	I-81 Viaduct Project, I-81 Corridor Study, SMTC website, NYSDOT website	Route decision splits, vehicle inputs, vehicle compositions
Turning movement counts	I-81 Viaduct Project, I-81 Corridor Study, SMTC website, NYSDOT website	Route decision splits, vehicle inputs, vehicle compositions, pedestrian demand, bike demand
Vehicle classification counts	Stantec, NYSDOT website	Route decision splits, vehicle inputs, vehicle compositions
Map of Onondaga County bus routes	Centro website	Develop transit routes, route stops
Centro Bus Schedule	Centro website	Bus route schedule, bus demand along transit routes
Speed Limits Google earth.kmz	Google	Speed decision locations, desired speeds, vehicle compositions

Various field observations, notes, video logs	I-81 Viaduct Project	Fine calibration adjustments, matching traffic congestion pattern, queues
Vehicle travel times (select corridors)	I-81 Viaduct Project	Model validation
Existing conditions partial VISSIM network	I-81 Corridor Study	Sub-area base network coding, expanded upon
Pedestrian crossing counts	I-81 Viaduct Project, I-81 Corridor Study	Develop pedestrian-crossing at selected key intersections
Bicycle routes	City of Syracuse, SMTC	Incorporate bicycle exclusive lanes and shared lanes into network
List of planned transportation improvements	City of Syracuse, NYSDOT	Confirm roadway geometry, turn restrictions, number of lanes, lane assignment
Downtown Syracuse Two-Way Feasibility Technical Analysis Report	SMTC	Intersection configurations in corridors where two-way conversions are recommended/planned
Downtown Syracuse Two-Way Feasibility Technical Analysis Synchro Files	SMTC	Planned signal phasing, splits, offsets in downtown area
Turning movement forecasts for all intersections (AM and PM Peak hours)	SMTC Travel Demand Model	Route decision splits, vehicle inputs
Select link analysis query results	SMTC Travel Demand Model	Route decision splits, vehicle inputs
I-690 Teall/Beech VISSIM network	I-81 Viaduct Project	Base network for future configuration in I-690 study area
Pass through traffic study	I-81 Corridor Study	Vehicles travel through or around Syracuse without an internal origin or destination
Video files recorded at the NYSDOT Region 3 Traffic Management Center (TMC) for interstates and manual observations for intersections	I-81 Viaduct Project	Develop queue lengths for model validation

2.5.1 Existing Traffic Data

Data related to travel and operational characteristics of the interstate system and key surface streets within the study area were collected. They include:

- Automatic Traffic Recorder (ATR) counts

- Turning movement counts (TMC)
- Vehicle classification
- Origin-destination information
- Travel time and delay
- Queue lengths
- On- and off-street parking
- Bicycle and pedestrian counts

Origin-destination (O-D) information represents O-D trip patterns generated from the SMTC regional travel demand model (Version 4.041) and recently validated by Airsage's O-D transportation planning data. Vehicle classification data include three mode categories: passenger cars, buses, and trucks (vehicles with two or more axles and six tires or more). ATR and TMC data were assembled to develop the base year (2013) balanced traffic volume diagrams used to establish traffic demands for use in the VISSIM simulation. Development of 2013 balanced volume diagrams involved the following steps:

- **Traffic count adjustments** – All available ATR and TMC data were digitized, and formatted into a single structured database. All counts collected prior to 2013 were factored using an annual growth rate of 0.3% (estimated from the SMTC model) to represent the common base year of 2013. Counts were adjusted from the month the count was taken to a "seasonal peak period" which represents average volume levels for the fall season, which is historically the busiest time of year within the study area.

- **Peak Hour Determination** – Counts taken at 15-minute intervals were summed to produce hourly volumes at increments of 15 minutes. The 60-minute windows with the greatest total vehicular volume were determined to be 7:30-8:30 AM and 4:30-5:30PM for the morning and afternoon commuter peaks, respectively.

- **Geo-Coding of Count Data** – A separate GIS database was created for visual reference and to support map creation. To accomplish this, each count was associated with a geographic point and each turning movement counted was associated with a corresponding GIS feature arrow. GIS feature arrows were jointed with count data to produce unbalanced traffic volume diagrams.

- **Data Mapping to VISSIM Network** – Every location where a link branches off into multiple connectors forms a "Route Decision". A spreadsheet was developed which assigns a particular turn movement from the dataset to every such connector in the VISSIM network.

- **Volume Balancing Procedure** – An algorithm was developed in Python, which invokes a bi-proportional procedure to vary link flows and turning movements iteratively in order to converge on a set of balanced volumes. The volume balancing algorithm was given the VISSIM network geometry and associated volumes for each peak period as input to produce a set of balanced volumes for the AM and PM peaks.

2.5.2 Existing Transit Data

An inventory of existing bus service and usage within the study area was collected and used in developing the simulations. The bus data include bus routes, schedules, bus stop locations and loading areas, ridership, and average dwell times.

2.5.3 Existing Roadway Data

A physical inventory of the major roadways was conducted within the study area to gather information about the existing roadway geometries and traffic control regulations, as follows:

- Lane, shoulder, and median widths
- Number of lanes
- Direction of travel
- Intersection configuration
- Traffic control devices (including signal, signs, and pavement markings)
- Posted speed limits
- Traffic/parking regulations
- Truck routes
- Off-street parking
- Horizontal and vertical clearances
- Alignment constraints
- Location and profile controls
- Typical roadway sections
- Sidewalks.

2.5.4 Future Transportation Projects

Future committed/programmed highway improvement projects were assembled for updating the VISSIM transportation networks for the forecast years. A list of future highway improvement projects (obtained from SMTC) is illustrated in Appendix B.

2.5.5 Future Traffic Volumes

The future year SMTC traffic volumes (including link volumes and turning movements) were compiled to establish traffic demand and route choice input for the VISSIM simulation. However, this demand data conversion is not straightforward due to the required volume adjustment process used to obtain future year traffic prediction. Therefore, an automatic interface program was developed to expedite the transfer of traffic data between the SMTC and VISSIM models, as shown in Figure 2. The basic steps in the data conversion process are summarized as follows:

- **Geometry Mapping** – To transfer information between the SMTC, VISSIM, and the intermediate modules, a program was developed to establish an index joining the geometric features of both model datasets.

- **Furnessing Calculations** – The SMTC model's turning movement volumes were post-processed using a furnessing method where the numerical difference between the existing model volume and the future model volume from the SMTC output were added to the base year counts to capture the projected magnitude of change while minimizing model errors. For locations where the result was positive, the difference method was used. For locations where the computed result was negative, the ratio method was used.

- **Volume Balancing Procedure** – A script was created in Python to reconcile differences in counts after the modeled difference was applied the base year counts. This step was necessary because subtle differences caused by the application of the ratio and difference method in adjacent areas. The volume balancing process was given the traffic study network geometry and volumes for all turning movements for each peak period as input and invoked a bi-proportional algorithm to produce a set of reconciled turning movement volumes for the AM and PM peaks.

- **VISSIM Input Preparations –** Roadway geometry, vehicle inputs, and static route configurations were coded in VISSIM to supply a skeletal framework upon which the final balanced demand profiles could be superimposed. Custom programs were developed to incorporate the processed traffic volumes into VISSIM demand profiles by associating them with and modifying individual network elements such as route decision split percentages and the hourly flow rate for each time interval for all entry links.

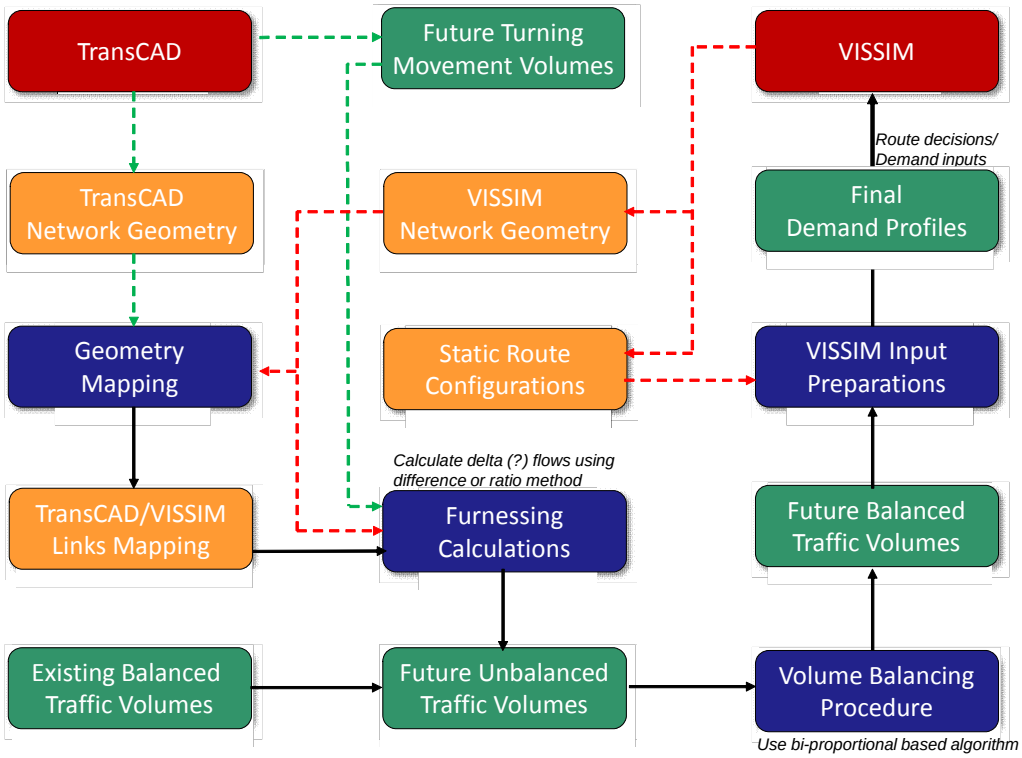


Figure 2: Generation of Future Demand Profiles for VISSIM

2.6 VISSIM Base Model Development

The VISSIM base model was developed and calibrated, and used for subsequent analyses of future scenarios or alternatives. The base model development involves the following steps:

- Geometry coding – An aerial photograph of the study area was imported into VISSIM and scale was established on this image by matching landmarks with the scaled aerial photograph. Links and link connectors were then digitized over this background image, and various control and supply attributes were applied.
- Create speed profiles – define distributions of desired speeds for each vehicle type and develop vehicle acceleration and deceleration functions to represent the differences in a driver's behavior.
- Code signal control measures – include signal, stop signs, and yield conditions

- Enter speed changes – develop reduced speed areas for turn movements at intersections and place a desired speed decision at a location where a permanent speed change should become effective
- Code conflict points and priority rules – used to correctly replicate vehicle interactions, such as controlling any movements that may require yielding.
- Enter vehicle inputs – prepare traffic demand data in the forms of entry volumes and turning movements at intersections. Input vehicles would be classified by vehicle type (car, truck, and bus)
- Code vehicle routing – direct vehicles where to go.
- Determine the seeding (or warm-up) period.

Additional details for the base model development can be found in Table 2. Once the VISSIM base models were developed, they were run for the AM and PM peak hour scenarios. For each scenario, the error checking procedure was undertaken by reviewing the on-screen animation and model outputs to determine the model's accuracy in simulating field operations. Input coding error checking also was performed so that the later calibration process would not result in parameters that are distorted to compensate for overlooked coding errors.

Table 2: VISSIM Model Assumptions

Type	Category	Setting	Assumption	Reason
Base Data	Distribution	Desired speed	Linear and non-linear Distributions	Use posted speed limits + 5 mph as the upper bound of desired speed. Distributions were developed based on available data
		Turn-speed	Varies on turn-type and vehicle types	Linear distribution of 9 mph, 15 mph, 20 mph or 25 mph was defined for each turn according to its turn-type and vehicle type,
		Rolling-stop-speed	Some drivers don't make a full stop at "stop" sign	Speed Distribution was borrowed from the "VISSIM Standards Project", July 2012, DVRPC
Traffic	Vehicle Composition	Highways/ local streets	Vehicles classified by heavy truck, medium truck, bus and cars	Vehicle compositions were developed from available field data
Vehicle Inputs	Warm-up Time	All demand input links	30 minutes	Used the WSDOT VISSIM Protocol as guidance - 2.2.1 Seeding Period, September 2014
Signal Control	Controllers	Intersections	Fixed time (TOD) and actuated signal	Existing signal timing was used for 2013 signals
Stop/Yield Control	Stop/Yield Signs	Intersections	Some drivers don't make a full stop at "stop" sign	"Rolling Speed -Zones" was set up for some approaches at stop controlled intersections
Priority Control/	Location	Intersections	Combinations of priority rules and	Allows more flexibility to realistically capture existing conditions

Conflict Area			conflict areas were used	
Links/ Connectors	Lane Change	Lane change back distance	Varies on location	Lane change back distance and emergency stop vary by individual locations. The values are based on field observations
Routing Decisions	Static	Highways/ local streets	All vehicles types have same routes, but allowed to vary in certain areas	Typical routes, combined routes and routes with lane selection were used to capture lane utilization.
Detectors	Location	Signalized intersections	Varies on location	Detectors were placed according to Google map or available signal timing plans
Transit	Bus	Local streets	Bus routes would be bus-exclusive lane or shared lane	All bus routes coded shared lanes except NB Onondaga St between West St and Clinton St
Non-motorized	Pedestrian	Intersection pedestrian-Crossing	Crossing was coded at key intersections. No ped routes were coded between intersections	Due to lack of pedestrian O-D information
	Bicycle	Routes	Bike routes were coded either exclusive lane or shared lane	Due to lack of bicycle O-D information

3. MODEL PARAMETER CALIBRATION

Because the default values for the VISSIM input parameters were not calibrated using field data from the United States, they need to be revised to produce valid output that better correlates with local traffic conditions. Furthermore, parameter adjustments are necessary because no simulation models can include all the site-specific factors (including driver demographics, road conditions, etc.) that might affect capacity, driving behavior, and traffic operations. The purpose of this section is to describe a logical process used to calibrate and validate the VISSIM model so that it is capable of serving as a testing tool for the operation of roadway design alternatives and their impact on the transportation system.

3.1 Calibration Procedure

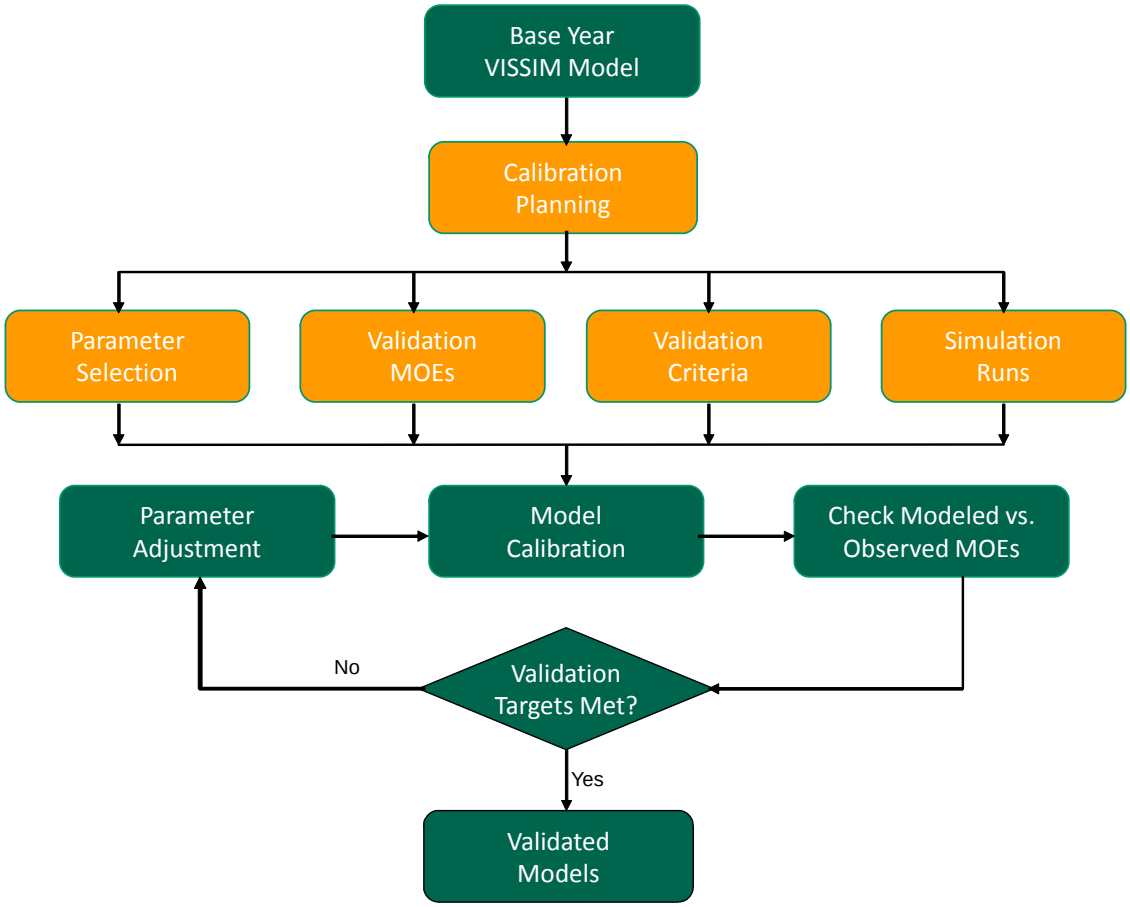
Model calibration is an iterative process that involves adjusting model input parameters to produce a result that can reasonably represent the existing observed traffic conditions on the simulation network. Two major calibration methods have been documented, namely trial-and-error method (manual calibration) and systematic approach (automated calibration). This project used the trial-and-error method by adjusting parameters iteratively (often one parameter at a time) to obtain the best match possible between the model outputs and field measurements. A general model calibration procedure is illustrated in Figure 3 and can be summarized as follows:

- Identify appropriate model parameters to adjust or calibrate

- Select appropriate measures of effectiveness (MOEs) and data for validation
- Determine the number of simulation runs required to achieve a confidence level of 95% with a 5% margin of error for all MOEs.
- Identify validation criteria and targets
- Modify the selected parameters until the model generates results that closely replicate field measured traffic conditions or satisfy the validation targets

In summary, given the selected parameters for calibration, these parameters would be iteratively adjusted to achieve an acceptable level of accuracy. In this project, traffic volumes and travel times were used as the validation MOEs. The calibration target is to obtain the best match possible between the modeled and observed traffic volumes and travel times.

Figure 3: A General Framework of Model Parameter Calibration



3.2 Selection of Calibration Parameters

There are numerous input parameters in the VISSIM model that describe network geometry, traffic demand, general configuration, traffic control operation, traffic flow and vehicle characteristics, driver behavior, and route choice strategies. Typically, these input parameters have impacts on the simulation results in a way that is highly correlated to those of other parameters. Fixing one problem by adjusting

multiple parameters could easily result in other problems somewhere else in the model. Therefore, the FHWA guidelines suggest selecting a reasonable number of parameters for adjustment to avoid a never-ending circular process and to keep the calibration effort manageable.

For the I-81 VISSIM model, the main calibration effort focused on driver behavior and vehicle parameters. Driver behavior parameters directly affect vehicle interaction, govern traffic movement over the simulation network, change the saturation flow rate on arterial and freeway links, and provide various types of drivers to the traffic stream, such as aggressive and passive drivers. The most-used calibration parameters include ten parameters (CC0-CC9) in Wiedemann's 1999 car following model; average standstill distance and desired safety distances in Wiedemann's 1974 car following model; and waiting time before diffusion and minimum headway (front/rear) in the lane changing algorithm.

Vehicle parameters represent the vehicle characteristics and operational performance of the traffic stream. Examples include traffic composition, vehicle length, desired speed, desired acceleration/deceleration, maximum acceleration/deceleration, and attributes associated with each vehicle type modeled. In addition, the need to adjust signal control parameters such as reaction to amber signal reduced safety distance close to a stop line also were examined. Finally, the simulation resolution was considered because it would impact on the response to traffic controls such as traffic signals or priority rules.

3.3 Measures of Effectiveness for Validation

The validation stage compares modeled values for chosen measures of effectiveness (MOEs) to observed values for the same MOEs. The validation process is used to determine how closely the VISSIM model replicates real world field conditions. Three validation MOEs were selected for VISSIM model validation, including:

- Traffic volume – peak hour balanced traffic volume diagrams were developed using observed ATR and turning movement counts
- Travel time – using the "floating-car" method, peak hour travel times along several travel routes were collected and compared to modeled travel times.
- Queue length – field queue observations were conducted on freeway segments and intersection approaches. Maximum queues were measured and defined as the maximum back of queue observed during an analysis period. For intersection approaches, a maximum queue length is the number of vehicles in the queue at the beginning of a green interval. For freeway segments, a maximum queue length was developed using two steps: (1) the current queue length is measured every time step (1 minute), and (2) from these values the maximum value is taken for every time interval (15 minutes).

3.4 Validation Criteria and Targets

VISSIM model validation was conducted according to the validation guidelines recommended by FHWA's document: *Traffic Analysis Toolbox Volume III – Guidelines for Applying Traffic Microsimulation Modeling Software* (Federal Highway Administration, August 2003). Table 3 shows the FHWA's validation criteria and acceptance targets for volume, travel time, and queue length.

Table 3: Validation Criteria and Targets

Criteria/Measures	Acceptance Targets
Individual Hourly Link Flows	
Within 15%, for 700 vph < flow < 2,700 vph	> 85% of cases
Within 100 vph, for flow < 700 vph	> 85% of cases
Within 400 vph, for flow > 2,700 vph	> 85% of cases
Sum of all link volumes	Within 5% of sum of all link counts
GEH < 5 for individual link volumes	> 85% of cases
GEH for sum of all flows	GEH < 4 for sum of all link counts
Journey Travel Times	
Within 15% (or 1 min, if higher)	> 85% of cases
Queue Lengths	
Within 20% (or < 12 vehicles, if higher)	> 85% of cases

Note that in Table 3, acceptance targets for queue lengths are based on guidelines established in Chapter 5 of NYSDOT's Highway Design Manual (September 1, 2017). Also note that the GEH (Geoffrey E. Havers) statistic, a modified chi-square statistic that accounts for both absolute and relative errors, is defined as:

$$GEH_i = \sqrt{\frac{2(M_i - O_i)^2}{(M_i + O_i)}}$$

where M_i and O_i are the modeled and observed hourly flows on link i, respectively. A GEH value of less than 5 is considered as a good match between the modeled and observed hourly flows. The validation criteria and targets in Table 3 can be summarized as follows:

- The modeled link volumes would be within ±15% of the observed volumes for flows between 700 and 2,700 vehicles per hour (vph), within ±100 vph for flows less than 700 vph, or within ±400 vph for flows greater than 2700 vph. These targets must be satisfied for 85% of the cases;
- The sum of (modeled) link flows is within ±5% of the actual sum of all link flows
- The GEH statistic would be less than 5 for individual link flows for 85% of the cases;
- Sum of all link flows have a GEH statistic less than 4;
- The modeled travel times would be within ±15% of (or ±1 minute different from) observed travel times for more than 85% of the measured travel time routes.
- The modeled queue lengths would be within ±20% of (or ±12 vehicles different from) observed queue lengths.

3.5 Simulation Runs

VISSIM models rely on random numbers to release vehicles, assign vehicle type, and determine their behavior as the vehicles move through the network. Therefore, multiple simulation runs using different seed numbers are required to obtain an average traffic condition of a specific scenario. The required number of simulation runs was calculated using the formula outlined in FHWA's *Traffic Analysis Toolbox Volume III (page 107):*

$$CI_{(1-\alpha)\%} = \frac{2t_{(1-\alpha/2),N-1}s}{\sqrt{N}}$$

where
$CI_{(1-\alpha)\%}$ = (1-α)% confidence interval for the true mean, where α is the level of significance which equals the probability of the true mean not lying within the confidence interval. CI is also known as the maximum allowable error of the estimate which equals μe, where μ is the mean and e is the margin of error, usually specified as a fraction of μ.
$t_{(1-\alpha/2),N-1}$ = critical value of the two-tailed t-distribution at the confidence interval of 1-α and N-1 degree of freedom.
s = the estimate of the real standard deviation
N = number of simulation runs required

Note that the above formula calculates the required number of simulation runs (N) for a specific performance measure only. If there is more than one performance measure of interest, we need to determine N for each measure and take the largest value of N to be the required number of simulation runs, i.e., N = Max (N_1, N_2, …..,N_n). Also note that the above formula requires an iterative procedure to estimate the final number of simulation runs because the degree of freedom (N-1) associated with the t-statistic is based on the total number of runs N needed to achieve a desired accuracy. To this end, the following procedure was used:

- Select three performance measures including total delay time, average speed, and average delay time per vehicle.
- Conduct an initial set of 11 simulation runs.
- Use simulation results to calculate the mean and standard deviation for each performance measure
- Assume a 95% level of confidence and use a 5% margin of error to calculate a desired confidence interval (CI) for each performance measure
- Set N equal to 2 and use the above formula to calculate the corresponding confidence interval (CI)
- Continue the process by increasing N, until the calculated confidence interval is less than or equal to the desired confidence interval
- Determine N required for each performance measure and take the largest value of N to be the required number of simulation runs.

Based on the above procedure, the required number of simulation runs for the total delay time, average speed, and average delay time per vehicle performance measures were determined to be 6, 4, and 10 runs, respectively. Therefore, 10 simulation runs are required to achieve a confidence level of 95% with a 5% margin of error for all performance measures. The final calibration statistics represent an average of these 10 simulation runs.

3.6 Parameter Refinement

The model calibration was accomplished by adjusting the default values of the VISSIM parameters so that the model results could reproduce local driver behavior and traffic performance characteristics. As suggested in the FHWA guidelines, one should select a reasonable number of parameters for adjustment to avoid a never-ending circular process and to keep the calibration effort manageable. After reviewing

all the VISSIM parameters, attention was given to the parameters in model components related to driver behavior, including:

- Freeway car following (Wiedemann 99) parameters – Parameters related to headway time, following variation, following threshold, and standstill acceleration were calibrated to represent the observed following behavior, break-down conditions, and recovery from break-down conditions. These parameters are also the most influential when calibrating maximum flow rates for mainline freeway sections.

- Arterial car following (Wiedemann 74) parameters – To reflect local driver behavior, Wiedemann 74 car following parameters were calibrated by re-defining the distance that a vehicle can see forward or backward, the distance between stopped cars, and the safety distance between two vehicles. Particularly, two parameters of "additive part of desired safety distance" and "multiple part of desired safety distance" were calibrated so that they could generate results as close to the maximum service flow rate of HCM 2010 as possible.

- Lane change parameters – Lane change parameters (same for both freeway and arterial links) were also calibrated to better reflect real world lane changing conditions, particularly in those merging, diverging, and weaving areas. Modifying a combination of the maximum and accepted deceleration rates for the merging (own) and trailing vehicles as well as the car following headway parameter can give throughput priority to the mainline section or the ramp section. Freeway diverges are most affected by the necessary lane changing and lane change distance parameters. Weaving sections use both merging and diverging section calibration parameters.

Calibrated driver behavior parameter values by roadway segment type are provided for freeways and arterials in Tables 4 and 5, respectively. Detailed descriptions of each parameter can be found in "*VISSIM Version 9.00 User Manual*". Singular values represent global adjustments inherited by all segments of the specified type. Where ranges are given, unique values were assigned to differing network elements to represent local conditions as accurately as possible. The adjusted values fall within ranges that are considered reasonable according to common practice in order to maintain the integrity of the processes they represent.

In addition to driver behavior parameters, attention also was given to vehicle parameters, such as traffic composition, vehicle length, speed distribution, and maximum acceleration and deceleration rates. Once the above parameters were set with acceptable overall model performance, local fine tuning was performed for individual roadway segments and intersections by adjusting conflict areas, priority rules, and routing decisions. As an additional calibration step, driver yield behavior to pedestrians at right turn locations was calibrated in the VISSIM models to match observed conditions.

Table 4: Calibrated Parameter Values by Segment Type - Freeways

Parameter	Default Value	Calibrated Value	
		Basic Segments	**Merges, Diverges, and Weaves**
Car Following (Wiedemann '99)			
CC0 Standstill distance	4.92 ft	default	default

CC1 Headway time	0.90 s	0.50 s	default
CC2 'Following' variation	13.12 ft	default	20.01 ft
CC3 Threshold for entering 'following'	-8.00 s	default	-5.00 s
CC4 Negative 'following' threshold	-0.35 ft/s	default	-0.25 ft/s
CC5 Positive 'following' threshold	0.35 ft/s	default	0.25 ft/s
CC6 Speed dependency of oscillation	11.44	default	default
CC7 Oscillation acceleration	0.82 ft/s^2	default	default
CC8 Standstill acceleration	11.48 ft/s^2	default	12.01 ft/s^2
CC9 Acceleration at 50 mph	4.92 ft/s^2	default	4.99 ft/s^2
Look ahead distance	0 ft - 820 ft	80 ft - 1000 ft	default
Look back distance	0 ft - 492 ft	25 ft - 400 ft	default
Lane Changing			
Maximum deceleration (own)	-13.12 ft/s^2	default	-14.99 ft/s^2
Maximum deceleration (trail)	-9.84 ft/s^2	default	-12.01 ft/s^2
-1 ft/s^2 per distance	200 ft	default	default
Accepted deceleration (own)	-3.28 ft/s^2	default	default
Accepted deceleration (trail)	-1.64 ft/s^2	default	default
Waiting time before diffusion	60 s	default	30 s
Min. headway (front/rear)	1.64 ft	default	1.51 ft
Safety distance reduction factor	0.60	0.2 - 0.25	0.10
Max. dec. for cooperative braking	-9.84 ft/s^2	default	-29.53 ft/s^2
Cooperative lane change	unchecked	checked	checked

Table 5: Calibrated Parameter Values by Segment Type - Arterials

Parameter	Default Value	Calibrated Value	
		Basic Segments	**Merges, Diverges, and Weaves**
Car Following (Wiedemann '74)			
Average standstill distance	6.56 ft	default	4.99 ft
Additive part of safety distance	2.00	1.75	default
Multiplicative part of safety distance	3.00	2.75	default
Look ahead distance	0 ft - 820 ft	default	200 ft - 900 ft
Look back distance	0 ft - 492 ft	default	100 ft - 500 ft
Lane Changing			

Maximum deceleration (own)	-13.12 ft/s^2	default	-16.01 ft/s^2
Maximum deceleration (trail)	-9.84 ft/s^2	default	-12.01ft/s^2
-1 ft/s^2 per distance	100 ft	default	default
Accepted deceleration (own)	-3.28 ft/s^2	default	-4.99 ft/s^2
Accepted deceleration (trail)	-1.64 ft/s^2	default	-4.99 ft/s^2
Waiting time before diffusion	60 s	default	15 s - 120 s
Min. headway (front/rear)	1.64 ft	default	default
Safety distance reduction factor	0.60	default	0.20 - 0.30
Max. dec. for cooperative braking	-9.84 ft/s^2	default	-29.53 ft/s^2
Advanced merging	checked	checked	checked
Cooperative lane change	unchecked	checked	checked

4. MODEL VALIDATION RESULTS

After calibrating model parameters to reflect the prevailing conditions of the study area, model validation focused on comparing quantitative and qualitative model output against existing field data to verify that the existing model is operating similar to the actual field conditions. Model output statistics represent an average of 10 simulation runs to achieve a confidence level of 95% with a 5% margin of error for all performance measures. Each simulation run was set to 9,000 seconds and the data were collected from 1,800 seconds to 9,000 seconds, for a total of two hours.

Following the FHWA's guidance, the model's ability to match field observed traffic volumes and travel times along key routes was examined, as well as reviewing queue lengths between the model and the field. Three MOEs - traffic volumes, travel times, and queue lengths - were validated based on the criteria listed in Table 3. Each MOE was validated for six time periods, including:

- Pre-Peak: 7:00 - 7:30 AM and 4:00 - 4:30 PM
- Peak hour: 7:30 - 8:30 AM and 4:30 - 5:30 PM
- Post-peak: 8:30 - 9:00 AM and 5:30 - 6:00 PM

Both the AM and PM peak periods include three time periods: pre-peak, peak hour, and post-peak. For pre- and post-peak periods, the observed traffic flow rate for each 30-minute period was normalized to allow its corresponding hourly flow rate to be compared to the VISSIM results directly.

4.1 Traffic Volumes

A summary of link volume validation statistics for the AM and PM peak periods is presented in Tables 6 and 7. The FHWA microsimulation guidelines require that link volumes for at least 85 percent of cases meet the following criteria:

- For volumes less than 700 vehicles per hour (vph), within 100 vph
- For volumes between 700 and 2,700 vph, within 15%

- For volumes greater than 2,700 vph, within 400 vph

Tables 6 and 7 show that the link volume calibration results meet the criteria for the three volume categories. In addition, more than 98 percent of freeway or arterial links have a GEH below 5, which is substantially larger than the acceptance criteria of 85 percent in the FHWA guidance. A detailed listing of the freeway and arterial link count GEH validation statistics for the AM and PM peak periods are presented in Appendices C-F.

Table 6: Traffic Volume Validation Summary - AM Peak Period

Criteria/Measures	Targets	Pre-Peak		Peak Hour		Post-Peak	
		Freeway	Arterial	Freeway	Arterial	Freeway	Arterial
Within 100 vph, for flow < 700 vph	> 85%	100%	99%	100%	100%	100%	100%
Within 15%, for 700 vph < flow < 2,700 vph	> 85%	100%	92%	100%	100%	100%	100%
Within 400 vph, for flow > 2,700 vph	> 85%	97%	100%	95%	100%	100%	100%
GEH < 5 for individual link flows	> 85%	99%	100%	99%	100%	100%	100%

Table 7: Traffic Volume Validation Summary - PM Peak Period

Criteria/Measures	Targets	Pre-Peak		Peak Hour		Post-Peak	
		Freeway	Arterial	Freeway	Arterial	Freeway	Arterial
Within 100 vph, for flow < 700 vph	> 85%	100%	99%	100%	99%	100%	99%
Within 15%, for 700 vph < flow < 2,700 vph	> 85%	99%	88%	99%	100%	99%	100%
Within 400 vph, for flow > 2,700 vph	> 85%	100%	100%	100%	100%	100%	100%
GEH < 5 for individual link flows	> 85%	100%	100%	99%	98%	99%	99%

4.2 Travel Time

Travel time information was checked by comparing average travel time data obtained from the field to those generated from the models within the simulation period. Travel time comparisons were performed for the eleven routes (or eighteen routes by direction) in the network and for the AM and PM peak periods, respectively. Based on travel time criteria described in Table 3, the modeled travel times should be within ±15% of (or ±1 minute different from) observed travel times for more than 85% of the measured travel time routes. Percent differences for most routes in Tables 8 and 9 are found to be within ±15%. The modeled travel times on a number of routes (e.g., Clinton Street from Comstock Avenue to South West Street, West Street from Genesee Street to Adams Street, etc.) are not within ±15% of observed travel times. However, since the differences between the modeled and observed travel times are less than one minute, most of these routes still achieved travel-time validation targets established by FHWA. As shown in the last row of Tables 8 and 9, of the eighteen routes (by direction), there are 17 (94%) routes

for which the model can reproduce travel times within the tolerance of the calibration criteria (±15%) during the AM peak period, PM peak hour, and PM post-peak. In the PM pre-peak, 16 (89%) of the routes meet the travel-time validation targets.

Table 8: Route Travel Time Validation Summary – AM Peak Period

Route Name	Dir	Difference Between Observed and Modeled Travel Time (min)					
		Pre-Peak		Peak Hour		Post-Peak	
		Actual	Percent	Actual	Percent	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	0.98	8%	-0.24	-2%	0.32	3%
	SB	1.29	11%	1.45	11%	1.83	15%
I-481 from Exit 2 to Exit 8	NB	0.46	4%	0.49	4%	0.38	3%
	SB	0.44	3%	0.67	5%	0.43	3%
I-690 from Exit 8 to Exit 17	EB	1.03	13%	-1.77	-13%	0.95	12%
	WB	1.15	15%	1.05	13%	0.87	11%
Fayette St from West St to Walnut Ave	EB	0.99	21%	1.52	33%	1.11	24%
	WB	0.96	18%	0.36	6%	-0.04	-1%
Adams St from West St to Comstock Ave	EB	1.80	29%	0.68	9%	0.15	2%
Harrison St from Comstock Ave to S West St	WB	0.91	14%	-0.72	-9%	-0.67	-8%
State St from Adams St to Butternut St	NB	-0.25	-4%	-0.89	-14%	-0.95	-15%
Clinton St from Webster Landing to Adams St	SB	-0.87	-17%	0.59	15%	0.65	17%
West St from Genesee St To Adams St	NB	0.29	12%	0.75	47%	0.81	51%
	SB	0.83	56%	0.58	36%	0.58	36%
Irving Ave from E Raynor St to Fayette St	NB	-0.16	-4%	-0.50	-12%	-0.65	-15%
	SB	0.35	10%	-0.09	-2%	-0.38	-9%
Almond St from Van Burn St to Burnet St	NB	-0.03	-1%	-0.52	-11%	-0.83	-17%
	SB	-1.05	-14%	0.95	21%	0.74	16%
Within 15% or 1 min	> 85%	94%		94%		94%	

Table 9: Route Travel Time Validation Summary – PM Peak Period

Route Name	Dir	Difference Between Observed and Modeled Travel Time (min)					
		Pre-Peak		Peak Hour		Post-Peak	
		Actual	Percent	Actual	Percent	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	1.09	9%	1.31	11%	0.8	6%
	SB	1.14	9%	0.86	7%	0.14	1%
I-481 from Exit 2 to Exit 8	NB	0.40	3%	-0.02	0%	0.38	3%
	SB	0.60	5%	0.11	1%	-0.12	-1%
I-690 from Exit 8 to Exit 17	EB	1.35	17%	0.91	11%	0.83	10%
	WB	0.86	10%	0.66	7%	0.13	1%
Fayette St from West St to Walnut Ave	EB	-0.20	-3%	-0.62	-11%	-0.82	-14%
	WB	0.05	1%	-1.13	-14%	-0.89	-11%
Adams St from West St to Comstock Ave	EB	1.02	14%	0.42	5%	0.86	11%

Harrison St from Comstock Ave to S West St	WB	-0.29	-4%	-0.92	-12%	-0.55	-9%
State St from Adams St to Butternut St	NB	-0.92	-14%	-2.12	-24%	-1.20	-19%
Clinton St from Webster Landing to Adams St	SB	0.69	16%	0.80	19%	-0.47	-9%
West St from Genesee St To Adams St	NB	0.46	24%	0.17	7%	0.44	23%
	SB	0.58	40%	0.89	74%	0.74	44%
Irving Ave from E Raynor St to Fayette St	NB	0.51	14%	-0.29	-7%	-0.21	-6%
	SB	-0.06	-1%	-0.64	-11%	-0.90	-14%
Almond St from Van Burn St to Burnet St	NB	-1.05	-16%	-0.10	-2%	0.02	0%
	SB	0.53	11%	-0.18	-3%	-0.01	0%
Within 15% or 1 min	> 85%	89%		94%		94%	

In the AM peak period, the eastbound Fayette Street route (from West Street to Walnut Avenue) does not achieve the travel-time validation target during the AM peak hour and AM post-peak. The eastbound Adams Street route (from West Street to Comstock Avenue) during AM pre-peak also does not achieve travel time validation. Differences between observed and modeled travel times on these two routes are less than two minutes. These two routes (approximately 1.5 miles each) are longer than the other local street routes and, therefore, their travel time survey results have a higher likelihood to be affected by signal control systems such as signal progression. In the PM peak period, the eastbound I-690 route (from Exit 8 to Exit 17) does not achieve the travel-time validation target during PM pre-peak. In addition, the northbound State Street route (from Adams Street to Butternut Street) during PM peak hour and PM post-peak and the northbound Almond Street route (from Van Burn Street to Burnet Street) during PM pre-peak do not achieve travel time validation. Although travel times for these routes are outside of the criteria range, most of them are sufficiently close to warrant use of the model. A detailed listing of the route travel time validation statistics for the AM and PM peak periods are presented in Appendices G and H.

In addition to the route travel time comparisons, the freeway link travel times obtained from the field were also compared to those generated from the models within the simulation period. Travel time comparisons were performed for the 59 links (by direction) on I-81, I-481, and I-690 in the network and for the AM and PM peak periods, respectively. As shown in Table 10, of the 59 links, only one link during AM peak hour and two links during AM post-peak do not meet travel-time validation targets established by FHWA. More than 97 percent of freeway links achieve travel-time validation targets during various time periods, which is substantially larger than the acceptance criteria of 85 percent in the FHWA guidance. A detailed listing of the freeway link travel time validation statistics for the AM and PM peak periods are presented in Appendices I and J.

Table 10: Freeway Link Travel Time Validation Summary

Time Period	Threshold/Target	Pre-Peak	Peak Hour	Post-Peak
AM Peak Period	> 15% or > 1 min	0 link	1 links	2 links
	> 85% of cases	100%	98%	97%
PM Peak Period	> 15% or > 1 min	0 link	0 link	0 link
	> 85% of cases	100%	100%	100%

4.3 Queue Lengths

Queue length information was checked by comparing maximum queue length data obtained from the field to those generated from the models within the simulation period. Queue length comparisons were performed for the 9 freeway facility segments and 17 intersection approaches in the network. Of the 26 locations, 23 and 16 locations were selected for queue length comparisons in the AM and PM peak periods, respectively (see freeway and intersection locations in Appendix A). Based on queue length criteria described in Table 3, the modeled queue lengths should be within ±20% of (or ±12 vehicles different from) observed queue lengths for more than 85% of the measured queue length locations. (Note: An average length of 25 feet per vehicle is assumed – this includes a 20-foot vehicle length and a 5-foot headway between vehicles). Tables 11 and 12 show that the maximum queue lengths in terms of vehicles in queue are found to be less than ±12 vehicles for vast majority of locations during the AM and PM peak periods (including pre-peak, peak-hour, and post-peak). A detailed listing of the queue length validation statistics for 23 locations in the AM peak period and 16 locations and in the PM peak period are, respectively, presented in Appendices G and H.

Table 11: Queue Length Validation Summary - AM Peak Period

Freeway/ Intersection	Segment/Approach	Pre-Peak		Peak Hour		Post-Peak	
		Diff (%)	Diff (veh)	Diff (%)	Diff (veh)	Diff (%)	Diff (veh)
NB I-81	At Exit 18	N/A	0	-61%*	-5*	-100%	-15
SB I-81	At Exit 19	-95%	-8	-16%	-33	28%	26
	At Harrison St off-ramp	-100%	-10	-3%	-2	-6%	-4
EB I-690	At diverge to SB I-81	N/A	-8	38%	7	4646%	12
EB I-690/SB I-81	At merge onto SB I-81	-99%	-4	10%	2	-8%	-2
WB I-690	At diverge to SB I-81	N/A	0	N/A	0	N/A	0
NB I-481	At diverge to WB I-690	N/A	0	N/A	0	N/A	0
Almond St and Adams St	Adams St EB	12%	2	-14%	-4	16%	3
	Almond St NB	196%	4	65%	3	43%	2
	Almond St SB	-44%	-6	-22%	-4	-3%	0
	NB I-81 off-ramp	-25%	-4	-7%	-2	-31%	-7
Almond St and Harrison St	Almond St NB	0%	0	12%	4	-25%	-7
	Almond St SB	-28%	-8	-22%	-7	-21%	-6
	Harrison St WB	72%	5	2%	0	35%	4
Erie Blvd and Crouse Ave	Crouse Ave NB	940%	7	423%	7	413%	6
	Crouse Ave SB	128%	2	74%	2	90%	2
	Erie Blvd EB	594%	3	451%	3	229%	3
	Erie Blvd WB	724%	4	150%	3	238%	3
Genesee St/EB I-690 off-ramp/West St	EB I-690 off-ramp	168%	7	112%	9	215%	8
	Genesee St EB	401%	10	177%	11	36%	3
Almond St and SB I-81 off-ramp	SB I-81 off-ramp	49%	7	40%	9	35%	7

Salina St and SB I-81 off-ramp	SB I-81 off-ramp	701%	7	40%	6	30%	4
Townsend St and WB I-690 off-ramp	WB I-690 off-ramp	111%	3	42%	2	36%	2
Within 20% or < 12 vehicles	> 85%	100%		100%		91%	

*Difference calculation was based on the queue information observed by TMC staff rather than video file recorded.

Table 12: Queue Length Validation Summary - PM Peak Period

Freeway/Intersection	Segment/Approach	Pre-Peak		Peak Hour		Post-Peak	
		Diff (%)	Diff (veh)	Diff (%)	Diff (veh)	Diff (%)	Diff (veh)
NB I-81	At Exit 18	N/A	1	N/A	5	N/A	3
	At I-690 EB Split	130%	8	128%	11	183%	7
EB I-690	At diverge to SB I-81	N/A	-8	-100%	-2	N/A	0
WB I-690	At diverge to SB I-81	N/A	1	N/A	2	N/A	1
SB I-481	At Exit 3E (5/92)	N/A	12	N/A	18	N/A	12
Almond St and Adams St	Adams St EB	36%	8	20%	6	58%	11
	Almond St NB	-35%	-10	-29%	8	25%	3
	Almond St SB	-35%	-8	-34%	10	-26%	-6
Almond St and Harrison St	Almond St NB	37%	7	40%	8	53%	10
	Almond St SB	-26%	-7	-41%	-12	-28%	-6
	Harrison St WB	-5%	-1	-31%	-12	-9%	-2
Erie Blvd and Crouse Ave	Crouse Ave NB	140%	5	174%	6	371%	7
	Crouse Ave SB	291%	5	342%	5	528%	5
	Erie Blvd EB	17%	1	0%	0	63%	2
	Erie Blvd WB	95%	2	41%	1	154%	3
Genesee St/EB I-690 off-ramp/West St	Genesee St WB	-6%	0	2%	0	23%	1
Within 20% or < 12 vehicles	> 85%	100%		94%		100%	

As shown in the last rows of Tables 11 and 12, more than 91 percent of the queue locations achieve queue length validation targets during the various time periods. More specifically, of the 23 locations, only two locations in the AM post-peak do not achieve queue length validation targets. Similarly, of the 16 locations, only one location in the PM peak hour does not achieve queue length validation targets. At southbound I-81 Exit 19 (Clinton and Salina Streets), a 2,325-foot (93 vehicles) queue was observed during AM post-peak, compared to 2,986 feet (119 vehicles) reported by the model (see Table K-3 of Appendix K). Although this location does not achieve queue length validation target, its modeled and observed queues have the similar pattern of long queues. At northbound I-81 Exit 18 (Harrison and Adams Streets), a 15-vehicle queue was observed during the AM post-peak, compared to a 0-vehicle queue reported by the model. The observed queue (375 feet) at this location may be questionable because it is larger than the observed queue in the AM peak hour (218 feet). Furthermore, based on additional queue observations recently made by NYSDOT Traffic Management Center staff (10/30/17 and 11/1/17), the queue length has already approached zero at approximately 8:00 AM.

5. CONCLUSIONS

This technical memorandum documents the methodology followed to build and calibrate detailed VISSIM simulation models for the I-81 Viaduct Project. The approach, data collection, assumptions, and technical tools built on currently available state-of-the-practice techniques, with a goal of providing reliable results to meet the Federal mandates and standards for accuracy. The VISSIM models were calibrated in accordance with the calibration acceptance criteria recommended by FHWA. Detailed link volume counts, route/link travel times, and observed queue lengths have been used to validate the VISSIM models for both AM and PM peak periods. Disaggregated and aggregated validation statistics presented within this memorandum show that the base year (2013) VISSIM models are valid and stable. Therefore, the models can be used as the basis for development of all future No Build and Build condition models.

APPENDIX A:
TRAFFIC DATA COLLECTION PLANS

For the I-81 Viaduct Project, data collection was conducted for ATR volume counts, turning movement counts, pedestrian crosswalk counts, travel time and speeds, and queue lengths in the study area. Whereas the queue length survey was performed in September, 2017, all the remaining data items were collected in November, 2013. The collection plan for each data item is briefly described below.

ATR Volume Counts

Obtain continuous ATR volume counts at forty-two (42) unidirectional highway locations for one week period to establish traffic flow variations, to provide average hourly traffic volume estimates, and to adjust manual traffic counts taken on different weekdays to a common basis. The contractor must calibrate the raw ATR axle counts in order to represent the total number of vehicles. The proposed ATR count locations are shown below.

Expressways - Mainline

1. I-81 mainline NB between Exits 16A and 16
2. I-81 mainline SB between Exits 16A and 16
3. I-690 mainline EB between Exits 14 and 15
4. I-690 mainline WB between Exits 14 and 15

Note: 1 and 2 above shall be counted simultaneously, as shall 3 and 4.

Expressways - Ramp

1. I-81 NB off-ramp to I-481 EB
2. I-81 NB on-ramp from I-481 WB
3. I-81 NB off-ramp to S. Salina St/E. Calthrop Ave
4. I-81 NB on-ramp from S. Salina St/E. Calthrop Ave
5. I-81 NB on-ramp from E. Colvin St
6. I-81 NB off-ramp to Almond St/Harrison St
7. I-81 NB on-ramp from Almond St/Harrison St
8. I-81 NB off-ramp to I-690 EB
9. I-81 NB off-ramp to I-690 WB
10. I-81 NB on-ramp from I-690 WB
11. I-81 NB on-ramp from Pearl St
12. I-81 SB off-ramp to Franklin St/West St
13. I-81 SB off-ramp to Clinton St/Salina St
14. I-81 SB off-ramp to I-690 EB
15. I-81 SB on-ramp from I-690 EB
16. I-81 SB on-ramp from I-690 WB
17. I-81 SB off-ramp to Adams St/Harrison St
18. I-81 SB on-ramp from Almond St/E. Adams St
19. I-81 SB off-ramp to S. State St/Salina St/Brighton St
20. I-81 SB on-ramp from S. State St/Salina St/Brighton St
21. I-81 SB off-ramp to I-481 EB
22. I-81 SB on-ramp from I-481WB
23. I-690 WB off-ramp to Teall Ave
24. I-690 WB on-ramp from Teall Ave

25. I-690 WB off-ramp to N. Townsend St/Downtown
26. I-690 WB off-ramp to N. West St
27. I-690 WB off-ramp to N. West St
28. I-690 WB off-ramp to N. Geddes St
29. I-690 WB on-ramp from Bear St W.
30. I-690 WB on-ramp from Hiawatha Blvd W.
31. I-690 EB off-ramp to Hiawatha Blvd W.
32. I-690 EB off-ramp to Bear St W.
33. I-690 EB on-ramp from N. Geddes St
34. I-690 EB off-ramp to N. West St
35. I-690 EB on-ramp from N. West St
36. I-690 EB on-ramp from McBride St
37. I-690 EB off-ramp to Teall Ave
38. I-690 EB on-ramp from Teall Ave

Manual Turning Movement/Vehicle Classification Counts

Conduct manual turning movement counts in three categories (i.e., cars, buses and trucks) in 15-minute intervals during the morning (6:00 – 10:00 AM), midday (11:00 AM – 2:00 PM) and the afternoon (3:00 – 7:00 PM) peak periods on one (1) mid-weekday, i.e., Tuesday, Wednesday or Thursday, at twenty-eight (28) intersections identified below.

Local Streets - Intersection

1. Park St and Court St
2. Butternut St and Park St
3. W. Onondaga St and S. West St
4. W. Onondaga St and Tallman St
5. W. Onondaga St and W. Adams St
6. Tallman St and Midland Ave
7. Cortland Ave and W. Castle St
8. S. State St and Burt St
9. S. State St and E. Castle St
10. Burt St and Almond St
11. Park St and Oak St
12. Lodi St, Oak St and Burnet Ave
13. E Fayette St and University Ave
14. E.Genesee.st and Comstock Ave
15. Burnet St and Teall Ave
16. Erie Blvd E. and Teall Ave
17. E. Fayette St and Westcott St
18. E. Genesee St and Westcott St
19. Euclid Ave and Westcott St
20. E. Hiawatha Blvd and Park St
21. E. Hiawatha Blvd and Solar St
22. Bear St and Solar St
23. Bear St and Van Rensselaer St

24. South Ave and Slocum Ave
25. Van Buren St and Renwick Ave
26. N. State St and Butternut St
27. E. Genesee St and Irving Ave
28. University Ave and Waverly Ave

Pedestrian Crosswalk Counts

Perform pedestrian crosswalk counts during the three peak periods (6:00 – 10:00 AM, 11:00 AM – 2:00 PM and 3:00 – 7:00 PM) on one (1) mid-weekday concurrently with other manual traffic counts at twenty-two (22) locations specified below:

Local Streets - Intersection

1. S. State St and Erie Blvd W.
2. S. State St and W. Water St
3. S. State St and W. Washington St
4. S. State St and W. Fayette St
5. S. State St and W. Genesee St
6. S. State St and E. Jefferson St
7. S. State St and Harrison St
8. S. State St and E. Adams St
9. Harrison St and Montgomery St
10. Harrison St and S. Warren St
11. Harrison St and S. Salina St
12. E. Jefferson St and Montgomery St
13. E. Jefferson St and Warren St
14. E. Jefferson St and Salina St
15. Irving Ave and W. Genesee St
16. Irving Ave and Harrison St
17. Irving Ave and E. Adams St
18. Irving Ave and Waverly Ave
19. University Ave and W. Genesee St
20. University Ave and Harrison St
21. University Ave and E. Adams St
22. University Ave and Waverly Ave

Travel Time and Speed Runs

Conduct travel time and delay runs on ten (10) major travel routes in the study area using the “floating car” method to obtain a minimum of 3 runs in each travel direction during the AM (6:00 – 10:00 AM), Midday (11:00 AM – 2:00 PM) and PM (3:00 – 7:00 PM) peak periods for one (1) typical weekday. Elapsed time, mileage, delays, and the reason of delays (e.g., accident, signal, vehicle breakdown, etc.) will be recorded at the designated checkpoints, i.e., interchanges and major cross streets, over a predetermined travel route. The travel time and speed runs will be conducted concurrent with the other traffic counts. The proposed 10 major travel routes are presented below.

Expressways

1. I-81 NB from I-81/I-481 Interchange on the south to I-81/I-481 Interchange on the north
2. I-81 SB from I-81/I-481 Interchange on the north to I-81/I-481 Interchange on the south
3. I-481 NB from I-81/I-481 Interchange on the south to I-81/I-481 Interchange on the north
4. I-481 SB from I-81/I-481 Interchange on the north to I-81/I-481 Interchange on the south
5. I-690 WB from I-481/I-690 Interchange on the east to I-690/State Route 695 Interchange on the west
6. I-690 EB from I-690/State Route 695 Interchange on the west to I-481/I-690 Interchange on the east

Local Streets

1. Irving Ave NB from E Raynor Ave to E Fayette St
2. Irving Ave SB from E Fayette St to Raynor Ave
3. Almond St NB from Van Buren St to Burnet Ave
4. Almond St SB from Burnet Ave to Van Buren St
5. State St NB from E Adams St to Butternut St
6. Clinton St SB from Webster Landing to E Adams St
7. West St NB from Adams St to Genesee St
8. West St SB from Genesee St to Adams St
9. Harrison St WB from Comstock Ave to S. West St
10. E. Adams St EB from West St to Comstock Ave
11. E Fayette St WB from Walnut Ave to West St
12. E Fayette St EB from West St to Walnut Ave

Queue Lengths

Conduct queue length surveys on the freeway facility segments and intersection approaches during the morning peak period of 7:00 – 9:00 AM and evening peak period of 4:00 – 6:00 PM for two (2) typical weekdays (Tuesday, Wednesday, or Thursday). Queue locations were selected based on the following criteria:

- Locations with significant queues observed in the AM or PM peak hours based on field observations as well as known problem areas identified by the public and DOT
- Key merge and diverge locations on mainline interstates within the central study area
- Approaches at intersections within the central study area which are high volume access points to the local street grid from the interstate system

Queue locations on the freeway facility segments and intersection approaches are listed below in Tables A-1 and A-2 respectively. The peak time periods required to collect queue data for each location are also noted.

Table A-1: Freeway Locations for Queue Data Collection

#	Freeway	Segment	Peak
1	NB I-81	at Exit 18 (Harrison St/Adams St)	AM/PM
2		at I-690 EB Split	PM
3	SB I-81	at Exit 19 (Clinton St/Salina St)	AM
4		at Harrison St off-ramp	AM
5	EB I-690	at Diverge to SB I-81	AM/PM
6	EB I-690 Connector to SB I-81	at Merge onto SB 1-81	AM
7	WB I-690	at Diverge to I-81 SB	AM/PM
8	NB I-481	at Diverge to WB I-690	AM
9	SB I-481	at Exit 3E (5/92)	PM

Table A-2: Intersection Locations for Queue Data Collection

#	Intersection	Approach	Peak
10	Almond St and Adams St	Adams St EB	AM/PM
11		Almond St NB	AM/PM
12		Almond St SB	AM/PM
13		NB I-81 off-ramp	AM
14	Almond St and Harrison St	Almond St NB	AM/PM
15		Almond St SB	AM/PM
16		Harrison St WB	AM/PM
17	Erie Blvd and Crouse Ave	Crouse Ave NB	AM/PM
18		Crouse Ave SB	AM/PM
19		Erie Blvd EB	AM/PM
20		Erie Blvd WB	AM/PM
21	Genesee St and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	AM
22		Genesee St EB	AM
23		Genesee St WB	PM
24	Almond St and SB I-81 off-ramp	SB I-81 off-ramp	AM
25	Salina St and SB I-81 off-ramp	SB I-81 off-ramp	AM
26	Townsend St and WB I-690 off-ramp	WB I-690 off-ramp	AM

APPENDIX B:
PROJECTS FOR INCLUSION IN FUTURE MODELS (DRAFT 5-8-14)

NYSDOT – Future Base

- **Third lane of Frontage Road:** Beginning at Exit 23B, the on ramp from Carousel Center Drive to the Interstate 81 Southbound Frontage Road (SR 936F), a third lane will be constructed southward to Bear Street. Traffic from the ramp will default into this lane upon reaching the service road (the ramp is currently controlled by a Yield sign and has no acceleration lane). The intersection with Bear Street will be reconfigured by virtue of the elimination of the existing slip ramp from the Frontage Road southbound to bear Street westbound (2020)

  The existing right turn slip ramp, currently operating with a Yield sign at the Bear St/Frontage Rd intersection will be reconfigured to continue as right lane only and, controlled by the traffic signal. No conceptual/detailed intersection configuration drawings are available for this "future" project. (It appears no detailed signal timing for this intersection due to too earlier to project implementation, we will use its adjacent intersection signal timing)

- **Route 5 widening:** Widen section of highway from 2 lanes to provide for a center turn lane consistent with the highway sections at either end. (2030) (There are sections if Route 5 in the study area it is unclear where this change affects.

  This section relates to Route 5 between Ike Dixon Rd and Bennetts Corners Road in the Town of Elbridge that is outside the viaduct study area.

City of Syracuse – By 2020

- E Gene is 2 lanes from Forman to the city line, with a couple of 3 lane cross sections (i.e., two-way center turn lane)

  The City of Syracuse restriped E Genesee St from Cherry St to Salt Springs Rd last year and through work on the Connective Corridor (E Genesee St from Forman Park to University Ave). E Genesee from Salt Springs Rd to the eastern city line is currently 2 lanes with a few 3 lane cross section. Center

turn lanes are intermixed throughout the entire E Genesee St corridor. For additional details, please contact the City DPW.

- S Salina 2-3 lanes from Dorwin Ave up to Water. We are looking to do one section with two NB lanes between W Onondaga and Warren. (Unsure of implementation timeline. 2015 maybe?)

  Based on update from City DPW, Dorwin Ave to Water St would be 2 lanes, with one section between Onondaga and Warren with 2 NB lanes and 1 SB lane. For lane widths, City DPW anticipates between 10 and 12 feet.

- Erie Blvd W: 3 lane cross section between Clinton St and W Gene (2015)
  Lane widths unknown at this time. Potentially 12' lanes with TWCTL. There has been discussion of "floating" parking and a two-way cycle track without the TWCTL. (We will code the TWCTL though this is uncertain at this time).

- Closure of parts of Water Street (partially implemented. Make it local access only.)
  University Ave to Walnut Ave.

- **Waverly Ave Lane Reduction:** Removal of one lane in each direction on Waverly Ave between Comstock Ave and S. Crouse Ave. Current configuration of 2 lanes in each direction will be reduced to 1 lane in each direction with left turn bays at appropriate intersections.
  - *Waverly EB onto University NB: 120' storage bay*
  - *Waverly EB onto Crouse NB: 70' storage bay*
  - *Waverly WB onto Irving SB: 90' storage bay*

- **Comstock Ave Lane Reduction:** Removal of one lane in each direction on Comstock Ave between Euclid Ave and Waverly Ave. Current configuration of 2 lanes in each direction will be reduced to 1 lane in each direction with left turn bays at appropriate intersections.

  Please contact the City DPW. (Need to contact city DPW, otherwise assume a storage length based on LT volume & standard 12' lane width).

- **West Street:** reduced to 2 NB /2 SB lanes.

  Starts at the railroad bridge on the north to roughly Shonnard St on the south. Check with Region staff for additional details as several meetings have occurred between City, NYSDOT and others. (Assume 2 NB/2 SB lanes are between railroad bridge and Shonnard St)

City of Syracuse – By 2030

- S Geddes: have 2 SB lanes, 1 NB lane between Fayette and Shonnard, with the typical 3 lanes cross section elsewhere. (Just a concept plan at this point)
- James Street (State to Grant/Shotwell): 3 lane cross section (Conceptual/detailed lane configuration whichever is available).

Project recommended in SMTC's James Street Road Diet report (i.e., Alternative 2). Report available on the SMTC website at: http://www.smtcmpo.org/finalreps.asp?fy=2011&ShowAll=0. Synchro and/or VISSUM files are available and would contain detailed information perhaps not noted in the final report.

- Closure of Taylor St (between Clinton & Salina)
- Conversion of downtown streets to 2 way

Draft final report and all associated Synchro files have been transmitted to NYSDOT. Technical Memorandum 2 of the draft final report contains tables of "typical" sections for each proposed two-way street (number of lanes/widths). Preferred streets are:

  - *Clinton St – Herald Pl to Adams St*
  - *Warren St – Willow St to Washington St*
  - *Montgomery St – Erie Blvd to Adams St*
  - *Jefferson St – Montgomery St to State St*

City of Syracuse – By 2040

- Roundabouts at:
  - W Onondaga / Salina / Harrison
  - Clinton / W Onondaga

- Erie Boulevard East being reduced to a 2 or 4 lane cross section.

APPENDIX C:
ARTERIAL TRAFFIC VOLUME COMPARISON – AM PEAK PERIOD

Table C-1: Arterial Traffic Volume Comparison – AM Pre-Peak

Route	Segment	Dir	Travel Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
West St	Genesee St and Erie Blvd	NB	787	713	-74	-9%	2.7
		SB	1433	1362	-72	-5%	1.9
	Erie Blvd and Fayette St	NB	510	468	-41	-8%	1.9
		SB	1243	1175	-68	-5%	1.9
	Fayette St and Gifford St	NB	401	387	-14	-4%	0.7
		SB	829	791	-38	-5%	1.3
	Gifford St and Seymour St	NB	336	322	-14	-4%	0.8
		SB	826	788	-38	-5%	1.3
	South of Seymour St	NB	355	291	-64	-18%	3.5
		SB	766	653	-113	-15%	4.2
Clinton St	North of James St	SB	482	488	6	1%	0.3
	James St and Erie Blvd	SB	653	620	-33	-5%	1.3
	Erie Blvd and Fayette St	SB	624	596	-29	-5%	1.2
	Fayette St and Harrison St	SB	530	484	-46	-9%	2.1
	Harrison St and Adams St	SB	187	179	-8	-4%	0.6
	South of Adams St	SB	87	93	6	7%	0.6
Salina St	North of James St	NB	163	163	0	0%	0.0
		SB	677	684	7	1%	0.3
	James St and Erie Blvd	NB	199	213	14	7%	1.0
		SB	435	415	-20	-5%	1.0
	Erie Blvd and Fayette St	NB	232	264	32	14%	2.0
		SB	314	314	1	0%	0.0
	Fayette St and Harrison St	NB	297	312	15	5%	0.9
		SB	274	308	34	12%	2.0
	Harrison St and Adams St	NB	239	272	33	14%	2.1
		SB	279	334	55	20%	3.2
	South of Adams St	NB	352	365	13	4%	0.7
		SB	256	252	-4	-1%	0.2
State St	North of James St	NB	301	295	-6	-2%	0.3
		SB	375	335	-40	-11%	2.1
	James St and Erie Blvd	NB	167	155	-12	-7%	1.0
		SB	426	383	-43	-10%	2.1
	Erie Blvd and Fayette St	NB	213	211	-1	-1%	0.1
		SB	474	436	-38	-8%	1.8
	Fayette St and Harrison St	NB	117	128	11	9%	1.0
		SB	395	350	-45	-11%	2.3
	Harrison St and Adams St	NB	102	119	17	17%	1.7
		SB	206	196	-11	-5%	0.8
	South of Adams St	NB	180	180	0	0%	0.0
		SB	105	100	-5	-5%	0.5
Townsend St	North of James St	NB	173	167	-7	-4%	0.5
		SB	136	127	-8	-6%	0.7
	James St and Erie Blvd	NB	64	56	-8	-12%	1.0
		SB	173	157	-16	-9%	1.3
	Erie Blvd and Fayette St	NB	139	140	2	1%	0.1
		SB	816	683	-134	-16%	4.9
	Fayette St and Harrison St	NB	388	347	-40	-10%	2.1
		SB	752	730	-22	-3%	0.8
	Harrison St and Adams St	NB	168	146	-22	-13%	1.7
		SB	402	356	-46	-11%	2.3
	South of Adams St	NB	84	79	-5	-6%	0.5
		SB	198	171	-27	-14%	2.0
Almond St	North of James St	NB	85	86	1	1%	0.1
		SB	104	103	-1	-1%	0.1
	James St and Erie Blvd	NB	151	148	-3	-2%	0.3
		SB	169	169	-1	0%	0.0
	Erie Blvd and Fayette St	NB	232	218	-14	-6%	0.9
		SB	228	195	-32	-14%	2.2
	Fayette St and Harrison St	NB	552	519	-33	-6%	1.4
		SB	1164	1071	-93	-8%	2.8
	Harrison St and Adams St	NB	1103	1012	-91	-8%	2.8
		SB	1173	1064	-108	-9%	3.2
	South of Adams St	NB	121	121	-1	-1%	0.1
		SB	370	360	-10	-3%	0.5
Irving Ave	Fayette and Genesee St	NB	87	76	-11	-13%	1.3

		SB	299	236	-63	-21%	3.8
	Genesee St and Harrison St	NB	95	88	-7	-7%	0.7
		SB	459	434	-24	-5%	1.1
	Harrison St and Adams St	NB	251	232	-19	-7%	1.2
		SB	268	248	-20	-7%	1.2
	South of Adams St	NB	209	195	-14	-7%	1.0
		SB	701	589	-112	-16%	4.4
Crouse Ave	North of Erie Blvd	NB	173	159	-13	-8%	1.0
		SB	188	187	-2	-1%	0.1
	Erie Blvd and Fayette St	NB	87	83	-5	-6%	0.5
		SB	183	181	-2	-1%	0.2
	Fayette and Genesee St	NB	76	67	-9	-12%	1.1
		SB	58	56	-3	-4%	0.3
	Genesee St and Harrison	NB	129	118	-11	-9%	1.0
	Harrison St and Adams St	NB	281	216	-66	-23%	4.2
	South of Adams St	NB	267	249	-18	-7%	1.1
University Ave	North of Erie Blvd	NB	61	54	-7	-12%	1.0
		SB	158	158	1	0%	0.0
	Erie Blvd and Fayette St	NB	22	17	-5	-21%	1.0
		SB	190	189	-1	0%	0.0
	Fayette and Genesee St	NB	32	29	-4	-11%	0.7
		SB	218	222	3	1%	0.2
	Genesee St and Harrison St	NB	61	57	-5	-8%	0.6
		SB	342	331	-11	-3%	0.6
	Harrison St and Adams St	NB	71	66	-5	-7%	0.6
		SB	210	196	-14	-7%	1.0
	South of Adams St	NB	41	38	-3	-8%	0.5
		SB	288	268	-20	-7%	1.2
Comstock Ave	Genesee St and Harrison St	NB	227	215	-12	-5%	0.8
		SB	128	113	-15	-12%	1.4
	Harrison St and Adams St	NB	250	237	-13	-5%	0.8
	South of Adams St	NB	232	213	-18	-8%	1.2

Table C-2: Arterial Traffic Volume Comparison – AM Peak Hour

Route	Segment	Dir	Travel Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
West St	Genesee St and Erie Blvd	NB	999	954	-45	-4%	1.4
		SB	1819	1757	-62	-3%	1.5
	Erie Blvd and Fayette St	NB	647	626	-21	-3%	0.8
		SB	1577	1522	-55	-3%	1.4
	Fayette St and Gifford St	NB	509	509	0	0%	0.0
		SB	1052	1034	-18	-2%	0.5
	Gifford St and Seymour St	NB	426	426	0	0%	0.0
		SB	1048	1040	-8	-1%	0.2
	South of Seymour St	NB	450	377	-73	-16%	3.6
		SB	972	867	-105	-11%	3.5
Clinton St	North of James St	SB	612	582	-30	-5%	1.2
	James St and Erie Blvd	SB	829	776	-53	-6%	1.9
	Erie Blvd and Fayette St	SB	792	751	-41	-5%	1.5
	Fayette St and Harrison St	SB	673	632	-41	-6%	1.6
	Harrison St and Adams St	SB	237	231	-6	-3%	0.4
	South of Adams St	SB	110	113	3	3%	0.3
Salina St	North of James St	NB	207	205	-2	-1%	0.1
		SB	859	845	-14	-2%	0.5
	James St and Erie Blvd	NB	252	253	1	0%	0.1
		SB	552	525	-27	-5%	1.2
	Erie Blvd and Fayette St	NB	295	314	19	6%	1.1
		SB	398	399	1	0%	0.1
	Fayette St and Harrison St	NB	377	396	19	5%	1.0
		SB	348	365	17	5%	0.9
	Harrison St and Adams St	NB	303	309	6	2%	0.3
		SB	354	386	32	9%	1.7
	South of Adams St	NB	447	444	-3	-1%	0.2
		SB	325	320	-5	-2%	0.3
State St	North of James St	NB	382	391	9	2%	0.5

		SB	476	435	-41	-9%	1.9
	James St and Erie Blvd	NB	212	215	3	1%	0.2
		SB	541	514	-27	-5%	1.2
	Erie Blvd and Fayette St	NB	270	277	7	3%	0.4
		SB	602	581	-21	-3%	0.9
	Fayette St and Harrison St	NB	149	156	7	5%	0.6
		SB	501	466	-35	-7%	1.6
	Harrison St and Adams St	NB	129	141	12	10%	1.1
		SB	262	259	-3	-1%	0.2
	South of Adams St	NB	228	234	6	3%	0.4
		SB	133	132	-1	0%	0.1
Townsend St	North of James St	NB	220	209	-11	-5%	0.8
		SB	172	163	-9	-5%	0.7
	James St and Erie Blvd	NB	81	66	-15	-19%	1.8
		SB	220	203	-17	-8%	1.2
	Erie Blvd and Fayette St	NB	176	162	-14	-8%	1.1
		SB	1036	887	-149	-14%	4.8
	Fayette St and Harrison St	NB	492	453	-39	-8%	1.8
		SB	954	931	-23	-2%	0.7
	Harrison St and Adams St	NB	213	194	-19	-9%	1.3
		SB	510	487	-23	-5%	1.0
	South of Adams St	NB	107	104	-3	-3%	0.3
		SB	251	243	-8	-3%	0.5
Almond St	North of James St	NB	108	102	-6	-6%	0.6
		SB	132	131	-1	-1%	0.1
	James St and Erie Blvd	NB	192	189	-3	-2%	0.2
		SB	215	214	-1	-1%	0.1
	Erie Blvd and Fayette St	NB	295	280	-15	-5%	0.9
		SB	289	249	-40	-14%	2.4
	Fayette St and Harrison St	NB	700	664	-36	-5%	1.4
		SB	1477	1348	-129	-9%	3.4
	Harrison St and Adams St	NB	1400	1306	-94	-7%	2.5
		SB	1488	1344	-144	-10%	3.8
	South of Adams St	NB	154	154	0	0%	0.0
		SB	469	435	-34	-7%	1.6
Irving Ave	Fayette and Genesee St	NB	111	111	0	0%	0.0
		SB	379	305	-74	-20%	4.0
	Genesee St and Harrison St	NB	121	121	0	0%	0.0
		SB	582	573	-9	-2%	0.4
	Harrison St and Adams St	NB	318	299	-19	-6%	1.1
		SB	340	335	-5	-1%	0.3
	South of Adams St	NB	265	263	-2	-1%	0.1
		SB	889	781	-108	-12%	3.7
Crouse Ave	North of Erie Blvd	NB	219	210	-9	-4%	0.6
		SB	239	235	-4	-2%	0.3
	Erie Blvd and Fayette St	NB	111	106	-5	-4%	0.5
		SB	232	228	-4	-2%	0.3
	Fayette and Genesee St	NB	97	85	-12	-13%	1.3
		SB	74	74	0	-1%	0.0
	Genesee St and Harrison	NB	164	152	-12	-8%	1.0
	Harrison St and Adams St	NB	357	273	-84	-24%	4.7
	South of Adams St	NB	339	322	-17	-5%	0.9
University Ave	North of Erie Blvd	NB	78	75	-3	-4%	0.3
		SB	200	199	-1	-1%	0.1
	Erie Blvd and Fayette St	NB	28	26	-2	-6%	0.3
		SB	241	233	-8	-3%	0.5
	Fayette and Genesee St	NB	41	40	-1	-3%	0.2
		SB	277	269	-8	-3%	0.5
	Genesee St and Harrison St	NB	78	76	-2	-2%	0.2
		SB	434	417	-17	-4%	0.8
	Harrison St and Adams St	NB	90	83	-7	-8%	0.7
		SB	267	256	-11	-4%	0.7
	South of Adams St	NB	52	50	-2	-5%	0.4
		SB	366	345	-21	-6%	1.1
Comstock Ave	Genesee St and Harrison St	NB	288	278	-10	-3%	0.6
		SB	162	153	-9	-5%	0.7
	Harrison St and Adams St	NB	317	302	-15	-5%	0.9
	South of Adams St	NB	294	279	-15	-5%	0.9

Table C-3: Arterial Traffic Volume Comparison – AM Post-Peak

Route	Segment	Dir	Travel Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
West St	Genesee St and Erie Blvd	NB	832	817	-15	-2%	0.5
		SB	1515	1552	37	2%	0.9
	Erie Blvd and Fayette St	NB	539	516	-23	-4%	1.0
		SB	1314	1352	39	3%	1.1
	Fayette St and Gifford St	NB	424	436	12	3%	0.6
		SB	876	937	61	7%	2.0
	Gifford St and Seymour St	NB	355	360	5	1%	0.3
		SB	873	935	62	7%	2.1
	South of Seymour St	NB	375	322	-53	-14%	2.8
		SB	810	791	-19	-2%	0.7
Clinton St	North of James St	SB	510	537	27	5%	1.2
	James St and Erie Blvd	SB	690	728	37	5%	1.4
	Erie Blvd and Fayette St	SB	660	707	47	7%	1.8
	Fayette St and Harrison St	SB	561	580	19	3%	0.8
	Harrison St and Adams St	SB	197	216	18	9%	1.3
	South of Adams St	SB	92	103	11	12%	1.1
Salina St	North of James St	NB	172	177	4	3%	0.3
		SB	715	765	49	7%	1.8
	James St and Erie Blvd	NB	210	202	-7	-4%	0.5
		SB	460	475	15	3%	0.7
	Erie Blvd and Fayette St	NB	246	232	-14	-6%	0.9
		SB	332	350	19	6%	1.0
	Fayette St and Harrison St	NB	314	298	-16	-5%	0.9
		SB	290	305	15	5%	0.9
	Harrison St and Adams St	NB	252	252	0	0%	0.0
		SB	295	298	3	1%	0.2
	South of Adams St	NB	372	377	4	1%	0.2
		SB	271	283	12	5%	0.7
State St	North of James St	NB	318	350	31	10%	1.7
		SB	396	372	-25	-6%	1.3
	James St and Erie Blvd	NB	177	204	27	15%	2.0
		SB	451	445	-6	-1%	0.3
	Erie Blvd and Fayette St	NB	225	245	20	9%	1.3
		SB	501	517	16	3%	0.7
	Fayette St and Harrison St	NB	124	142	18	14%	1.5
		SB	417	403	-14	-3%	0.7
	Harrison St and Adams St	NB	107	124	16	15%	1.5
		SB	218	225	6	3%	0.4
	South of Adams St	NB	190	200	10	5%	0.7
		SB	111	118	7	6%	0.6
Townsend St	North of James St	NB	183	196	13	7%	0.9
		SB	143	135	-8	-6%	0.7
	James St and Erie Blvd	NB	67	58	-9	-14%	1.2
		SB	183	180	-3	-2%	0.2
	Erie Blvd and Fayette St	NB	147	142	-4	-3%	0.4
		SB	863	746	-117	-14%	4.1
	Fayette St and Harrison St	NB	410	418	8	2%	0.4
		SB	795	797	2	0%	0.1
	Harrison St and Adams St	NB	177	173	-4	-2%	0.3
		SB	425	420	-4	-1%	0.2
	South of Adams St	NB	89	83	-6	-7%	0.6
		SB	209	202	-7	-3%	0.5
Almond St	North of James St	NB	90	88	-2	-3%	0.3
		SB	110	110	0	0%	0.0
	James St and Erie Blvd	NB	160	171	11	7%	0.9
		SB	179	183	4	2%	0.3
	Erie Blvd and Fayette St	NB	246	245	-1	0%	0.0
		SB	241	208	-33	-14%	2.2
	Fayette St and Harrison St	NB	583	594	11	2%	0.4
		SB	1230	1280	50	4%	1.4
	Harrison St and Adams St	NB	1166	1137	-29	-3%	0.9

		SB	1239	1284	45	4%	1.3
	South of Adams St	NB	128	133	5	4%	0.5
		SB	391	415	25	6%	1.2
Irving Ave	Fayette and Genesee St	NB	92	98	5	6%	0.5
		SB	316	273	-43	-14%	2.5
	Genesee St and Harrison St	NB	101	106	5	5%	0.5
		SB	485	510	25	5%	1.1
	Harrison St and Adams St	NB	265	267	2	1%	0.1
		SB	283	307	24	8%	1.4
	South of Adams St	NB	221	236	15	7%	1.0
		SB	740	719	-21	-3%	0.8
Crouse Ave	North of Erie Blvd	NB	182	194	11	6%	0.8
		SB	199	201	2	1%	0.1
	Erie Blvd and Fayette St	NB	92	94	2	2%	0.2
		SB	193	198	5	2%	0.3
	Fayette and Genesee St	NB	81	80	-1	-1%	0.1
		SB	62	61	-1	-1%	0.1
	Genesee St and Harrison	NB	137	140	4	3%	0.3
	Harrison St and Adams St	NB	297	249	-48	-16%	2.9
	South of Adams St	NB	282	293	10	4%	0.6
University Ave	North of Erie Blvd	NB	65	63	-2	-2%	0.2
		SB	167	166	-1	-1%	0.1
	Erie Blvd and Fayette St	NB	23	26	3	12%	0.6
		SB	201	199	-2	-1%	0.1
	Fayette and Genesee St	NB	34	33	-2	-5%	0.3
		SB	231	228	-2	-1%	0.2
	Genesee St and Harrison St	NB	65	63	-2	-4%	0.3
		SB	361	370	9	2%	0.5
	Harrison St and Adams St	NB	75	68	-7	-10%	0.9
		SB	222	236	14	6%	0.9
	South of Adams St	NB	43	42	-1	-3%	0.2
		SB	305	313	8	3%	0.5
Comstock Ave	Genesee St and Harrison St	NB	240	240	0	0%	0.0
		SB	135	132	-3	-2%	0.3
	Harrison St and Adams St	NB	264	258	-7	-2%	0.4
	South of Adams St	NB	245	240	-5	-2%	0.3

APPENDIX D:
ARTERIAL TRAFFIC VOLUME COMPARISON – PM PEAK PERIOD

Table D-1: Arterial Traffic Volume Comparison – PM Pre-Peak

Route	Segment	Dir	Travel Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
West St	Genesee St and Erie Blvd	NB	1579	1725	145	9%	3.6
		SB	1324	1537	213	16%	5.6
	Erie Blvd and Fayette St	NB	950	1040	89	9%	2.8
		SB	1234	1415	181	15%	5.0
	Fayette St and Gifford St	NB	627	707	79	13%	3.1
		SB	568	663	95	17%	3.8
	Gifford St and Seymour St	NB	456	513	56	12%	2.6
		SB	597	699	102	17%	4.0
	South of Seymour St	NB	349	342	-7	-2%	0.4
		SB	522	573	51	10%	2.2
Clinton St	North of James St	SB	224	269	45	20%	2.9
	James St and Erie Blvd	SB	438	499	60	14%	2.8
	Erie Blvd and Fayette St	SB	279	329	50	18%	2.9
	Fayette St and Harrison St	SB	285	313	28	10%	1.6
	Harrison St and Adams St	SB	263	197	-66	-25%	4.4
	South of Adams St	SB	172	148	-23	-14%	1.9
Salina St	North of James St	NB	295	333	39	13%	2.2
		SB	289	366	77	27%	4.2
	James St and Erie Blvd	NB	355	393	39	11%	2.0
		SB	273	329	57	21%	3.3
	Erie Blvd and Fayette St	NB	384	413	29	8%	1.5
		SB	258	314	56	22%	3.3
	Fayette St and Harrison St	NB	392	427	35	9%	1.7
		SB	229	295	65	28%	4.0
	Harrison St and Adams St	NB	237	275	37	16%	2.3
		SB	296	389	93	32%	5.1
	South of Adams St	NB	377	440	63	17%	3.1
		SB	286	330	44	15%	2.5
State St	North of James St	NB	742	835	93	13%	3.3
		SB	231	249	18	8%	1.2
	James St and Erie Blvd	NB	589	683	94	16%	3.7
		SB	239	272	33	14%	2.1
	Erie Blvd and Fayette St	NB	384	453	69	18%	3.4
		SB	183	206	23	13%	1.7
	Fayette St and Harrison St	NB	177	216	40	22%	2.8
		SB	273	301	28	10%	1.7
	Harrison St and Adams St	NB	125	159	34	27%	2.9
		SB	247	285	39	16%	2.4
	South of Adams St	NB	162	191	28	17%	2.1
		SB	112	135	23	21%	2.1
Townsend St	North of James St	NB	224	253	29	13%	1.9
		SB	195	221	26	13%	1.8
	James St and Erie Blvd	NB	157	164	7	4%	0.5
		SB	199	219	19	10%	1.3
	Erie Blvd and Fayette St	NB	370	415	46	12%	2.3
		SB	368	371	3	1%	0.1
	Fayette St and Harrison St	NB	330	371	41	12%	2.2
		SB	347	379	33	9%	1.7
	Harrison St and Adams St	NB	240	259	18	8%	1.2
		SB	340	361	22	6%	1.2
	South of Adams St	NB	177	204	27	15%	2.0
		SB	116	113	-3	-3%	0.3
Almond St	North of James St	NB	180	213	32	18%	2.3
		SB	135	158	24	18%	2.0
	James St and Erie Blvd	NB	216	260	44	20%	2.8
		SB	211	249	38	18%	2.5
	Erie Blvd and Fayette St	NB	299	348	49	16%	2.7
		SB	241	236	-5	-2%	0.3
	Fayette St and Harrison St	NB	397	464	67	17%	3.2
		SB	756	851	96	13%	3.4
	Harrison St and Adams St	NB	1622	1689	67	4%	1.6
		SB	916	1029	113	12%	3.6
	South of Adams St	NB	347	406	60	17%	3.1
		SB	203	240	37	19%	2.5
Irving Ave	Fayette and Genesee St	NB	111	127	15	14%	1.4

		SB	95	113	18	19%	1.8
	Genesee St and Harrison St	NB	206	242	36	17%	2.4
		SB	273	315	42	15%	2.4
	Harrison St and Adams St	NB	478	544	66	14%	2.9
		SB	121	131	11	9%	0.9
	South of Adams St	NB	444	520	76	17%	3.5
		SB	325	355	29	9%	1.6
Crouse Ave	North of Erie Blvd	NB	190	205	15	8%	1.1
		SB	183	216	34	18%	2.4
	Erie Blvd and Fayette St	NB	225	245	20	9%	1.3
		SB	164	183	19	11%	1.4
	Fayette and Genesee St	NB	160	170	10	6%	0.8
		SB	79	95	16	20%	1.7
	Genesee St and Harrison	NB	264	286	22	8%	1.3
	Harrison St and Adams St	NB	403	385	-19	-5%	0.9
	South of Adams St	NB	335	387	52	16%	2.7
University Ave	North of Erie Blvd	NB	44	49	5	11%	0.7
		SB	101	118	17	17%	1.6
	Erie Blvd and Fayette St	NB	64	76	12	18%	1.4
		SB	98	115	17	17%	1.7
	Fayette and Genesee St	NB	76	94	18	24%	2.0
		SB	143	162	20	14%	1.6
	Genesee St and Harrison St	NB	105	128	23	22%	2.2
		SB	171	193	22	13%	1.6
	Harrison St and Adams St	NB	229	257	28	12%	1.8
		SB	122	145	22	18%	1.9
	South of Adams St	NB	72	81	9	12%	1.0
		SB	188	220	31	17%	2.2
Comstock Ave	Genesee St and Harrison St	NB	240	266	26	11%	1.6
		SB	53	58	6	11%	0.8
	Harrison St and Adams St	NB	405	437	31	8%	1.5
	South of Adams St	NB	193	216	23	12%	1.6

Table D-2: Arterial Traffic Volume Comparison – PM Peak Hour

Route	Segment	Dir	Travel Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
West St	Genesee St and Erie Blvd	NB	2004	1855	-149	-7%	3.4
		SB	1680	1603	-77	-5%	1.9
	Erie Blvd and Fayette St	NB	1206	1112	-94	-8%	2.8
		SB	1566	1476	-90	-6%	2.3
	Fayette St and Gifford St	NB	796	769	-27	-3%	1.0
		SB	721	700	-21	-3%	0.8
	Gifford St and Seymour St	NB	579	555	-24	-4%	1.0
		SB	757	736	-21	-3%	0.8
	South of Seymour St	NB	443	360	-83	-19%	4.2
		SB	663	613	-50	-8%	2.0
Clinton St	North of James St	SB	284	281	-3	-1%	0.2
	James St and Erie Blvd	SB	556	513	-43	-8%	1.8
	Erie Blvd and Fayette St	SB	354	341	-13	-4%	0.7
	Fayette St and Harrison St	SB	362	340	-22	-6%	1.2
	Harrison St and Adams St	SB	334	206	-128	-38%	7.8
	South of Adams St	SB	218	155	-63	-29%	4.6
Salina St	North of James St	NB	374	336	-38	-10%	2.0
		SB	367	364	-3	-1%	0.2
	James St and Erie Blvd	NB	450	401	-49	-11%	2.4
		SB	346	327	-19	-5%	1.0
	Erie Blvd and Fayette St	NB	487	450	-37	-8%	1.7
		SB	328	320	-8	-2%	0.5
	Fayette St and Harrison St	NB	498	455	-43	-9%	1.9
		SB	291	303	12	4%	0.7
	Harrison St and Adams St	NB	301	282	-19	-6%	1.1
		SB	375	394	19	5%	1.0
	South of Adams St	NB	478	459	-19	-4%	0.9
		SB	363	341	-22	-6%	1.2

State St	North of James St	NB	941	903	-38	-4%	1.3
		SB	293	278	-15	-5%	0.9
	James St and Erie Blvd	NB	747	731	-16	-2%	0.6
		SB	303	297	-6	-2%	0.3
	Erie Blvd and Fayette St	NB	487	478	-9	-2%	0.4
		SB	232	224	-8	-4%	0.6
	Fayette St and Harrison St	NB	224	222	-2	-1%	0.2
		SB	346	326	-20	-6%	1.1
	Harrison St and Adams St	NB	159	167	8	5%	0.6
		SB	313	303	-10	-3%	0.6
	South of Adams St	NB	206	207	1	1%	0.1
		SB	142	140	-2	-1%	0.2
Townsend St	North of James St	NB	284	278	-6	-2%	0.3
		SB	247	235	-12	-5%	0.8
	James St and Erie Blvd	NB	199	173	-26	-13%	1.9
		SB	253	239	-14	-6%	0.9
	Erie Blvd and Fayette St	NB	469	438	-31	-7%	1.4
		SB	467	396	-71	-15%	3.4
	Fayette St and Harrison St	NB	419	387	-32	-8%	1.6
		SB	440	422	-18	-4%	0.9
	Harrison St and Adams St	NB	305	280	-25	-8%	1.4
		SB	431	398	-33	-8%	1.6
	South of Adams St	NB	225	219	-6	-3%	0.4
		SB	147	140	-7	-5%	0.6
Almond St	North of James St	NB	229	220	-9	-4%	0.6
		SB	171	168	-4	-2%	0.3
	James St and Erie Blvd	NB	274	265	-9	-3%	0.5
		SB	268	262	-6	-2%	0.4
	Erie Blvd and Fayette St	NB	380	358	-22	-6%	1.2
		SB	306	254	-52	-17%	3.1
	Fayette St and Harrison St	NB	504	483	-21	-4%	1.0
		SB	959	906	-53	-5%	1.7
	Harrison St and Adams St	NB	2058	1817	-241	-12%	5.5
		SB	1162	1080	-82	-7%	2.4
	South of Adams St	NB	440	434	-6	-1%	0.3
		SB	257	258	1	0%	0.0
Irving Ave	Fayette and Genesee St	NB	141	142	1	0%	0.1
		SB	120	107	-13	-11%	1.2
	Genesee St and Harrison St	NB	261	258	-3	-1%	0.2
		SB	347	337	-10	-3%	0.5
	Harrison St and Adams St	NB	606	575	-31	-5%	1.3
		SB	153	155	2	1%	0.1
	South of Adams St	NB	563	554	-9	-2%	0.4
		SB	413	386	-27	-7%	1.3
Crouse Ave	North of Erie Blvd	NB	241	230	-11	-5%	0.7
		SB	232	227	-5	-2%	0.3
	Erie Blvd and Fayette St	NB	286	273	-13	-5%	0.8
		SB	208	196	-12	-6%	0.8
	Fayette and Genesee St	NB	203	184	-19	-10%	1.4
		SB	100	99	-1	-1%	0.1
	Genesee St and Harrison	NB	335	317	-18	-5%	1.0
	Harrison St and Adams St	NB	512	415	-97	-19%	4.5
	South of Adams St	NB	425	409	-16	-4%	0.8
University Ave	North of Erie Blvd	NB	56	55	-1	-2%	0.1
		SB	128	126	-2	-2%	0.2
	Erie Blvd and Fayette St	NB	81	77	-4	-4%	0.4
		SB	124	122	-2	-2%	0.2
	Fayette and Genesee St	NB	96	93	-3	-3%	0.3
		SB	181	176	-5	-3%	0.4
	Genesee St and Harrison St	NB	133	129	-4	-3%	0.4
		SB	217	212	-5	-2%	0.4
	Harrison St and Adams St	NB	290	266	-24	-8%	1.5
		SB	155	148	-7	-5%	0.6
	South of Adams St	NB	92	87	-5	-6%	0.6
		SB	239	232	-7	-3%	0.5
Comstock Ave	Genesee St and Harrison St	NB	305	294	-11	-4%	0.6
		SB	67	64	-3	-5%	0.4
	Harrison St and Adams St	NB	514	478	-36	-7%	1.6
	South of Adams St	NB	245	238	-7	-3%	0.4

Table D-3: Arterial Traffic Volume Comparison – PM Post-Peak

Route	Segment	Dir	Travel Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
West St	Genesee St and Erie Blvd	NB	1669	1617	-52	-3%	1.3
		SB	1399	1425	25	2%	0.7
	Erie Blvd and Fayette St	NB	1004	950	-55	-5%	1.7
		SB	1304	1321	17	1%	0.5
	Fayette St and Gifford St	NB	663	628	-35	-5%	1.4
		SB	601	643	42	7%	1.7
	Gifford St and Seymour St	NB	482	450	-32	-7%	1.5
		SB	631	671	40	6%	1.6
	South of Seymour St	NB	369	303	-66	-18%	3.6
		SB	552	560	8	1%	0.3
Clinton St	North of James St	SB	237	245	8	4%	0.5
	James St and Erie Blvd	SB	463	439	-24	-5%	1.1
	Erie Blvd and Fayette St	SB	295	285	-9	-3%	0.6
	Fayette St and Harrison St	SB	302	294	-7	-2%	0.4
	Harrison St and Adams St	SB	278	176	-102	-37%	6.8
	South of Adams St	SB	182	136	-46	-25%	3.7
Salina St	North of James St	NB	312	295	-17	-5%	1.0
		SB	306	305	0	0%	0.0
	James St and Erie Blvd	NB	375	342	-33	-9%	1.7
		SB	288	286	-2	-1%	0.1
	Erie Blvd and Fayette St	NB	406	379	-26	-7%	1.3
		SB	273	272	-1	0%	0.1
	Fayette St and Harrison St	NB	415	391	-23	-6%	1.2
		SB	242	251	8	3%	0.5
	Harrison St and Adams St	NB	251	243	-8	-3%	0.5
		SB	312	298	-15	-5%	0.8
	South of Adams St	NB	398	384	-14	-4%	0.7
		SB	302	290	-12	-4%	0.7
State St	North of James St	NB	784	784	0	0%	0.0
		SB	244	227	-17	-7%	1.1
	James St and Erie Blvd	NB	622	623	1	0%	0.0
		SB	252	235	-17	-7%	1.1
	Erie Blvd and Fayette St	NB	406	402	-3	-1%	0.2
		SB	193	185	-8	-4%	0.6
	Fayette St and Harrison St	NB	187	205	19	10%	1.3
		SB	288	246	-42	-15%	2.6
	Harrison St and Adams St	NB	132	146	13	10%	1.1
		SB	261	254	-7	-3%	0.4
	South of Adams St	NB	172	177	6	3%	0.4
		SB	118	115	-3	-2%	0.3
Townsend St	North of James St	NB	237	236	0	0%	0.0
		SB	206	204	-1	-1%	0.1
	James St and Erie Blvd	NB	166	134	-32	-19%	2.6
		SB	211	210	-1	0%	0.0
	Erie Blvd and Fayette St	NB	391	371	-20	-5%	1.0
		SB	389	331	-58	-15%	3.1
	Fayette St and Harrison St	NB	349	322	-27	-8%	1.5
		SB	366	357	-9	-3%	0.5
	Harrison St and Adams St	NB	254	232	-22	-9%	1.4
		SB	359	344	-15	-4%	0.8
	South of Adams St	NB	187	176	-12	-6%	0.9
		SB	122	116	-6	-5%	0.6
Almond St	North of James St	NB	191	183	-8	-4%	0.6
		SB	142	136	-6	-5%	0.6
	James St and Erie Blvd	NB	228	245	17	7%	1.1
		SB	223	217	-6	-3%	0.4
	Erie Blvd and Fayette St	NB	317	311	-5	-2%	0.3
		SB	255	216	-39	-15%	2.5
	Fayette St and Harrison St	NB	420	400	-20	-5%	1.0
		SB	799	797	-2	0%	0.1
	Harrison St and Adams St	NB	1714	1555	-159	-9%	3.9
		SB	968	966	-1	0%	0.0
	South of Adams St	NB	366	359	-8	-2%	0.4
		SB	214	214	0	0%	0.0

Irving Ave	Fayette and Genesee St	NB	117	137	20	17%	1.7
		SB	100	91	-9	-9%	0.9
	Genesee St and Harrison St	NB	217	223	6	3%	0.4
		SB	289	292	3	1%	0.2
	Harrison St and Adams St	NB	505	478	-27	-5%	1.2
		SB	127	127	0	0%	0.0
	South of Adams St	NB	469	452	-17	-4%	0.8
		SB	344	359	15	4%	0.8
Crouse Ave	North of Erie Blvd	NB	201	198	-3	-1%	0.2
		SB	193	187	-6	-3%	0.4
	Erie Blvd and Fayette St	NB	238	248	9	4%	0.6
		SB	173	169	-4	-2%	0.3
	Fayette and Genesee St	NB	169	163	-6	-3%	0.5
		SB	83	85	2	2%	0.2
	Genesee St and Harrison	NB	279	281	2	1%	0.1
	Harrison St and Adams St	NB	426	365	-62	-14%	3.1
	South of Adams St	NB	354	356	2	1%	0.1
University Ave	North of Erie Blvd	NB	47	48	1	2%	0.2
		SB	107	102	-5	-4%	0.5
	Erie Blvd and Fayette St	NB	67	61	-7	-10%	0.8
		SB	103	99	-4	-4%	0.4
	Fayette and Genesee St	NB	80	70	-10	-12%	1.1
		SB	151	143	-8	-5%	0.6
	Genesee St and Harrison St	NB	111	105	-6	-5%	0.6
		SB	181	171	-10	-5%	0.7
	Harrison St and Adams St	NB	242	227	-14	-6%	0.9
		SB	129	126	-3	-3%	0.3
	South of Adams St	NB	77	77	1	1%	0.1
		SB	199	196	-3	-2%	0.2
Comstock Ave	Genesee St and Harrison St	NB	254	240	-14	-6%	0.9
		SB	56	58	2	3%	0.2
	Harrison St and Adams St	NB	428	419	-10	-2%	0.5
	South of Adams St	NB	204	204	0	0%	0.0

APPENDIX E:
FREEWAY TRAFFIC VOLUME COMPARISON – AM PEAK PERIOD

Table E-1: Freeway Traffic Volume Comparison – AM Pre-Peak

Route	Segment	Direction	Traffic Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
I-81 Highway	Exit 16 onramp and Exit 16A	NB	900	935	35	3.9%	1.2
	Exit 16A off and onramps	NB	409	419	10	2.4%	0.5
	Exit 16A onramp and Exit 17	NB	1310	1243	-67	-5.1%	1.9
	Exit 17 off and onramps	NB	1243	1221	-22	-1.8%	0.6
	Exit 17 Brighten Ave onramp and Exit 17 Colvin St onramp	NB	1826	1781	-46	-2.5%	1.1
	Exit 17 onramp and Exit 18	NB	2262	2191	-71	-3.1%	1.5
	Exit 18 off and onramps	NB	1511	1480	-31	-2.1%	0.8
	Exit 18 onramp and I-690 East offramp	NB	2116	2023	-93	-4.4%	2.0
	I-690 EB on ramp and I-690 WB on ramp	NB	1361	1321	-40	-3.0%	1.1
	Exit 19 onramp and Exit 20 onramp	NB	744	725	-19	-2.5%	0.7
	WB, I-690 onramp and Salina St onramp	NB	1415	1255	-160	-11.3%	4.4
	Salina St onramp and Butternut St onramp	NB	1615	1560	-55	-3.4%	1.4
	Butternut St onramp and Genant Dr offramp	NB	1941	1844	-97	-5.0%	2.2
	Exit 22 off and onramps	NB	1740	1647	-93	-5.4%	2.3
	Exit 22 onramp and Exit 23 /Exits 24A and 24B	NB	1912	1812	-100	-5.2%	2.3
	Exit 23 off and onramps	NB	1186	1136	-51	-4.3%	1.5
	Exit 23 onramp and Exit 25	NB	1745	1676	-70	-4.0%	1.7
	Exit 25 off and onramps	NB	1410	1325	-85	-6.1%	2.3
	Exit 25 onramp and Exit 25A	NB	1553	1464	-89	-5.8%	2.3
	I-90 onramp and US 11 offramp	NB	1738	1665	-73	-4.2%	1.8
	Exit 25A off and onramps	NB	1332	1259	-72	-5.4%	2.0
	Exit 25A onramp and Exit 26	NB	1738	1665	-73	-4.2%	1.8
	Exit 26 and Exits 27-28	NB	1211	1137	-74	-6.1%	2.2
	Exit 27-28 and Exit 27 onramp	NB	792	747	-45	-5.7%	1.6
	Exit 27 onramp and Exit 28 onramp	NB	1117	1068	-48	-4.3%	1.5
	Airport Blvd onramp and E Taft Rd onramp	NB	1117	1068	-49	-4.4%	1.5
	Exit 28 onramp and Exit 29S	NB	1393	1342	-52	-3.7%	1.4
	Exit 29S and Exit 29N onramp	NB	1297	1257	-40	-3.1%	1.1
	Exit 29N on and offramps	NB	1360	1318	-42	-3.1%	1.1
	Exit 29N and Exit 29S onramp	NB	946	911	-34	-3.6%	1.1
	Exit 29S onramp and Exit 30	NB	1208	1139	-69	-5.7%	2.0
	Exit 30 onramp and Exit 29N	SB	2748	2750	2	0.1%	0.0
	Exit 29N and Exit 29S onramp	SB	2633	2629	-4	-0.1%	0.1
	Exit 29S and Exit 29N onramp	SB	2224	2217	-7	-0.3%	0.1
	Exit 29S on and offramps	SB	2794	2774	-20	-0.7%	0.4
	Exit 29N onramp and Exit 28	SB	3622	3590	-32	-0.9%	0.5
	Exit 28 and Exits 27-26	SB	3235	3212	-24	-0.7%	0.4
	Airport Blvd onramp and Airport Blvd offramp	SB	2766	2740	-25	-0.9%	0.5
	Exit 27 onramp and Exit 26 onramp	SB	3207	3175	-32	-1.0%	0.6
	NY 370 onramp and Old Liverpool Rd onramp	SB	3103	2975	-128	-4.1%	2.3
	Exit 26 onramp and Exit 25A	SB	3737	3699	-39	-1.0%	0.6
	Exit 25A off and onramps	SB	3426	3378	-47	-1.4%	0.8
	Exit 25 off and onramps	SB	3145	3041	-104	-3.3%	1.9
	Exit 25 onramp and Exits 23A and 23B and Exit 22	SB	3550	3470	-80	-2.3%	1.4
	Exit 25A onramp and Exit 25	SB	3737	3631	-105	-2.8%	1.7
	Exits 23A and 23B and Exit 22 and Old Liverpool Rd onramp	SB	2669	2611	-57	-2.1%	1.1
	Onondaga Lake Pkwy onramp and Exit 22 onramp	SB	3954	3793	-161	-4.1%	2.6
	Exit 21 off and onramps	SB	3988	3687	-301	-7.5%	4.9
	Exit 21 onramp and Exit 20	SB	4128	3708	-420	-10.2%	6.7
	Clinton St offramp and Butternut St offramp	SB	3517	3357	-160	-4.6%	2.7
	I-690 East off and onramps	SB	2339	2247	-91	-3.9%	1.9
	EB I-690 onramp and Adams St offramp	SB	2653	2387	-265	-10.0%	5.3
	Adams St offramp and Adams St onramp	SB	1656	1580	-76	-4.6%	1.9
	Exit 18 and I-690 West onramp	SB	1282	1227	-55	-4.3%	1.5
	I-690 West onramp and Exit 18 onramp	SB	1656	1580	-76	-4.6%	1.9
	Exit 18 and Exit 17	SB	1806	1714	-92	-5.1%	2.2
	Exit 17 off and onramps	SB	797	777	-20	-2.5%	0.7
	Exit 16A off and onramps	SB	853	816	-37	-4.4%	1.3
	Exit 17 onramp and Exit 16A offramp	SB	1105	1062	-43	-3.9%	1.3
	Exit 16A onramp and Exit 16 offramp	SB	1132	1095	-37	-3.3%	1.1
	I-481 Offramp	NB	491	516	24	4.9%	1.1
	I-481 onramp	NB	901	872	-29	-3.2%	1.0

	S. Salina St, Brighton Av offramp	NB	66	68	1	1.8%	0.1
	S. Salina St, Brighton Av onramp	NB	583	576	-7	-1.2%	0.3
	E Colvin St onramp	NB	436	432	-5	-1.1%	0.2
	Adams St, Harrison St offramp	NB	751	736	-14	-1.9%	0.5
	Adams St, Harrison St onramp	NB	606	552	-54	-8.8%	2.2
	EB I-690 offramp	NB	755	710	-45	-6.0%	1.7
	EB I-690 onramp	NB	989	895	-94	-9.5%	3.1
	WB I-690 offramp	NB	617	571	-46	-7.4%	1.9
	WB I-690 onramp	NB	671	662	-9	-1.4%	0.4
	Salina St onramp	NB	201	163	-38	-18.9%	2.8
	Butternut St onramp	NB	326	293	-33	-10.1%	1.9
	Genant Dr offramp	NB	201	197	-4	-1.9%	0.3
	Sunset St onramp	NB	173	172	-1	-0.5%	0.1
	Hiawatha offramp	NB	726	690	-36	-4.9%	1.3
	7th N St offramp	NB	335	327	-8	-2.5%	0.5
	7th N St onramp	NB	143	141	-2	-1.7%	0.2
	I-90 offramp	NB	221	213	-8	-3.7%	0.6
	I-90 onramp	NB	407	405	-2	-0.4%	0.1
	US 11 offramp	NB	527	517	-10	-1.8%	0.4
	Airport Blvd offramp	NB	419	388	-31	-7.4%	1.5
	Airport Blvd onramp	NB	325	322	-3	-0.8%	0.1
	E Taft Rd onramp	NB	277	275	-1	-0.5%	0.1
	EB I-481 offramp	NB	96	82	-15	-15.4%	1.6
	EB I-481 onramp	NB	63	59	-3	-5.3%	0.4
	WB I-481 offramp	NB	414	408	-6	-1.5%	0.3
	WB I-481 onramp	NB	262	260	-2	-0.9%	0.2
	I-481 Offramp	SB	252	241	-11	-4.4%	0.7
	I-481 onramp	SB	279	285	6	2.1%	0.4
	S. Salina St, Brighton Av offramp	SB	1009	925	-84	-8.4%	2.7
	S. Salina St, Brighton Av onramp	SB	309	282	-26	-8.5%	1.5
	Adams St, Harrison St offramp	SB	1370	1279	-91	-6.6%	2.5
	Adams St, Harrison St onramp	SB	151	132	-18	-12.2%	1.5
	WB I-690 onramp	SB	375	358	-17	-4.5%	0.9
	EB I-690 onramp	SB	989	895	-94	-9.5%	3.1
	EB I-690 offramp	SB	673	634	-39	-5.7%	1.5
	Clinton St offramp	SB	1178	1058	-120	-10.2%	3.6
	Butternut St offramp	SB	609	571	-38	-6.2%	1.6
	Genant Dr onramp	SB	141	136	-4	-3.2%	0.4
	Genant Dr offramp	SB	276	258	-18	-6.5%	1.1
	Genant Dr onramp	SB	313	278	-35	-11.2%	2.0
	NY 370 onramp	SB	852	774	-78	-9.2%	2.7
	Old Liverpool Rd onramp	SB	435	407	-28	-6.4%	1.4
	Onondaga Lake Pkwy off-ramp	SB	881	849	-33	-3.7%	1.1
	7th N St offramp	SB	592	598	6	0.9%	0.2
	7th N St onramp	SB	406	406	0	0.0%	0.0
	I-90 onramp	SB	311	308	-4	-1.1%	0.2
	I-90 offramp	SB	312	313	1	0.2%	0.0
	US 11 onramp	SB	530	529	-2	-0.3%	0.1
	Airport Blvd onramp	SB	441	439	-2	-0.5%	0.1
	Airport Blvd offramp	SB	470	447	-23	-4.9%	1.1
	E Taft Rd offramp	SB	387	379	-8	-2.0%	0.4
	EB I-481 onramp	SB	1398	1366	-33	-2.3%	0.9
	EB I-481 offramp	SB	570	549	-20	-3.6%	0.9
	WB I-481 onramp	SB	161	153	-8	-5.1%	0.7
	WB I-481 offramp	SB	115	111	-4	-3.5%	0.4
I-690 Highway	Exit 7 and Exit 8 onramp	EB	4746	4721	-25	-0.5%	0.4
	Willls Ave onramp and Hawthawa Blvd offramp	EB	4879	4850	-29	-0.6%	0.4
	Exit 8 and Exit 9	EB	4252	4239	-13	-0.3%	0.2
	Exit 9 and Exit 10 onramp	EB	3831	3814	-17	-0.4%	0.3
	Geddes St onramp and West St offramp	EB	4192	4150	-42	-1.0%	0.7
	West St offramp and West St onramp	EB	3043	2939	-104	-3.4%	1.9
	I-81 South off and onramps	EB	2221	2240	18	0.8%	0.4
	McBride onramp and I-81 onramp	EB	3303	3247	-56	-1.7%	1.0
	I-81 North onramp and Exit 14	EB	4260	4055	-205	-4.8%	3.2
	Exit 14 off and onramps	EB	3210	3167	-42	-1.3%	0.7
	Teal Ave onramp and S Midler Ave offramp	EB	3480	3444	-36	-1.0%	0.6
	Exit 15 off and onramps	EB	2505	2466	-39	-1.5%	0.8
	Exit 15 onramp and Exits 16S-N and Exit 17	EB	2678	2651	-26	-1.0%	0.5
	Exit 16S-N off and onramps	EB	1135	1128	-7	-0.6%	0.2

	Exit 16S-N onramp and Exit 17 onramp	EB	1276	1279	3	0.3%	0.1
	Bridge St onramp and EB I690 onramp	EB	1455	1458	3	0.2%	0.1
	Bridge St offramp and WB I690 offramp	WB	3329	3369	40	1.2%	0.7
	Exit 17 and Exits 16N-S	WB	2632	2665	32	1.2%	0.6
	Exit 16N-S off and onramps	WB	2148	2182	34	1.6%	0.7
	S Midler Ave offramp and Thompson Rd onramp	WB	3860	3878	18	0.5%	0.3
	Exit 15 off and onramps	WB	3617	3655	38	1.0%	0.6
	Teal Ave offramp and S Midler Ave onramp	WB	3949	3970	21	0.5%	0.3
	Exit 14 off and onramps	WB	3402	3396	-6	-0.2%	0.1
	Exit 14 onramp and I-81 South offramp	WB	4122	4062	-60	-1.5%	0.9
	Townsend St offramp and WB I-690 onramp	WB	3645	3661	16	0.4%	0.3
	Exit 13 and I-81 North offramp	WB	2239	2221	-18	-0.8%	0.4
	I-81 North off and onramps	WB	1386	1362	-25	-1.8%	0.7
	West St offramp and WB I-690 offramp	WB	2168	1995	-173	-8.0%	3.8
	Exit 11 off and onramps	WB	1548	1522	-26	-1.7%	0.7
	Exit 11 onramp and Exit 10	WB	1835	1810	-25	-1.3%	0.6
	Exit 10 and Exit 9 onramp	WB	1207	1203	-5	-0.4%	0.1
	Exit 9 onramp and Exit 8 onramp	WB	1687	1644	-43	-2.5%	1.0
	Exit 8 onramp and Exit 7	WB	1939	1906	-33	-1.7%	0.8
	Hawthawa Blvd offramp	EB	627	608	-19	-3.0%	0.7
	Bear St offramp	EB	420	419	-1	-0.4%	0.1
	Geddes St onramp	EB	361	352	-10	-2.6%	0.5
	West St offramp	EB	1148	1104	-44	-3.8%	1.3
	West St onramp	EB	435	446	12	2.7%	0.6
	McBride onramp	EB	229	213	-17	-7.3%	1.1
	Teal Ave offramp	EB	1050	1033	-17	-1.6%	0.5
	Teal Ave onramp	EB	271	268	-3	-1.1%	0.2
	S Midler Ave offramp	EB	974	947	-27	-2.8%	0.9
	S Midler Ave onramp	EB	173	172	-1	-0.6%	0.1
	Thompson Rd offramp	EB	1543	1526	-16	-1.1%	0.4
	Thompson Rd onramp	EB	141	146	5	3.8%	0.4
	Bridge St onramp	EB	179	178	-2	-0.9%	0.1
	Willls Ave onramp	EB	133	131	-2	-1.4%	0.2
	Hawthawa Blvd onramp	WB	252	247	-6	-2.2%	0.4
	Bear St onramp	WB	479	439	-40	-8.4%	1.9
	Geddes St offramp	WB	627	615	-12	-1.9%	0.5
	West St onramp	WB	288	289	1	0.3%	0.1
	West St offramp	WB	620	593	-27	-4.3%	1.1
	Townsend St offramp	WB	1405	1419	14	1.0%	0.4
	Teal Ave onramp	WB	720	688	-32	-4.5%	1.2
	Teal Ave offramp	WB	546	537	-9	-1.6%	0.4
	S Midler Ave onramp	WB	332	330	-2	-0.6%	0.1
	S Midler Ave offramp	WB	242	242	-1	-0.2%	0.0
	Thompson Rd onramp	WB	1712	1706	-5	-0.3%	0.1
	Thompson Rd offramp	WB	484	487	3	0.6%	0.1
	Bridge St offramp	WB	697	706	9	1.3%	0.3
I-481 Highway	I-81 onramps and Exit 1	NB	944	941	-3	-0.3%	0.1
	Exit 1 off and onramps	NB	825	826	2	0.2%	0.1
	Exit 1 and Exit 2	NB	1327	1331	4	0.3%	0.1
	Exit 2 off and onramps	NB	1104	1114	9	0.8%	0.3
	Exit 3E onramp and Exit 3W	NB	1698	1707	9	0.5%	0.2
	Exit 2 onramp and Exit 3E	NB	1699	1709	10	0.6%	0.2
	Exit 3E off and onramps	NB	1451	1474	23	1.6%	0.6
	Exit 3W off and onramps	NB	1450	1480	30	2.1%	0.8
	Exit 3W onramp and Exit 4	NB	3311	3336	24	0.7%	0.4
	Exit 4 offramp and Exit 4 onramp	NB	1407	1404	-3	-0.2%	0.1
	Exit 4 onramp and Exit 5E	NB	2135	2122	-14	-0.6%	0.3
	Exit 5E off and onramps	NB	2006	1987	-19	-1.0%	0.4
	Exit 5E onramp and Exit 5W	NB	2092	2077	-15	-0.7%	0.3
	WB Kirkville Rd onramp and I90 offramp	NB	1666	1664	-2	-0.1%	0.1
	Exit 5W off and onramps	NB	1487	1485	-2	-0.1%	0.1
	Exit 5W onramp and Exit 6	NB	1666	1664	-2	-0.1%	0.1
	Exit 6 off and onramps	NB	1157	1166	8	0.7%	0.2
	I90 onramp and US 298 offramp	NB	1471	1477	6	0.4%	0.2
	Exit 7 off and onramps	NB	1007	1020	12	1.2%	0.4
	Exit 7 onramp and Exit 8	NB	1105	1121	16	1.5%	0.5
	Exit 8 off and onramps	NB	799	817	18	2.2%	0.6
	Exit 8 onramp and Exit 9N	NB	1130	1149	19	1.7%	0.6
	Exit 9N off and onramps	NB	797	816	20	2.5%	0.7

	Exit 9N onramp and Exit 9S	NB	1322	1345	23	1.7%	0.6
	Exit 9S off and onramps	NB	1118	1138	20	1.8%	0.6
	Before WB I-481 offramp	NB	1263	1260	-4	-0.3%	0.1
	Before EB I-481 onramp	SB	3311	3298	-13	-0.4%	0.2
	Exit 9S onramp and Exit 9N	SB	2259	2272	12	0.5%	0.3
	Exit 9S off and onramps	SB	1537	1555	18	1.2%	0.5
	Exit 9N off and onramps	SB	2180	2201	22	1.0%	0.5
	Exit 9N onramp and Exit 8	SB	2302	2325	23	1.0%	0.5
	Exit 8 off and onramps	SB	1626	1656	30	1.8%	0.7
	Exit 8 onramp and Exit 7	SB	2050	2083	32	1.6%	0.7
	Exit 7 off and onramps	SB	1542	1576	34	2.2%	0.9
	Exit 7 and Exit 6	SB	1941	1981	40	2.1%	0.9
	Exit 6 off and onramps	SB	1690	1743	53	3.1%	1.3
	Exit 6 and Exit 5W	SB	2380	2434	54	2.3%	1.1
	Exit 5W off and onramps	SB	2081	2118	37	1.8%	0.8
	Exit 5W onramp and Exit 5E	SB	2405	2434	29	1.2%	0.6
	Exit 5E off and onramps	SB	2223	2254	31	1.4%	0.7
	Exit 5E onramp and Exit 4	SB	2602	2640	38	1.5%	0.7
	Exit 4 offramp and Exit 4 onramp	SB	1177	1197	20	1.7%	0.6
	Exit 4 onramp and Exit 3W	SB	1904	1932	28	1.5%	0.6
	Exit 3W onramp and Exit 3E	SB	1967	1984	18	0.9%	0.4
	Exit 3W off and onramps	SB	1688	1714	26	1.6%	0.6
	Exit 3E off and onramps	SB	1087	1117	30	2.7%	0.9
	Exit 3E onramp and Exit 2	SB	1204	1229	26	2.1%	0.7
	Exit 3E onramp and Exit 2	SB	1204	1230	27	2.2%	0.8
	Exit 2 off and onramps	SB	851	870	20	2.3%	0.7
	Exit 2 onramp and Exit 1	SB	1338	1355	17	1.3%	0.5
	I-81 North offramp and E. Brighton Av onramp	SB	441	424	-16	-3.7%	0.8
	I-81 North and I-81 South ramps	SB	795	802	7	0.9%	0.2
	I-81 North offramp and E. Brighton Av onramp	SB	1143	1123	-20	-1.8%	0.6
	Rock Cut Rd offramp	NB	119	116	-4	-3.0%	0.3
	Rock Cut Rd onramp	NB	503	491	-11	-2.2%	0.5
	Jamesville Rd offramp	NB	223	215	-8	-3.5%	0.5
	Jamesville Rd onramp	NB	595	592	-3	-0.4%	0.1
	EB US 5 offramp	NB	248	237	-11	-4.5%	0.7
	WB US 5 onramp	NB	1861	1856	-5	-0.3%	0.1
	EB US 5 onramp	NB	247	246	-1	-0.3%	0.1
	WB US 5 offramp	NB	248	240	-7	-3.0%	0.5
	WB I690 offramp	NB	1905	1929	24	1.3%	0.5
	EB I690 onramp	NB	729	717	-12	-1.6%	0.4
	EB Kirkville Rd onramp	NB	86	85	-1	-1.4%	0.1
	EB Kirkville Rd offramp	NB	129	130	0	0.4%	0.0
	WB Kirkville Rd offramp	NB	605	596	-10	-1.6%	0.4
	WB Kirkville Rd onramp	NB	180	179	-1	-0.5%	0.1
	I90 offramp	NB	509	493	-16	-3.1%	0.7
	I90 onramp	NB	314	312	-1	-0.5%	0.1
	US 298 offramp	NB	463	458	-6	-1.2%	0.3
	US 298 onramp	NB	98	97	-1	-0.9%	0.1
	Northern Blvd offramp	NB	306	301	-4	-1.4%	0.3
	Northern Blvd onramp	NB	331	329	-2	-0.6%	0.1
	Brighton Ave offramp	SB	544	545	2	0.3%	0.1
	Jamesville Rd offramp	SB	353	360	7	1.9%	0.4
	Jamesville Rd onramp	SB	488	486	-2	-0.3%	0.1
	WB US 5 offramp	SB	217	219	2	1.1%	0.2
	EB US 5 onramp	SB	116	116	0	-0.3%	0.0
	EB US 5 offramp	SB	879	879	0	0.0%	0.0
	WB US 5 onramp	SB	279	278	-1	-0.3%	0.0
	EB I690 onramp	SB	727	739	13	1.7%	0.5
	WB I690 offramp	SB	1425	1445	20	1.4%	0.5
	EB Kirkville Rd onramp	SB	379	377	-2	-0.4%	0.1
	EB Kirkville Rd offramp	SB	182	179	-3	-1.6%	0.2
	WB Kirkville Rd onramp	SB	325	322	-2	-0.7%	0.1
	WB Kirkville Rd offramp	SB	299	310	11	3.7%	0.6
	I90 offramp	SB	251	238	-13	-5.2%	0.8
	I90 onramp	SB	690	691	1	0.1%	0.0
	US 298 offramp	SB	508	500	-8	-1.6%	0.4
	US 298 onramp	SB	399	397	-1	-0.3%	0.1
	Northern Blvd onramp	SB	424	424	0	-0.1%	0.0
	Northern Blvd offramp	SB	676	668	-8	-1.2%	0.3

Table E-2: Freeway Traffic Volume Comparison – AM Peak Hour

Route	Segment	Direction	Traffic Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
I-81 Highway	Exit 16 onramp and Exit 16A	NB	1142	1190	48	4.2%	1.4
	Exit 16A off and onramps	NB	519	533	14	2.6%	0.6
	Exit 16A onramp and Exit 17	NB	1662	1593	-69	-4.1%	1.7
	Exit 17 off and onramps	NB	1578	1573	-5	-0.3%	0.1
	Exit 17 Brighten Ave onramp and Exit 17 Colvin St onramp	NB	2317	2296	-21	-0.9%	0.4
	Exit 17 onramp and Exit 18	NB	2871	2831	-39	-1.4%	0.7
	Exit 18 off and onramps	NB	1918	1924	6	0.3%	0.1
	Exit 18 onramp and I-690 East offramp	NB	2686	2652	-34	-1.3%	0.7
	I-690 EB on ramp and I-690 WB on ramp	NB	1727	1723	-4	-0.3%	0.1
	Exit 19 onramp and Exit 20 onramp	NB	944	939	-5	-0.6%	0.2
	WB I-690 onramp and Salina St onramp	NB	1795	1618	-178	-9.9%	4.3
	Salina St onramp and Butternut St onramp	NB	2050	2014	-36	-1.7%	0.8
	Butternut St onramp and Genant Dr offramp	NB	2463	2373	-91	-3.7%	1.8
	Exit 22 off and onramps	NB	2208	2131	-77	-3.5%	1.7
	Exit 22 onramp and Exit 23 /Exits 24A and 24B	NB	2427	2344	-83	-3.4%	1.7
	Exit 23 off and onramps	NB	1506	1490	-16	-1.0%	0.4
	Exit 23 onramp and Exit 25	NB	2214	2182	-33	-1.5%	0.7
	Exit 25 off and onramps	NB	1789	1756	-33	-1.9%	0.8
	Exit 25 onramp and Exit 25A	NB	1971	1940	-31	-1.6%	0.7
	I-90 onramp and US 11 offramp	NB	2206	2186	-19	-0.9%	0.4
	Exit 25A off and onramps	NB	1690	1675	-15	-0.9%	0.4
	Exit 25A onramp and Exit 26	NB	2206	2186	-19	-0.9%	0.4
	Exit 26 and Exits 27-28	NB	1537	1527	-10	-0.7%	0.3
	Exit 27-28 and Exit 27 onramp	NB	1005	1008	3	0.3%	0.1
	Exit 27 onramp and Exit 28 onramp	NB	1417	1417	0	0.0%	0.0
	Airport Blvd onramp and E Taft Rd onramp	NB	1417	1414	-3	-0.2%	0.1
	Exit 28 onramp and Exit 29S	NB	1768	1764	-3	-0.2%	0.1
	Exit 29S and Exit 29N onramp	NB	1646	1633	-13	-0.8%	0.3
	Exit 29N on and offramps	NB	1725	1716	-10	-0.6%	0.2
	Exit 29N and Exit 29S onramp	NB	1200	1190	-10	-0.9%	0.3
	Exit 29S onramp and Exit 30	NB	1533	1488	-45	-2.9%	1.2
	Exit 30 onramp and Exit 29N	SB	3487	3491	4	0.1%	0.1
	Exit 29N and Exit 29S onramp	SB	3341	3333	-8	-0.2%	0.1
	Exit 29S and Exit 29N onramp	SB	2823	2812	-10	-0.4%	0.2
	Exit 29S on and offramps	SB	3545	3535	-10	-0.3%	0.2
	Exit 29N onramp and Exit 28	SB	4597	4556	-40	-0.9%	0.6
	Exit 28 and Exits 27-26	SB	4106	4072	-33	-0.8%	0.5
	Airport Blvd onramp and Airport Blvd offramp	SB	3510	3481	-29	-0.8%	0.5
	Exit 27 onramp and Exit 26 onramp	SB	4070	4025	-44	-1.1%	0.7
	NY 370 onramp and Old Liverpool Rd onramp	SB	3938	3822	-115	-2.9%	1.9
	Exit 26 onramp and Exit 25A	SB	4743	4692	-50	-1.1%	0.7
	Exit 25A off and onramps	SB	4347	4295	-52	-1.2%	0.8
	Exit 25 off and onramps	SB	3991	3895	-96	-2.4%	1.5
	Exit 25 onramp and Exits 23A and 23B and Exit 22	SB	4505	4453	-53	-1.2%	0.8
	Exit 25A onramp and Exit 25	SB	4742	4621	-121	-2.5%	1.8
	Exits 23A and 23B and Exit 22 and Old Liverpool Rd onramp	SB	3386	3361	-26	-0.8%	0.4
	Onondaga Lake Pkwy onramp and Exit 22 onramp	SB	5017	4857	-161	-3.2%	2.3
	Exit 21 off and onramps	SB	5061	4687	-375	-7.4%	5.4
	Exit 21 onramp and Exit 20	SB	5239	4670	-569	-10.9%	8.1
	Clinton St offramp and Butternut St offramp	SB	4463	4216	-247	-5.5%	3.8
	I-690 East off and onramps	SB	2968	2809	-158	-5.3%	2.9
	EB I-690 onramp and Adams St offramp	SB	3366	2923	-443	-13.2%	7.9
	Adams St offramp and Adams St onramp	SB	2101	1951	-150	-7.1%	3.3
	Exit 18 and I-690 West onramp	SB	1626	1499	-128	-7.8%	3.2
	I-690 West onramp and Exit 18 onramp	SB	2101	1965	-136	-6.5%	3.0
	Exit 18 and Exit 17	SB	2292	2147	-144	-6.3%	3.1
	Exit 17 off and onramps	SB	1011	972	-39	-3.9%	1.3
	Exit 16A off and onramps	SB	1082	1036	-46	-4.3%	1.4
	Exit 17 onramp and Exit 16A offramp	SB	1403	1341	-61	-4.4%	1.7
	Exit 16A onramp and Exit 16 offramp	SB	1436	1412	-24	-1.6%	0.6
	I-481 Offramp	NB	624	657	33	5.3%	1.3
	I-481 onramp	NB	1143	1123	-20	-1.8%	0.6

	S. Salina St, Brighton Av offramp	NB	84	84	-1	-0.7%	0.1
	S. Salina St, Brighton Av onramp	NB	740	734	-6	-0.8%	0.2
	E Colvin St onramp	NB	553	547	-6	-1.1%	0.3
	Adams St, Harrison St offramp	NB	953	944	-9	-0.9%	0.3
	Adams St, Harrison St onramp	NB	769	739	-29	-3.8%	1.1
	EB I-690 offramp	NB	958	937	-22	-2.2%	0.7
	EB I-690 onramp	NB	1254	1150	-105	-8.3%	3.0
	WB I-690 offramp	NB	783	756	-27	-3.4%	1.0
	WB I-690 onramp	NB	852	850	-2	-0.2%	0.1
	Salina St onramp	NB	255	214	-41	-16.0%	2.7
	Butternut St onramp	NB	414	373	-41	-9.9%	2.1
	Genant Dr offramp	NB	255	245	-10	-3.9%	0.6
	Sunset St onramp	NB	219	217	-2	-1.1%	0.2
	Hiawatha offramp	NB	921	873	-48	-5.2%	1.6
	7th N St offramp	NB	425	395	-30	-7.1%	1.5
	7th N St onramp	NB	181	179	-3	-1.6%	0.2
	I-90 offramp	NB	281	276	-5	-1.7%	0.3
	I-90 onramp	NB	516	516	0	0.0%	0.0
	US 11 offramp	NB	669	656	-13	-1.9%	0.5
	Airport Blvd offramp	NB	532	523	-9	-1.7%	0.4
	Airport Blvd onramp	NB	412	409	-3	-0.8%	0.2
	E Taft Rd onramp	NB	351	348	-2	-0.7%	0.1
	EB I-481 offramp	NB	122	126	4	3.0%	0.3
	EB I-481 onramp	NB	80	79	-1	-1.0%	0.1
	WB I-481 offramp	NB	525	526	1	0.1%	0.0
	WB I-481 onramp	NB	333	338	5	1.4%	0.3
	I-481 Offramp	SB	320	302	-18	-5.7%	1.0
	I-481 onramp	SB	354	374	20	5.7%	1.1
	S. Salina St, Brighton Av offramp	SB	1281	1170	-111	-8.7%	3.2
	S. Salina St, Brighton Av onramp	SB	392	370	-21	-5.4%	1.1
	Adams St, Harrison St offramp	SB	1739	1576	-162	-9.3%	4.0
	Adams St, Harrison St onramp	SB	191	170	-21	-11.0%	1.6
	WB I-690 onramp	SB	476	459	-16	-3.4%	0.8
	EB I-690 onramp	SB	1254	1150	-105	-8.3%	3.0
	EB I-690 offramp	SB	854	818	-36	-4.2%	1.2
	Clinton St offramp	SB	1494	1326	-169	-11.3%	4.5
	Butternut St offramp	SB	773	722	-51	-6.6%	1.9
	Genant Dr onramp	SB	179	169	-10	-5.5%	0.7
	Genant Dr offramp	SB	351	338	-13	-3.7%	0.7
	Genant Dr onramp	SB	397	374	-23	-5.8%	1.2
	NY 370 onramp	SB	1081	991	-90	-8.3%	2.8
	Old Liverpool Rd onramp	SB	552	524	-28	-5.1%	1.2
	Onondaga Lake Pkwy off-ramp	SB	1119	1092	-27	-2.4%	0.8
	7th N St offramp	SB	751	740	-11	-1.5%	0.4
	7th N St onramp	SB	515	514	0	-0.1%	0.0
	I-90 onramp	SB	395	392	-3	-0.9%	0.2
	I-90 offramp	SB	396	393	-3	-0.8%	0.2
	US 11 onramp	SB	673	672	-1	-0.1%	0.0
	Airport Blvd onramp	SB	560	551	-9	-1.5%	0.4
	Airport Blvd offramp	SB	596	581	-15	-2.5%	0.6
	E Taft Rd offramp	SB	491	488	-3	-0.6%	0.1
	EB I-481 onramp	SB	1774	1728	-46	-2.6%	1.1
	EB I-481 offramp	SB	723	715	-8	-1.1%	0.3
	WB I-481 onramp	SB	204	205	1	0.4%	0.1
	WB I-481 offramp	SB	146	146	0	0.2%	0.0
I-690 Highway	Exit 7 and Exit 8 onramp	EB	4746	4721	-25	-0.5%	0.4
	Willls Ave onramp and Hawthawa Blvd offramp	EB	4879	4850	-29	-0.6%	0.4
	Exit 8 and Exit 9	EB	4252	4239	-13	-0.3%	0.2
	Exit 9 and Exit 10 onramp	EB	3831	3814	-17	-0.4%	0.3
	Geddes St onramp and West St offramp	EB	4192	4150	-42	-1.0%	0.7
	West St offramp and West St onramp	EB	3043	2939	-104	-3.4%	1.9
	I-81 South off and onramps	EB	2221	2240	18	0.8%	0.4
	McBride onramp and I-81 onramp	EB	3303	3247	-56	-1.7%	1.0
	I-81 North onramp and Exit 14	EB	4260	4055	-205	-4.8%	3.2
	Exit 14 off and onramps	EB	3210	3167	-42	-1.3%	0.7
	Teal Ave onramp and S Midler Ave offramp	EB	3480	3444	-36	-1.0%	0.6
	Exit 15 off and onramps	EB	2505	2466	-39	-1.5%	0.8
	Exit 15 onramp and Exits 16S-N and Exit 17	EB	2678	2651	-26	-1.0%	0.5
	Exit 16S-N off and onramps	EB	1135	1128	-7	-0.6%	0.2

	Exit 16S-N onramp and Exit 17 onramp	EB	1276	1279	3	0.3%	0.1
	Bridge St onramp and EB I690 onramp	EB	1455	1458	3	0.2%	0.1
	Bridge St offramp and WB I690 offramp	WB	3329	3369	40	1.2%	0.7
	Exit 17 and Exits 16N-S	WB	2632	2665	32	1.2%	0.6
	Exit 16N-S off and onramps	WB	2148	2182	34	1.6%	0.7
	S Midler Ave offramp and Thompson Rd onramp	WB	3860	3878	18	0.5%	0.3
	Exit 15 off and onramps	WB	3617	3655	38	1.0%	0.6
	Teal Ave offramp and S Midler Ave onramp	WB	3949	3970	21	0.5%	0.3
	Exit 14 off and onramps	WB	3402	3396	-6	-0.2%	0.1
	Exit 14 onramp and I-81 South offramp	WB	4122	4062	-60	-1.5%	0.9
	Townsend St offramp and WB I-690 onramp	WB	3645	3661	16	0.4%	0.3
	Exit 13 and I-81 North offramp	WB	2239	2221	-18	-0.8%	0.4
	I-81 North off and onramps	WB	1386	1362	-25	-1.8%	0.7
	West St offramp and WB I-690 offramp	WB	2168	1995	-173	-8.0%	3.8
	Exit 11 off and onramps	WB	1548	1522	-26	-1.7%	0.7
	Exit 11 onramp and Exit 10	WB	1835	1810	-25	-1.3%	0.6
	Exit 10 and Exit 9 onramp	WB	1207	1203	-5	-0.4%	0.1
	Exit 9 onramp and Exit 8 onramp	WB	1687	1644	-43	-2.5%	1.0
	Exit 8 onramp and Exit 7	WB	1939	1906	-33	-1.7%	0.8
	Hawthawa Blvd offramp	EB	627	608	-19	-3.0%	0.7
	Bear St offramp	EB	420	419	-1	-0.4%	0.1
	Geddes St onramp	EB	361	352	-10	-2.6%	0.5
	West St offramp	EB	1148	1104	-44	-3.8%	1.3
	West St onramp	EB	435	446	12	2.7%	0.6
	McBride onramp	EB	229	213	-17	-7.3%	1.1
	Teal Ave offramp	EB	1050	1033	-17	-1.6%	0.5
	Teal Ave onramp	EB	271	268	-3	-1.1%	0.2
	S Midler Ave offramp	EB	974	947	-27	-2.8%	0.9
	S Midler Ave onramp	EB	173	172	-1	-0.6%	0.1
	Thompson Rd offramp	EB	1543	1526	-16	-1.1%	0.4
	Thompson Rd onramp	EB	141	146	5	3.8%	0.4
	Bridge St onramp	EB	179	178	-2	-0.9%	0.1
	Willls Ave onramp	EB	133	131	-2	-1.4%	0.2
	Hawthawa Blvd onramp	WB	252	247	-6	-2.2%	0.4
	Bear St onramp	WB	479	439	-40	-8.4%	1.9
	Geddes St offramp	WB	627	615	-12	-1.9%	0.5
	West St onramp	WB	288	289	1	0.3%	0.1
	West St offramp	WB	620	593	-27	-4.3%	1.1
	Townsend St offramp	WB	1405	1419	14	1.0%	0.4
	Teal Ave onramp	WB	720	688	-32	-4.5%	1.2
	Teal Ave offramp	WB	546	537	-9	-1.6%	0.4
	S Midler Ave onramp	WB	332	330	-2	-0.6%	0.1
	S Midler Ave offramp	WB	242	242	-1	-0.2%	0.0
	Thompson Rd onramp	WB	1712	1706	-5	-0.3%	0.1
	Thompson Rd offramp	WB	484	487	3	0.6%	0.1
	Bridge St offramp	WB	697	706	9	1.3%	0.3
I-481 Highway	I-81 onramps and Exit 1	NB	944	941	-3	-0.3%	0.1
	Exit 1 off and onramps	NB	825	826	2	0.2%	0.1
	Exit 1 and Exit 2	NB	1327	1331	4	0.3%	0.1
	Exit 2 off and onramps	NB	1104	1114	9	0.8%	0.3
	Exit 3E onramp and Exit 3W	NB	1698	1707	9	0.5%	0.2
	Exit 2 onramp and Exit 3E	NB	1699	1709	10	0.6%	0.2
	Exit 3E off and onramps	NB	1451	1474	23	1.6%	0.6
	Exit 3W off and onramps	NB	1450	1480	30	2.1%	0.8
	Exit 3W onramp and Exit 4	NB	3311	3336	24	0.7%	0.4
	Exit 4 offramp and Exit 4 onramp	NB	1407	1404	-3	-0.2%	0.1
	Exit 4 onramp and Exit 5E	NB	2135	2122	-14	-0.6%	0.3
	Exit 5E off and onramps	NB	2006	1987	-19	-1.0%	0.4
	Exit 5E onramp and Exit 5W	NB	2092	2077	-15	-0.7%	0.3
	WB Kirkville Rd onramp and I90 offramp	NB	1666	1664	-2	-0.1%	0.1
	Exit 5W off and onramps	NB	1487	1485	-2	-0.1%	0.1
	Exit 5W onramp and Exit 6	NB	1666	1664	-2	-0.1%	0.1
	Exit 6 off and onramps	NB	1157	1166	8	0.7%	0.2
	I90 onramp and US 298 offramp	NB	1471	1477	6	0.4%	0.2
	Exit 7 off and onramps	NB	1007	1020	12	1.2%	0.4
	Exit 7 onramp and Exit 8	NB	1105	1121	16	1.5%	0.5
	Exit 8 off and onramps	NB	799	817	18	2.2%	0.6
	Exit 8 onramp and Exit 9N	NB	1130	1149	19	1.7%	0.6
	Exit 9N off and onramps	NB	797	816	20	2.5%	0.7

	Exit 9N onramp and Exit 9S	NB	1322	1345	23	1.7%	0.6
	Exit 9S off and onramps	NB	1118	1138	20	1.8%	0.6
	Before WB I-481 offramp	NB	1263	1260	-4	-0.3%	0.1
	Before EB I-481 onramp	SB	3311	3298	-13	-0.4%	0.2
	Exit 9S onramp and Exit 9N	SB	2259	2272	12	0.5%	0.3
	Exit 9S off and onramps	SB	1537	1555	18	1.2%	0.5
	Exit 9N off and onramps	SB	2180	2201	22	1.0%	0.5
	Exit 9N onramp and Exit 8	SB	2302	2325	23	1.0%	0.5
	Exit 8 off and onramps	SB	1626	1656	30	1.8%	0.7
	Exit 8 onramp and Exit 7	SB	2050	2083	32	1.6%	0.7
	Exit 7 off and onramps	SB	1542	1576	34	2.2%	0.9
	Exit 7 and Exit 6	SB	1941	1981	40	2.1%	0.9
	Exit 6 off and onramps	SB	1690	1743	53	3.1%	1.3
	Exit 6 and Exit 5W	SB	2380	2434	54	2.3%	1.1
	Exit 5W off and onramps	SB	2081	2118	37	1.8%	0.8
	Exit 5W onramp and Exit 5E	SB	2405	2434	29	1.2%	0.6
	Exit 5E off and onramps	SB	2223	2254	31	1.4%	0.7
	Exit 5E onramp and Exit 4	SB	2602	2640	38	1.5%	0.7
	Exit 4 offramp and Exit 4 onramp	SB	1177	1197	20	1.7%	0.6
	Exit 4 onramp and Exit 3W	SB	1904	1932	28	1.5%	0.6
	Exit 3W onramp and Exit 3E	SB	1967	1984	18	0.9%	0.4
	Exit 3W off and onramps	SB	1688	1714	26	1.6%	0.6
	Exit 3E off and onramps	SB	1087	1117	30	2.7%	0.9
	Exit 3E onramp and Exit 2	SB	1204	1229	26	2.1%	0.7
	Exit 3E onramp and Exit 2	SB	1204	1230	27	2.2%	0.8
	Exit 2 off and onramps	SB	851	870	20	2.3%	0.7
	Exit 2 onramp and Exit 1	SB	1338	1355	17	1.3%	0.5
	I-81 North offramp and E. Brighton Av onramp	SB	441	424	-16	-3.7%	0.8
	I-81 North and I-81 South ramps	SB	795	802	7	0.9%	0.2
	I-81 North offramp and E. Brighton Av onramp	SB	1143	1123	-20	-1.8%	0.6
	Rock Cut Rd offramp	NB	119	116	-4	-3.0%	0.3
	Rock Cut Rd onramp	NB	503	491	-11	-2.2%	0.5
	Jamesville Rd offramp	NB	223	215	-8	-3.5%	0.5
	Jamesville Rd onramp	NB	595	592	-3	-0.4%	0.1
	EB US 5 offramp	NB	248	237	-11	-4.5%	0.7
	WB US 5 onramp	NB	1861	1856	-5	-0.3%	0.1
	EB US 5 onramp	NB	247	246	-1	-0.3%	0.1
	WB US 5 offramp	NB	248	240	-7	-3.0%	0.5
	WB I690 offramp	NB	1905	1929	24	1.3%	0.5
	EB I690 onramp	NB	729	717	-12	-1.6%	0.4
	EB Kirkville Rd onramp	NB	86	85	-1	-1.4%	0.1
	EB Kirkville Rd offramp	NB	129	130	0	0.4%	0.0
	WB Kirkville Rd offramp	NB	605	596	-10	-1.6%	0.4
	WB Kirkville Rd onramp	NB	180	179	-1	-0.5%	0.1
	I90 offramp	NB	509	493	-16	-3.1%	0.7
	I90 onramp	NB	314	312	-1	-0.5%	0.1
	US 298 offramp	NB	463	458	-6	-1.2%	0.3
	US 298 onramp	NB	98	97	-1	-0.9%	0.1
	Northern Blvd offramp	NB	306	301	-4	-1.4%	0.3
	Northern Blvd onramp	NB	331	329	-2	-0.6%	0.1
	Brighton Ave offramp	SB	544	545	2	0.3%	0.1
	Jamesville Rd offramp	SB	353	360	7	1.9%	0.4
	Jamesville Rd onramp	SB	488	486	-2	-0.3%	0.1
	WB US 5 offramp	SB	217	219	2	1.1%	0.2
	EB US 5 onramp	SB	116	116	0	-0.3%	0.0
	EB US 5 offramp	SB	879	879	0	0.0%	0.0
	WB US 5 onramp	SB	279	278	-1	-0.3%	0.0
	EB I690 onramp	SB	727	739	13	1.7%	0.5
	WB I690 offramp	SB	1425	1445	20	1.4%	0.5
	EB Kirkville Rd onramp	SB	379	377	-2	-0.4%	0.1
	EB Kirkville Rd offramp	SB	182	179	-3	-1.6%	0.2
	WB Kirkville Rd onramp	SB	325	322	-2	-0.7%	0.1
	WB Kirkville Rd offramp	SB	299	310	11	3.7%	0.6
	I90 offramp	SB	251	238	-13	-5.2%	0.8
	I90 onramp	SB	690	691	1	0.1%	0.0
	US 298 offramp	SB	508	500	-8	-1.6%	0.4
	US 298 onramp	SB	399	397	-1	-0.3%	0.1
	Northern Blvd onramp	SB	424	424	0	-0.1%	0.0
	Northern Blvd offramp	SB	676	668	-8	-1.2%	0.3

Table E-3: Freeway Traffic Volume Comparison – AM Post-Peak

Route	Segment	Direction	Traffic Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
I-81 Highway	Exit 16 onramp and Exit 16A	NB	952	992	41	4.3%	1.3
	Exit 16A off and onramps	NB	432	445	13	2.9%	0.6
	Exit 16A onramp and Exit 17	NB	1384	1367	-18	-1.3%	0.5
	Exit 17 off and onramps	NB	1314	1356	42	3.2%	1.1
	Exit 17 Brighten Ave onramp and Exit 17 Colvin St onramp	NB	1930	1945	14	0.7%	0.3
	Exit 17 onramp and Exit 18	NB	2391	2383	-8	-0.3%	0.2
	Exit 18 off and onramps	NB	1597	1637	40	2.5%	1.0
	Exit 18 onramp and I-690 East offramp	NB	2237	2284	47	2.1%	1.0
	I-690 EB on ramp and I-690 WB on ramp	NB	1439	1466	27	1.9%	0.7
	Exit 19 onramp and Exit 20 onramp	NB	786	801	15	1.9%	0.5
	WB I-690 onramp and Salina St onramp	NB	1495	1388	-107	-7.1%	2.8
	Salina St onramp and Butternut St onramp	NB	1707	1752	45	2.6%	1.1
	Butternut St onramp and Genant Dr offramp	NB	2052	2091	39	1.9%	0.9
	Exit 22 off and onramps	NB	1839	1868	28	1.5%	0.7
	Exit 22 onramp and Exit 23 /Exits 24A and 24B	NB	2021	2047	25	1.3%	0.6
	Exit 23 off and onramps	NB	1254	1295	41	3.3%	1.2
	Exit 23 onramp and Exit 25	NB	1844	1904	59	3.2%	1.4
	Exit 25 off and onramps	NB	1490	1533	43	2.9%	1.1
	Exit 25 onramp and Exit 25A	NB	1641	1693	51	3.1%	1.3
	I-90 onramp and US 11 offramp	NB	1837	1909	72	3.9%	1.7
	Exit 25A off and onramps	NB	1407	1477	69	4.9%	1.8
	Exit 25A onramp and Exit 26	NB	1837	1909	72	3.9%	1.7
	Exit 26 and Exits 27-28	NB	1280	1339	59	4.6%	1.6
	Exit 27-28 and Exit 27 onramp	NB	837	887	50	6.0%	1.7
	Exit 27 onramp and Exit 28 onramp	NB	1180	1243	62	5.3%	1.8
	Airport Blvd onramp and E Taft Rd onramp	NB	1180	1235	55	4.7%	1.6
	Exit 28 onramp and Exit 29S	NB	1473	1536	63	4.3%	1.6
	Exit 29S and Exit 29N onramp	NB	1371	1433	63	4.6%	1.7
	Exit 29N on and offramps	NB	1437	1504	67	4.7%	1.8
	Exit 29N and Exit 29S onramp	NB	999	1032	33	3.3%	1.0
	Exit 29S onramp and Exit 30	NB	1277	1285	8	0.6%	0.2
	Exit 30 onramp and Exit 29N	SB	2904	2910	6	0.2%	0.1
	Exit 29N and Exit 29S onramp	SB	2783	2782	-1	0.0%	0.0
	Exit 29S and Exit 29N onramp	SB	2351	2333	-18	-0.8%	0.4
	Exit 29S on and offramps	SB	2953	2952	-1	0.0%	0.0
	Exit 29N onramp and Exit 28	SB	3829	3838	9	0.2%	0.2
	Exit 28 and Exits 27-26	SB	3420	3429	10	0.3%	0.2
	Airport Blvd onramp and Airport Blvd offramp	SB	2923	2935	12	0.4%	0.2
	Exit 27 onramp and Exit 26 onramp	SB	3390	3415	26	0.8%	0.4
	NY 370 onramp and Old Liverpool Rd onramp	SB	3280	3280	0	0.0%	0.0
	Exit 26 onramp and Exit 25A	SB	3950	3982	32	0.8%	0.5
	Exit 25A off and onramps	SB	3621	3654	33	0.9%	0.5
	Exit 25 off and onramps	SB	3324	3319	-5	-0.2%	0.1
	Exit 25 onramp and Exits 23A and 23B and Exit 22	SB	3753	3790	37	1.0%	0.6
	Exit 25A onramp and Exit 25	SB	3950	3933	-17	-0.4%	0.3
	Exits 23A and 23B and Exit 22 and Old Liverpool Rd onramp	SB	2821	2873	53	1.9%	1.0
	Onondaga Lake Pkwy onramp and Exit 22 onramp	SB	4179	4193	14	0.3%	0.2
	Exit 21 off and onramps	SB	4216	4193	-22	-0.5%	0.3
	Exit 21 onramp and Exit 20	SB	4363	4271	-92	-2.1%	1.4
	Clinton St offramp and Butternut St offramp	SB	3718	3882	164	4.4%	2.7
	I-690 East off and onramps	SB	2472	2627	155	6.3%	3.1
	EB I-690 onramp and Adams St offramp	SB	2804	2849	46	1.6%	0.9
	Adams St offramp and Adams St onramp	SB	1750	1833	82	4.7%	1.9
	Exit 18 and I-690 West onramp	SB	1355	1431	76	5.6%	2.0
	I-690 West onramp and Exit 18 onramp	SB	1750	1838	87	5.0%	2.1
	Exit 18 and Exit 17	SB	1909	2024	115	6.0%	2.6
	Exit 17 off and onramps	SB	842	901	59	7.0%	2.0
	Exit 16A off and onramps	SB	901	962	60	6.7%	2.0
	Exit 17 onramp and Exit 16A offramp	SB	1168	1250	82	7.0%	2.4
	Exit 16A onramp and Exit 16 offramp	SB	1196	1292	96	8.0%	2.7
	I-481 Offramp	NB	519	546	27	5.2%	1.2
	I-481 onramp	NB	952	970	18	1.9%	0.6

	S. Salina St, Brighton Av offramp	NB	70	65	-5	-7.2%	0.6
	S. Salina St, Brighton Av onramp	NB	616	596	-20	-3.2%	0.8
	E Colvin St onramp	NB	461	456	-4	-1.0%	0.2
	Adams St, Harrison St offramp	NB	793	787	-6	-0.8%	0.2
	Adams St, Harrison St onramp	NB	640	647	6	1.0%	0.3
	EB I-690 offramp	NB	798	821	23	2.9%	0.8
	EB I-690 onramp	NB	1045	1018	-27	-2.6%	0.8
	WB I-690 offramp	NB	652	648	-4	-0.6%	0.1
	WB I-690 onramp	NB	710	736	26	3.7%	1.0
	Salina St onramp	NB	213	204	-9	-4.1%	0.6
	Butternut St onramp	NB	345	338	-7	-2.0%	0.4
	Genant Dr offramp	NB	212	223	11	5.4%	0.8
	Sunset St onramp	NB	182	181	-1	-0.6%	0.1
	Hiawatha offramp	NB	767	774	7	0.9%	0.3
	7th N St offramp	NB	354	351	-3	-0.8%	0.2
	7th N St onramp	NB	151	150	-1	-0.6%	0.1
	I-90 offramp	NB	234	234	0	0.0%	0.0
	I-90 onramp	NB	430	428	-1	-0.3%	0.1
	US 11 offramp	NB	557	572	15	2.7%	0.6
	Airport Blvd offramp	NB	443	460	18	4.0%	0.8
	Airport Blvd onramp	NB	343	340	-3	-0.8%	0.1
	E Taft Rd onramp	NB	292	290	-3	-0.9%	0.1
	EB I-481 offramp	NB	102	104	2	2.4%	0.2
	EB I-481 onramp	NB	66	64	-2	-3.0%	0.2
	WB I-481 offramp	NB	438	471	33	7.6%	1.6
	WB I-481 onramp	NB	277	290	12	4.5%	0.7
	I-481 Offramp	SB	267	282	15	5.8%	0.9
	I-481 onramp	SB	295	325	30	10.1%	1.7
	S. Salina St, Brighton Av offramp	SB	1067	1109	42	3.9%	1.3
	S. Salina St, Brighton Av onramp	SB	326	344	18	5.4%	1.0
	Adams St, Harrison St offramp	SB	1448	1562	114	7.9%	2.9
	Adams St, Harrison St onramp	SB	159	170	11	7.0%	0.9
	WB I-690 onramp	SB	396	405	9	2.4%	0.5
	EB I-690 onramp	SB	1045	1018	-27	-2.6%	0.8
	EB I-690 offramp	SB	711	765	54	7.6%	2.0
	Clinton St offramp	SB	1245	1211	-33	-2.7%	1.0
	Butternut St offramp	SB	644	672	28	4.4%	1.1
	Genant Dr onramp	SB	149	146	-3	-2.2%	0.3
	Genant Dr offramp	SB	292	286	-6	-2.2%	0.4
	Genant Dr onramp	SB	331	312	-19	-5.7%	1.1
	NY 370 onramp	SB	900	837	-63	-7.0%	2.1
	Old Liverpool Rd onramp	SB	460	447	-13	-2.7%	0.6
	Onondaga Lake Pkwy off-ramp	SB	932	918	-14	-1.5%	0.4
	7th N St offramp	SB	626	631	6	0.9%	0.2
	7th N St onramp	SB	429	429	0	0.0%	0.0
	I-90 onramp	SB	329	325	-5	-1.4%	0.3
	I-90 offramp	SB	330	335	6	1.7%	0.3
	US 11 onramp	SB	561	559	-2	-0.3%	0.1
	Airport Blvd onramp	SB	466	464	-2	-0.5%	0.1
	Airport Blvd offramp	SB	496	496	-1	-0.2%	0.0
	E Taft Rd offramp	SB	409	419	10	2.5%	0.5
	EB I-481 onramp	SB	1478	1482	5	0.3%	0.1
	EB I-481 offramp	SB	602	618	16	2.6%	0.6
	WB I-481 onramp	SB	170	173	3	2.0%	0.3
	WB I-481 offramp	SB	121	126	5	4.2%	0.5
I-690 Highway	Exit 7 and Exit 8 onramp	EB	4746	4721	-25	-0.5%	0.4
	Willis Ave onramp and Hawthawa Blvd offramp	EB	4879	4850	-29	-0.6%	0.4
	Exit 8 and Exit 9	EB	4252	4239	-13	-0.3%	0.2
	Exit 9 and Exit 10 onramp	EB	3831	3814	-17	-0.4%	0.3
	Geddes St onramp and West St offramp	EB	4192	4150	-42	-1.0%	0.7
	West St offramp and West St onramp	EB	3043	2939	-104	-3.4%	1.9
	I-81 South off and onramps	EB	2221	2240	18	0.8%	0.4
	McBride onramp and I-81 onramp	EB	3303	3247	-56	-1.7%	1.0
	I-81 North onramp and Exit 14	EB	4260	4055	-205	-4.8%	3.2
	Exit 14 off and onramps	EB	3210	3167	-42	-1.3%	0.7
	Teal Ave onramp and S Midler Ave offramp	EB	3480	3444	-36	-1.0%	0.6
	Exit 15 off and onramps	EB	2505	2466	-39	-1.5%	0.8
	Exit 15 onramp and Exits 16S-N and Exit 17	EB	2678	2651	-26	-1.0%	0.5
	Exit 16S-N off and onramps	EB	1135	1128	-7	-0.6%	0.2

	Exit 16S-N onramp and Exit 17 onramp	EB	1276	1279	3	0.3%	0.1
	Bridge St onramp and EB I690 onramp	EB	1455	1458	3	0.2%	0.1
	Bridge St offramp and WB I690 offramp	WB	3329	3369	40	1.2%	0.7
	Exit 17 and Exits 16N-S	WB	2632	2665	32	1.2%	0.6
	Exit 16N-S off and onramps	WB	2148	2182	34	1.6%	0.7
	S Midler Ave offramp and Thompson Rd onramp	WB	3860	3878	18	0.5%	0.3
	Exit 15 off and onramps	WB	3617	3655	38	1.0%	0.6
	Teal Ave offramp and S Midler Ave onramp	WB	3949	3970	21	0.5%	0.3
	Exit 14 off and onramps	WB	3402	3396	-6	-0.2%	0.1
	Exit 14 onramp and I-81 South offramp	WB	4122	4062	-60	-1.5%	0.9
	Townsend St offramp and WB I-690 onramp	WB	3645	3661	16	0.4%	0.3
	Exit 13 and I-81 North offramp	WB	2239	2221	-18	-0.8%	0.4
	I-81 North off and onramps	WB	1386	1362	-25	-1.8%	0.7
	West St offramp and WB I-690 offramp	WB	2168	1995	-173	-8.0%	3.8
	Exit 11 off and onramps	WB	1548	1522	-26	-1.7%	0.7
	Exit 11 onramp and Exit 10	WB	1835	1810	-25	-1.3%	0.6
	Exit 10 and Exit 9 onramp	WB	1207	1203	-5	-0.4%	0.1
	Exit 9 onramp and Exit 8 onramp	WB	1687	1644	-43	-2.5%	1.0
	Exit 8 onramp and Exit 7	WB	1939	1906	-33	-1.7%	0.8
	Hawthawa Blvd offramp	EB	627	608	-19	-3.0%	0.7
	Bear St offramp	EB	420	419	-1	-0.4%	0.1
	Geddes St onramp	EB	361	352	-10	-2.6%	0.5
	West St offramp	EB	1148	1104	-44	-3.8%	1.3
	West St onramp	EB	435	446	12	2.7%	0.6
	McBride onramp	EB	229	213	-17	-7.3%	1.1
	Teal Ave offramp	EB	1050	1033	-17	-1.6%	0.5
	Teal Ave onramp	EB	271	268	-3	-1.1%	0.2
	S Midler Ave offramp	EB	974	947	-27	-2.8%	0.9
	S Midler Ave onramp	EB	173	172	-1	-0.6%	0.1
	Thompson Rd offramp	EB	1543	1526	-16	-1.1%	0.4
	Thompson Rd onramp	EB	141	146	5	3.8%	0.4
	Bridge St onramp	EB	179	178	-2	-0.9%	0.1
	Willls Ave onramp	EB	133	131	-2	-1.4%	0.2
	Hawthawa Blvd onramp	WB	252	247	-6	-2.2%	0.4
	Bear St onramp	WB	479	439	-40	-8.4%	1.9
	Geddes St offramp	WB	627	615	-12	-1.9%	0.5
	West St onramp	WB	288	289	1	0.3%	0.1
	West St offramp	WB	620	593	-27	-4.3%	1.1
	Townsend St offramp	WB	1405	1419	14	1.0%	0.4
	Teal Ave onramp	WB	720	688	-32	-4.5%	1.2
	Teal Ave offramp	WB	546	537	-9	-1.6%	0.4
	S Midler Ave onramp	WB	332	330	-2	-0.6%	0.1
	S Midler Ave offramp	WB	242	242	-1	-0.2%	0.0
	Thompson Rd onramp	WB	1712	1706	-5	-0.3%	0.1
	Thompson Rd offramp	WB	484	487	3	0.6%	0.1
	Bridge St offramp	WB	697	706	9	1.3%	0.3
I-481 Highway	I-81 onramps and Exit 1	NB	944	941	-3	-0.3%	0.1
	Exit 1 off and onramps	NB	825	826	2	0.2%	0.1
	Exit 1 and Exit 2	NB	1327	1331	4	0.3%	0.1
	Exit 2 off and onramps	NB	1104	1114	9	0.8%	0.3
	Exit 3E onramp and Exit 3W	NB	1698	1707	9	0.5%	0.2
	Exit 2 onramp and Exit 3E	NB	1699	1709	10	0.6%	0.2
	Exit 3E off and onramps	NB	1451	1474	23	1.6%	0.6
	Exit 3W off and onramps	NB	1450	1480	30	2.1%	0.8
	Exit 3W onramp and Exit 4	NB	3311	3336	24	0.7%	0.4
	Exit 4 offramp and Exit 4 onramp	NB	1407	1404	-3	-0.2%	0.1
	Exit 4 onramp and Exit 5E	NB	2135	2122	-14	-0.6%	0.3
	Exit 5E off and onramps	NB	2006	1987	-19	-1.0%	0.4
	Exit 5E onramp and Exit 5W	NB	2092	2077	-15	-0.7%	0.3
	WB Kirkville Rd onramp and I90 offramp	NB	1666	1664	-2	-0.1%	0.1
	Exit 5W off and onramps	NB	1487	1485	-2	-0.1%	0.1
	Exit 5W onramp and Exit 6	NB	1666	1664	-2	-0.1%	0.1
	Exit 6 off and onramps	NB	1157	1166	8	0.7%	0.2
	I90 onramp and US 298 offramp	NB	1471	1477	6	0.4%	0.2
	Exit 7 off and onramps	NB	1007	1020	12	1.2%	0.4
	Exit 7 onramp and Exit 8	NB	1105	1121	16	1.5%	0.5
	Exit 8 off and onramps	NB	799	817	18	2.2%	0.6
	Exit 8 onramp and Exit 9N	NB	1130	1149	19	1.7%	0.6
	Exit 9N off and onramps	NB	797	816	20	2.5%	0.7

	Exit 9N onramp and Exit 9S	NB	1322	1345	23	1.7%	0.6
	Exit 9S off and onramps	NB	1118	1138	20	1.8%	0.6
	Before WB I-481 offramp	NB	1263	1260	-4	-0.3%	0.1
	Before EB I-481 onramp	SB	3311	3298	-13	-0.4%	0.2
	Exit 9S onramp and Exit 9N	SB	2259	2272	12	0.5%	0.3
	Exit 9S off and onramps	SB	1537	1555	18	1.2%	0.5
	Exit 9N off and onramps	SB	2180	2201	22	1.0%	0.5
	Exit 9N onramp and Exit 8	SB	2302	2325	23	1.0%	0.5
	Exit 8 off and onramps	SB	1626	1656	30	1.8%	0.7
	Exit 8 onramp and Exit 7	SB	2050	2083	32	1.6%	0.7
	Exit 7 off and onramps	SB	1542	1576	34	2.2%	0.9
	Exit 7 and Exit 6	SB	1941	1981	40	2.1%	0.9
	Exit 6 off and onramps	SB	1690	1743	53	3.1%	1.3
	Exit 6 and Exit 5W	SB	2380	2434	54	2.3%	1.1
	Exit 5W off and onramps	SB	2081	2118	37	1.8%	0.8
	Exit 5W onramp and Exit 5E	SB	2405	2434	29	1.2%	0.6
	Exit 5E off and onramps	SB	2223	2254	31	1.4%	0.7
	Exit 5E onramp and Exit 4	SB	2602	2640	38	1.5%	0.7
	Exit 4 offramp and Exit 4 onramp	SB	1177	1197	20	1.7%	0.6
	Exit 4 onramp and Exit 3W	SB	1904	1932	28	1.5%	0.6
	Exit 3W onramp and Exit 3E	SB	1967	1984	18	0.9%	0.4
	Exit 3W off and onramps	SB	1688	1714	26	1.6%	0.6
	Exit 3E off and onramps	SB	1087	1117	30	2.7%	0.9
	Exit 3E onramp and Exit 2	SB	1204	1229	26	2.1%	0.7
	Exit 3E onramp and Exit 2	SB	1204	1230	27	2.2%	0.8
	Exit 2 off and onramps	SB	851	870	20	2.3%	0.7
	Exit 2 onramp and Exit 1	SB	1338	1355	17	1.3%	0.5
	I-81 North offramp and E. Brighton Av onramp	SB	441	424	-16	-3.7%	0.8
	I-81 North and I-81 South ramps	SB	795	802	7	0.9%	0.2
	I-81 North offramp and E. Brighton Av onramp	SB	1143	1123	-20	-1.8%	0.6
	Rock Cut Rd offramp	NB	119	116	-4	-3.0%	0.3
	Rock Cut Rd onramp	NB	503	491	-11	-2.2%	0.5
	Jamesville Rd offramp	NB	223	215	-8	-3.5%	0.5
	Jamesville Rd onramp	NB	595	592	-3	-0.4%	0.1
	EB US 5 offramp	NB	248	237	-11	-4.5%	0.7
	WB US 5 onramp	NB	1861	1856	-5	-0.3%	0.1
	EB US 5 onramp	NB	247	246	-1	-0.3%	0.1
	WB US 5 offramp	NB	248	240	-7	-3.0%	0.5
	WB I690 offramp	NB	1905	1929	24	1.3%	0.5
	EB I690 onramp	NB	729	717	-12	-1.6%	0.4
	EB Kirkville Rd onramp	NB	86	85	-1	-1.4%	0.1
	EB Kirkville Rd offramp	NB	129	130	0	0.4%	0.0
	WB Kirkville Rd offramp	NB	605	596	-10	-1.6%	0.4
	WB Kirkville Rd onramp	NB	180	179	-1	-0.5%	0.1
	I90 offramp	NB	509	493	-16	-3.1%	0.7
	I90 onramp	NB	314	312	-1	-0.5%	0.1
	US 298 offramp	NB	463	458	-6	-1.2%	0.3
	US 298 onramp	NB	98	97	-1	-0.9%	0.1
	Northern Blvd offramp	NB	306	301	-4	-1.4%	0.3
	Northern Blvd onramp	NB	331	329	-2	-0.6%	0.1
	Brighton Ave offramp	SB	544	545	2	0.3%	0.1
	Jamesville Rd offramp	SB	353	360	7	1.9%	0.4
	Jamesville Rd onramp	SB	488	486	-2	-0.3%	0.1
	WB US 5 offramp	SB	217	219	2	1.1%	0.2
	EB US 5 onramp	SB	116	116	0	-0.3%	0.0
	EB US 5 offramp	SB	879	879	0	0.0%	0.0
	WB US 5 onramp	SB	279	278	-1	-0.3%	0.0
	EB I690 onramp	SB	727	739	13	1.7%	0.5
	WB I690 offramp	SB	1425	1445	20	1.4%	0.5
	EB Kirkville Rd onramp	SB	379	377	-2	-0.4%	0.1
	EB Kirkville Rd offramp	SB	182	179	-3	-1.6%	0.2
	WB Kirkville Rd onramp	SB	325	322	-2	-0.7%	0.1
	WB Kirkville Rd offramp	SB	299	310	11	3.7%	0.6
	I90 offramp	SB	251	238	-13	-5.2%	0.8
	I90 onramp	SB	690	691	1	0.1%	0.0
	US 298 offramp	SB	508	500	-8	-1.6%	0.4
	US 298 onramp	SB	399	397	-1	-0.3%	0.1
	Northern Blvd onramp	SB	424	424	0	-0.1%	0.0
	Northern Blvd offramp	SB	676	668	-8	-1.2%	0.3

APPENDIX F:
FREEWAY TRAFFIC VOLUME COMPARISON – PM PEAK PERIOD

Table F-1: Freeway Traffic Volume Comparison – PM Pre-Peak

Route	Segment	Direction	Traffic Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
I-81 Highway	Exit 16 onramp and Exit 16A	NB	1319	1360	41	3.1%	1.1
	Exit 16A off and onramps	NB	910	919	9	1.0%	0.3
	Exit 16A onramp and Exit 17	NB	1532	1537	5	0.3%	0.1
	Exit 17 off and onramps	NB	1419	1454	34	2.4%	0.9
	Exit 17 Brighten Ave onramp and Exit 17 Colvin St onramp	NB	2041	2027	-14	-0.7%	0.3
	Exit 17 onramp and Exit 18	NB	2752	2712	-40	-1.4%	0.8
	Exit 18 off and onramps	NB	1964	1953	-11	-0.5%	0.2
	Exit 18 onramp and I-690 East offramp	NB	4248	4087	-161	-3.8%	2.5
	I-690 EB on ramp and I-690 WB onramp	NB	3346	3266	-80	-2.4%	1.4
	Exit 19 onramp and Exit 20 onramp	NB	2269	2199	-70	-3.1%	1.5
	WB I-690 onramp and Salina St onramp	NB	3397	3248	-149	-4.4%	2.6
	Salina St onramp and Butternut St onramp	NB	4463	4350	-113	-2.5%	1.7
	Butternut St onramp and Genant Dr offramp	NB	5422	5216	-207	-3.8%	2.8
	Exit 22 off and onramps	NB	5011	4877	-134	-2.7%	1.9
	Exit 22 onramp and Exit 23 /Exits 24A and 24B	NB	5526	5367	-159	-2.9%	2.2
	Exit 23 off and onramps	NB	3389	3331	-58	-1.7%	1.0
	Exit 23 onramp and Exit 25	NB	4372	4286	-86	-2.0%	1.3
	Exit 25 off and onramps	NB	4033	3898	-136	-3.4%	2.2
	Exit 25 onramp and Exit 25A	NB	4479	4349	-130	-2.9%	2.0
	I-90 onramp and US 11 offramp	NB	4644	4557	-87	-1.9%	1.3
	Exit 25A off and onramps	NB	4132	4044	-88	-2.1%	1.4
	Exit 25A onramp and Exit 26	NB	4644	4557	-87	-1.9%	1.3
	Exit 26 and Exits 27-28	NB	3465	3402	-64	-1.8%	1.1
	Exit 27-28 and Exit 27 onramp	NB	2653	2604	-49	-1.8%	1.0
	Exit 27 onramp and Exit 28 onramp	NB	3294	3254	-40	-1.2%	0.7
	Airport Blvd onramp and E Taft Rd onramp	NB	3294	3245	-48	-1.5%	0.8
	Exit 28 onramp and Exit 29S	NB	3777	3734	-43	-1.1%	0.7
	Exit 29S and Exit 29N onramp	NB	3544	3486	-58	-1.6%	1.0
	Exit 29N on and offramps	NB	3701	3638	-63	-1.7%	1.0
	Exit 29N and Exit 29S onramp	NB	2194	2167	-28	-1.3%	0.6
	Exit 29S onramp and Exit 30	NB	2922	2821	-101	-3.5%	1.9
	Exit 30 onramp and Exit 29N	SB	1746	1731	-15	-0.9%	0.4
	Exit 29N and Exit 29S onramp	SB	1603	1587	-15	-0.9%	0.4
	Exit 29S and Exit 29N onramp	SB	1456	1447	-10	-0.7%	0.3
	Exit 29S on and offramps	SB	1759	1748	-11	-0.6%	0.3
	Exit 29N onramp and Exit 28	SB	2390	2413	22	0.9%	0.5
	Exit 28 and Exits 27-26	SB	2094	2139	45	2.2%	1.0
	Airport Blvd onramp and Airport Blvd offramp	SB	1707	1773	66	3.8%	1.6
	Exit 27 onramp and Exit 26 onramp	SB	2387	2444	57	2.4%	1.2
	NY 370 onramp and Old Liverpool Rd onramp	SB	2546	2507	-39	-1.5%	0.8
	Exit 26 onramp and Exit 25A	SB	3472	3514	42	1.2%	0.7
	Exit 25A off and onramps	SB	2944	2974	30	1.0%	0.6
	Exit 25 off and onramps	SB	2707	2676	-31	-1.2%	0.6
	Exit 25 onramp and Exits 23A and 23B and Exit 22	SB	3154	3146	-8	-0.3%	0.1
	Exit 25A onramp and Exit 25	SB	3254	3234	-20	-0.6%	0.4
	Exits 23A and 23B and Exit 22 and Old Liverpool Rd onramp	SB	2151	2171	21	1.0%	0.4
	Onondaga Lake Pkwy onramp and Exit 22 onramp	SB	3017	2994	-24	-0.8%	0.4
	Exit 21 off and onramps	SB	3209	3126	-82	-2.6%	1.5
	Exit 21 onramp and Exit 20	SB	3540	3411	-128	-3.6%	2.2
	Clinton St offramp and Butternut St offramp	SB	3141	3039	-102	-3.3%	1.8
	I-690 East off and onramps	SB	2662	2588	-75	-2.8%	1.5
	EB I-690 onramp and Adams St offramp	SB	2337	2255	-82	-3.5%	1.7
	Adams St offramp and Adams St onramp	SB	2274	2238	-37	-1.6%	0.8
	Exit 18 and I-690 West onramp	SB	1787	1769	-18	-1.0%	0.4
	I-690 West onramp and Exit 18 onramp	SB	2274	2241	-33	-1.5%	0.7
	Exit 18 and Exit 17	SB	3180	3112	-68	-2.1%	1.2
	Exit 17 off and onramps	SB	1834	1824	-10	-0.6%	0.2
	Exit 16A off and onramps	SB	1373	1349	-24	-1.7%	0.6
	Exit 17 onramp and Exit 16A offramp	SB	2223	2187	-36	-1.6%	0.8
	Exit 16A onramp and Exit 16 offramp	SB	1943	1908	-36	-1.8%	0.8
	I-481 Offramp	NB	409	437	28	6.8%	1.3
	I-481 onramp	NB	616	616	0	0.0%	0.0

	S. Salina St, Brighton Av offramp	NB	84	75	-9	-11.0%	1.0
	S. Salina St, Brighton Av onramp	NB	597	592	-5	-0.9%	0.2
	E Colvin St onramp	NB	711	702	-9	-1.3%	0.3
	Adams St, Harrison St offramp	NB	788	801	13	1.6%	0.4
	Adams St, Harrison St onramp	NB	2283	2186	-97	-4.2%	2.0
	EB I-690 offramp	NB	902	857	-46	-5.1%	1.5
	EB I-690 onramp	NB	767	736	-31	-4.0%	1.1
	WB I-690 offramp	NB	1078	1024	-54	-5.0%	1.7
	WB I-690 onramp	NB	1127	1109	-18	-1.6%	0.5
	Salina St onramp	NB	1066	1004	-62	-5.8%	1.9
	Butternut St onramp	NB	958	899	-59	-6.1%	1.9
	Genant Dr offramp	NB	412	391	-21	-5.1%	1.1
	Sunset St onramp	NB	513	491	-22	-4.4%	1.0
	Hiawatha offramp	NB	2137	2029	-108	-5.1%	2.4
	7th N St offramp	NB	339	330	-9	-2.7%	0.5
	7th N St onramp	NB	446	443	-3	-0.7%	0.2
	I-90 offramp	NB	323	329	6	1.9%	0.3
	I-90 onramp	NB	512	507	-5	-0.9%	0.2
	US 11 offramp	NB	1179	1147	-32	-2.7%	0.9
	Airport Blvd offramp	NB	813	806	-7	-0.9%	0.2
	Airport Blvd onramp	NB	641	635	-6	-1.0%	0.2
	E Taft Rd onramp	NB	483	478	-5	-1.0%	0.2
	EB I-481 offramp	NB	233	238	5	2.0%	0.3
	EB I-481 onramp	NB	158	143	-14	-9.0%	1.2
	WB I-481 offramp	NB	1507	1474	-33	-2.2%	0.8
	WB I-481 onramp	NB	728	731	3	0.4%	0.1
	I-481 Offramp	SB	850	820	-30	-3.5%	1.0
	I-481 onramp	SB	571	542	-28	-4.9%	1.2
	S. Salina St, Brighton Av offramp	SB	1346	1276	-70	-5.2%	1.9
	S. Salina St, Brighton Av onramp	SB	389	365	-24	-6.1%	1.2
	Adams St, Harrison St offramp	SB	551	522	-29	-5.2%	1.2
	Adams St, Harrison St onramp	SB	905	851	-53	-5.9%	1.8
	WB I-690 onramp	SB	487	471	-16	-3.3%	0.7
	EB I-690 onramp	SB	767	736	-31	-4.0%	1.1
	EB I-690 offramp	SB	1093	1046	-47	-4.3%	1.4
	Clinton St offramp	SB	480	437	-43	-8.9%	2.0
	Butternut St offramp	SB	399	386	-13	-3.3%	0.7
	Genant Dr onramp	SB	330	303	-27	-8.0%	1.5
	Genant Dr offramp	SB	304	289	-15	-5.0%	0.9
	Genant Dr onramp	SB	495	452	-43	-8.7%	2.0
	NY 370 onramp	SB	471	428	-42	-9.0%	2.0
	Old Liverpool Rd onramp	SB	395	368	-27	-6.8%	1.4
	Onondaga Lake Pkwy off-ramp	SB	1004	984	-20	-2.0%	0.6
	7th N St offramp	SB	547	566	19	3.5%	0.8
	7th N St onramp	SB	447	442	-5	-1.1%	0.2
	I-90 onramp	SB	310	304	-6	-1.9%	0.3
	I-90 offramp	SB	529	538	9	1.8%	0.4
	US 11 onramp	SB	1085	1079	-7	-0.6%	0.2
	Airport Blvd onramp	SB	680	672	-7	-1.1%	0.3
	Airport Blvd offramp	SB	387	357	-30	-7.8%	1.6
	E Taft Rd offramp	SB	297	274	-23	-7.8%	1.4
	EB I-481 onramp	SB	934	951	17	1.8%	0.5
	EB I-481 offramp	SB	302	297	-6	-1.9%	0.3
	WB I-481 onramp	SB	156	163	7	4.6%	0.6
	WB I-481 offramp	SB	144	138	-6	-4.1%	0.5
I-690 Highway	Exit 7 and Exit 8 onramp	EB	2218	2236	18	0.8%	0.4
	Willis Ave onramp and Hawthawa Blvd offramp	EB	2456	2475	19	0.8%	0.4
	Exit 8 and Exit 9	EB	1828	1840	13	0.7%	0.3
	Exit 9 and Exit 10 onramp	EB	1602	1618	16	1.0%	0.4
	Geddes St onramp and West St offramp	EB	2185	2195	11	0.5%	0.2
	West St offramp and West St onramp	EB	2005	1972	-33	-1.6%	0.7
	I-81 South off and onramps	EB	1744	1723	-21	-1.2%	0.5
	McBride onramp and I-81 onramp	EB	3741	3644	-97	-2.6%	1.6
	I-81 North onramp and Exit 14	EB	4645	4362	-283	-6.1%	4.2
	Exit 14 off and onramps	EB	3915	3805	-110	-2.8%	1.8
	Teal Ave onramp and S Midler Ave offramp	EB	4356	4234	-122	-2.8%	1.9
	Exit 15 off and onramps	EB	3627	3485	-142	-3.9%	2.4
	Exit 15 onramp and Exits 16S-N and Exit 17	EB	3921	3786	-135	-3.5%	2.2
	Exit 16S-N off and onramps	EB	2335	2273	-62	-2.6%	1.3

	Exit 16S-N onramp and Exit 17 onramp	EB	2794	2736	-58	-2.1%	1.1
	Bridge St onramp and EB I690 onramp	EB	3292	3229	-63	-1.9%	1.1
	Bridge St offramp and WB I690 offramp	WB	2031	2060	29	1.4%	0.6
	Exit 17 and Exits 16N-S	WB	1635	1648	13	0.8%	0.3
	Exit 16N-S off and onramps	WB	1303	1319	16	1.2%	0.4
	S Midler Ave offramp and Thompson Rd onramp	WB	3504	3500	-4	-0.1%	0.1
	Exit 15 off and onramps	WB	3115	3111	-4	-0.1%	0.1
	Teal Ave offramp and S Midler Ave onramp	WB	3802	3787	-15	-0.4%	0.2
	Exit 14 off and onramps	WB	3373	3324	-49	-1.4%	0.8
	Exit 14 onramp and I-81 South offramp	WB	4292	4061	-231	-5.4%	3.6
	Townsend St offramp and WB I-690 onramp	WB	3806	3675	-131	-3.4%	2.1
	Exit 13 and I-81 North offramp	WB	3238	3101	-137	-4.2%	2.4
	I-81 North off and onramps	WB	2112	1990	-122	-5.8%	2.7
	West St offramp and WB I-690 offramp	WB	3190	2841	-349	-11.0%	6.4
	Exit 11 off and onramps	WB	2524	2391	-134	-5.3%	2.7
	Exit 11 onramp and Exit 10	WB	3551	3358	-193	-5.4%	3.3
	Exit 10 and Exit 9 onramp	WB	2833	2689	-144	-5.1%	2.7
	Exit 9 onramp and Exit 8 onramp	WB	3690	3502	-188	-5.1%	3.1
	Exit 8 onramp and Exit 7	WB	4173	4002	-171	-4.1%	2.7
	Hawthawa Blvd offramp	EB	628	627	-1	-0.2%	0.0
	Bear St offramp	EB	226	223	-3	-1.3%	0.2
	Geddes St onramp	EB	583	574	-8	-1.4%	0.3
	West St offramp	EB	180	187	6	3.6%	0.5
	West St onramp	EB	505	475	-30	-5.9%	1.3
	McBride onramp	EB	904	833	-71	-7.8%	2.4
	Teal Ave offramp	EB	731	704	-27	-3.7%	1.0
	Teal Ave onramp	EB	441	413	-29	-6.5%	1.4
	S Midler Ave offramp	EB	729	715	-15	-2.0%	0.5
	S Midler Ave onramp	EB	294	292	-2	-0.8%	0.1
	Thompson Rd offramp	EB	1586	1518	-68	-4.3%	1.7
	Thompson Rd onramp	EB	459	460	1	0.2%	0.0
	Bridge St onramp	EB	497	493	-5	-0.9%	0.2
	Willls Ave onramp	EB	238	237	-1	-0.5%	0.1
	Hawthawa Blvd onramp	WB	483	468	-14	-3.0%	0.7
	Bear St onramp	WB	857	808	-50	-5.8%	1.7
	Geddes St offramp	WB	719	690	-29	-4.0%	1.1
	West St onramp	WB	1026	962	-64	-6.3%	2.0
	West St offramp	WB	667	632	-35	-5.3%	1.4
	Townsend St offramp	WB	568	543	-25	-4.4%	1.1
	Teal Ave onramp	WB	919	780	-139	-15.1%	4.8
	Teal Ave offramp	WB	430	433	3	0.7%	0.1
	S Midler Ave onramp	WB	687	681	-6	-0.8%	0.2
	S Midler Ave offramp	WB	389	402	13	3.2%	0.6
	Thompson Rd onramp	WB	2201	2188	-13	-0.6%	0.3
	Thompson Rd offramp	WB	332	329	-3	-0.9%	0.2
	Bridge St offramp	WB	397	412	15	3.8%	0.8
I-481 Highway	I-81 onramps and Exit 1	NB	1260	1271	12	0.9%	0.3
	Exit 1 off and onramps	NB	929	938	9	0.9%	0.3
	Exit 1 and Exit 2	NB	1275	1276	1	0.1%	0.0
	Exit 2 off and onramps	NB	850	843	-7	-0.8%	0.2
	Exit 3E onramp and Exit 3W	NB	1435	1433	-2	-0.2%	0.1
	Exit 2 onramp and Exit 3E	NB	1339	1328	-11	-0.8%	0.3
	Exit 3E off and onramps	NB	1104	1112	8	0.7%	0.2
	Exit 3W off and onramps	NB	1223	1239	16	1.3%	0.5
	Exit 3W onramp and Exit 4	NB	2490	2502	12	0.5%	0.2
	Exit 4 offramp and Exit 4 onramp	NB	1318	1340	22	1.7%	0.6
	Exit 4 onramp and Exit 5E	NB	2719	2689	-30	-1.1%	0.6
	Exit 5E off and onramps	NB	2275	2251	-24	-1.0%	0.5
	Exit 5E onramp and Exit 5W	NB	2509	2490	-19	-0.8%	0.4
	WB Kirkville Rd onramp and I90 offramp	NB	2348	2338	-9	-0.4%	0.2
	Exit 5W off and onramps	NB	2200	2192	-9	-0.4%	0.2
	Exit 5W onramp and Exit 6	NB	2348	2338	-9	-0.4%	0.2
	Exit 6 off and onramps	NB	1325	1311	-14	-1.0%	0.4
	I90 onramp and US 298 offramp	NB	1687	1667	-20	-1.2%	0.5
	Exit 7 off and onramps	NB	1244	1237	-7	-0.6%	0.2
	Exit 7 onramp and Exit 8	NB	1697	1694	-2	-0.1%	0.1
	Exit 8 off and onramps	NB	1335	1343	8	0.6%	0.2
	Exit 8 onramp and Exit 9N	NB	2405	2407	2	0.1%	0.0
	Exit 9N off and onramps	NB	1677	1676	-2	-0.1%	0.0

	Exit 9N onramp and Exit 9S	NB	3184	3153	-31	-1.0%	0.6
	Exit 9S off and onramps	NB	3028	3001	-27	-0.9%	0.5
	Before WB I-481 offramp	NB	3171	3089	-82	-2.6%	1.5
	Before EB I-481 onramp	SB	1831	1864	33	1.8%	0.8
	Exit 9S onramp and Exit 9N	SB	1199	1210	11	0.9%	0.3
	Exit 9S off and onramps	SB	897	909	12	1.3%	0.4
	Exit 9N off and onramps	SB	1042	1073	31	3.0%	1.0
	Exit 9N onramp and Exit 8	SB	1275	1311	36	2.8%	1.0
	Exit 8 off and onramps	SB	985	1030	45	4.6%	1.4
	Exit 8 onramp and Exit 7	SB	1205	1254	49	4.1%	1.4
	Exit 7 off and onramps	SB	1084	1131	47	4.4%	1.4
	Exit 7 and Exit 6	SB	1611	1658	46	2.9%	1.1
	Exit 6 off and onramps	SB	1293	1344	51	3.9%	1.4
	Exit 6 and Exit 5W	SB	1875	1923	48	2.5%	1.1
	Exit 5W off and onramps	SB	1752	1795	43	2.4%	1.0
	Exit 5W onramp and Exit 5E	SB	1873	1904	31	1.7%	0.7
	Exit 5E off and onramps	SB	1641	1675	34	2.1%	0.8
	Exit 5E onramp and Exit 4	SB	2183	2224	41	1.9%	0.9
	Exit 4 offramp and Exit 4 onramp	SB	1323	1335	12	0.9%	0.3
	Exit 4 onramp and Exit 3W	SB	3214	3208	-5	-0.2%	0.1
	Exit 3W onramp and Exit 3E	SB	3170	3144	-26	-0.8%	0.5
	Exit 3W off and onramps	SB	2880	2872	-7	-0.3%	0.1
	Exit 3E off and onramps	SB	1438	1426	-12	-0.9%	0.3
	Exit 3E onramp and Exit 2	SB	1784	1758	-25	-1.4%	0.6
	Exit 3E onramp and Exit 2	SB	1784	1754	-29	-1.6%	0.7
	Exit 2 off and onramps	SB	1141	1114	-27	-2.4%	0.8
	Exit 2 onramp and Exit 1	SB	1379	1349	-30	-2.2%	0.8
	I-81 North offramp and E. Brighton Av onramp	SB	123	123	0	0.0%	0.0
	I-81 North and I-81 South ramps	SB	694	666	-27	-3.9%	1.0
	I-81 North offramp and E. Brighton Av onramp	SB	616	616	0	0.0%	0.0
	Rock Cut Rd offramp	NB	331	339	8	2.4%	0.4
	Rock Cut Rd onramp	NB	346	335	-11	-3.3%	0.6
	Jamesville Rd offramp	NB	425	423	-2	-0.6%	0.1
	Jamesville Rd onramp	NB	489	485	-4	-0.9%	0.2
	EB US 5 offramp	NB	235	222	-13	-5.5%	0.9
	WB US 5 onramp	NB	1267	1260	-7	-0.6%	0.2
	EB US 5 onramp	NB	331	328	-2	-0.7%	0.1
	WB US 5 offramp	NB	212	203	-9	-4.3%	0.6
	WB I690 offramp	NB	1172	1161	-11	-1.0%	0.3
	EB I690 onramp	NB	1401	1350	-51	-3.7%	1.4
	EB Kirkville Rd onramp	NB	234	232	-2	-1.0%	0.1
	EB Kirkville Rd offramp	NB	444	427	-17	-3.9%	0.8
	WB Kirkville Rd offramp	NB	309	301	-8	-2.6%	0.5
	WB Kirkville Rd onramp	NB	147	144	-3	-2.3%	0.3
	I90 offramp	NB	1023	1019	-5	-0.5%	0.1
	I90 onramp	NB	362	358	-5	-1.3%	0.2
	US 298 offramp	NB	443	433	-9	-2.1%	0.5
	US 298 onramp	NB	452	451	-1	-0.3%	0.1
	Northern Blvd offramp	NB	362	354	-8	-2.1%	0.4
	Northern Blvd onramp	NB	1070	1063	-7	-0.6%	0.2
	Brighton Ave offramp	SB	686	676	-9	-1.4%	0.4
	Jamesville Rd offramp	SB	642	643	1	0.2%	0.0
	Jamesville Rd onramp	SB	238	236	-2	-0.8%	0.1
	WB US 5 offramp	SB	334	338	4	1.1%	0.2
	EB US 5 onramp	SB	346	341	-5	-1.4%	0.3
	EB US 5 offramp	SB	1732	1725	-6	-0.4%	0.2
	WB US 5 onramp	SB	290	286	-4	-1.4%	0.2
	EB I690 onramp	SB	1890	1867	-23	-1.2%	0.5
	WB I690 offramp	SB	859	894	35	4.1%	1.2
	EB Kirkville Rd onramp	SB	541	537	-5	-0.8%	0.2
	EB Kirkville Rd offramp	SB	232	228	-4	-1.7%	0.3
	WB Kirkville Rd onramp	SB	121	117	-4	-3.2%	0.4
	WB Kirkville Rd offramp	SB	123	126	3	2.1%	0.2
	I90 offramp	SB	319	315	-3	-1.1%	0.2
	I90 onramp	SB	582	579	-4	-0.7%	0.2
	US 298 offramp	SB	122	117	-5	-3.7%	0.4
	US 298 onramp	SB	528	524	-4	-0.7%	0.2
	Northern Blvd onramp	SB	221	218	-3	-1.2%	0.2
	Northern Blvd offramp	SB	290	279	-11	-3.8%	0.7

Table F-2: Freeway Traffic Volume Comparison – PM Peak Hour

Route	Segment	Direction	Traffic Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
I-81 Highway	Exit 16 onramp and Exit 16A	NB	1408	1450	42	3.0%	1.1
	Exit 16A off and onramps	NB	971	992	21	2.2%	0.7
	Exit 16A onramp and Exit 17	NB	1635	1641	6	0.4%	0.2
	Exit 17 off and onramps	NB	1515	1546	31	2.0%	0.8
	Exit 17 Brighten Ave onramp and Exit 17 Colvin St onramp	NB	2178	2161	-18	-0.8%	0.4
	Exit 17 onramp and Exit 18	NB	2937	2895	-42	-1.4%	0.8
	Exit 18 off and onramps	NB	2096	2103	6	0.3%	0.1
	Exit 18 onramp and I-690 East offramp	NB	4534	4370	-164	-3.6%	2.5
	I-690 EB on ramp and I-690 WB on ramp	NB	3571	3490	-82	-2.3%	1.4
	Exit 19 onramp and Exit 20 onramp	NB	2422	2351	-71	-2.9%	1.4
	WB I-690 onramp and Salina St onramp	NB	3625	3438	-187	-5.2%	3.1
	Salina St onramp and Butternut St onramp	NB	4764	4605	-159	-3.3%	2.3
	Butternut St onramp and Genant Dr offramp	NB	5787	5538	-249	-4.3%	3.3
	Exit 22 off and onramps	NB	5349	5167	-182	-3.4%	2.5
	Exit 22 onramp and Exit 23 /Exits 24A and 24B	NB	5897	5693	-204	-3.5%	2.7
	Exit 23 off and onramps	NB	3617	3526	-90	-2.5%	1.5
	Exit 23 onramp and Exit 25	NB	4666	4572	-94	-2.0%	1.4
	Exit 25 off and onramps	NB	4305	4157	-147	-3.4%	2.3
	Exit 25 onramp and Exit 25A	NB	4781	4640	-141	-3.0%	2.1
	I-90 onramp and US 11 offramp	NB	4957	4855	-102	-2.1%	1.5
	Exit 25A off and onramps	NB	4410	4309	-101	-2.3%	1.5
	Exit 25A onramp and Exit 26	NB	4957	4855	-102	-2.1%	1.5
	Exit 26 and Exits 27-28	NB	3699	3613	-85	-2.3%	1.4
	Exit 27-28 and Exit 27 onramp	NB	2831	2769	-62	-2.2%	1.2
	Exit 27 onramp and Exit 28 onramp	NB	3515	3448	-67	-1.9%	1.1
	Airport Blvd onramp and E Taft Rd onramp	NB	3515	3443	-72	-2.0%	1.2
	Exit 28 onramp and Exit 29S	NB	4031	3953	-79	-1.9%	1.2
	Exit 29S and Exit 29N onramp	NB	3782	3679	-103	-2.7%	1.7
	Exit 29N on and offramps	NB	3950	3848	-102	-2.6%	1.6
	Exit 29N and Exit 29S onramp	NB	2342	2273	-69	-2.9%	1.4
	Exit 29S onramp and Exit 30	NB	3119	2982	-136	-4.4%	2.5
	Exit 30 onramp and Exit 29N	SB	1864	1882	18	1.0%	0.4
	Exit 29N and Exit 29S onramp	SB	1710	1728	17	1.0%	0.4
	Exit 29S and Exit 29N onramp	SB	1554	1581	26	1.7%	0.7
	Exit 29S on and offramps	SB	1877	1902	25	1.3%	0.6
	Exit 29N onramp and Exit 28	SB	2551	2602	51	2.0%	1.0
	Exit 28 and Exits 27-26	SB	2235	2270	35	1.6%	0.7
	Airport Blvd onramp and Airport Blvd offramp	SB	1822	1863	41	2.2%	0.9
	Exit 27 onramp and Exit 26 onramp	SB	2547	2578	30	1.2%	0.6
	NY 370 onramp and Old Liverpool Rd onramp	SB	2718	2686	-32	-1.2%	0.6
	Exit 26 onramp and Exit 25A	SB	3706	3729	24	0.6%	0.4
	Exit 25A off and onramps	SB	3142	3167	25	0.8%	0.4
	Exit 25 off and onramps	SB	2889	2874	-16	-0.5%	0.3
	Exit 25 onramp and Exits 23A and 23B and Exit 22	SB	3367	3378	11	0.3%	0.2
	Exit 25A onramp and Exit 25	SB	3473	3448	-25	-0.7%	0.4
	Exits 23A and 23B and Exit 22 and Old Liverpool Rd onramp	SB	2295	2321	26	1.1%	0.5
	Onondaga Lake Pkwy onramp and Exit 22 onramp	SB	3220	3203	-17	-0.5%	0.3
	Exit 21 off and onramps	SB	3425	3345	-80	-2.3%	1.4
	Exit 21 onramp and Exit 20	SB	3778	3661	-117	-3.1%	1.9
	Clinton St offramp and Butternut St offramp	SB	3353	3269	-83	-2.5%	1.4
	I-690 East off and onramps	SB	2841	2778	-64	-2.2%	1.2
	EB I-690 onramp and Adams St offramp	SB	2495	2400	-94	-3.8%	1.9
	Adams St offramp and Adams St onramp	SB	2427	2360	-67	-2.8%	1.4
	Exit 18 and I-690 West onramp	SB	1907	1877	-30	-1.6%	0.7
	I-690 West onramp and Exit 18 onramp	SB	2427	2365	-62	-2.6%	1.3
	Exit 18 and Exit 17	SB	3394	3274	-120	-3.5%	2.1
	Exit 17 off and onramps	SB	1957	1910	-47	-2.4%	1.1
	Exit 16A off and onramps	SB	1465	1427	-38	-2.6%	1.0
	Exit 17 onramp and Exit 16A offramp	SB	2373	2307	-65	-2.8%	1.4
	Exit 16A onramp and Exit 16 offramp	SB	2074	2024	-50	-2.4%	1.1
	I-481 Offramp	NB	437	453	16	3.6%	0.8
	I-481 onramp	NB	658	647	-11	-1.6%	0.4

	S. Salina St, Brighton Av offramp	NB	90	90	0	0.4%	0.0
	S. Salina St, Brighton Av onramp	NB	637	622	-15	-2.4%	0.6
	E Colvin St onramp	NB	759	748	-10	-1.4%	0.4
	Adams St, Harrison St offramp	NB	841	830	-11	-1.3%	0.4
	Adams St, Harrison St onramp	NB	2437	2307	-130	-5.3%	2.7
	EB I-690 offramp	NB	963	929	-34	-3.5%	1.1
	EB I-690 onramp	NB	818	808	-10	-1.2%	0.4
	WB I-690 offramp	NB	1150	1080	-70	-6.1%	2.1
	WB I-690 onramp	NB	1203	1152	-51	-4.2%	1.5
	Salina St onramp	NB	1138	1082	-56	-4.9%	1.7
	Butternut St onramp	NB	1022	954	-68	-6.6%	2.2
	Genant Dr offramp	NB	440	429	-11	-2.4%	0.5
	Sunset St onramp	NB	548	537	-11	-2.0%	0.5
	Hiawatha offramp	NB	2281	2154	-127	-5.6%	2.7
	7th N St offramp	NB	362	349	-12	-3.4%	0.7
	7th N St onramp	NB	476	472	-4	-0.8%	0.2
	I-90 offramp	NB	345	362	17	4.9%	0.9
	I-90 onramp	NB	546	543	-3	-0.6%	0.1
	US 11 offramp	NB	1258	1230	-28	-2.3%	0.8
	Airport Blvd offramp	NB	867	848	-20	-2.3%	0.7
	Airport Blvd onramp	NB	684	677	-7	-1.0%	0.3
	E Taft Rd onramp	NB	516	512	-3	-0.7%	0.2
	EB I-481 offramp	NB	249	262	13	5.2%	0.8
	EB I-481 onramp	NB	168	158	-10	-6.0%	0.8
	WB I-481 offramp	NB	1608	1573	-35	-2.2%	0.9
	WB I-481 onramp	NB	777	788	11	1.5%	0.4
	I-481 Offramp	SB	907	876	-31	-3.4%	1.0
	I-481 onramp	SB	609	596	-13	-2.1%	0.5
	S. Salina St, Brighton Av offramp	SB	1437	1346	-91	-6.3%	2.4
	S. Salina St, Brighton Av onramp	SB	415	400	-15	-3.7%	0.8
	Adams St, Harrison St offramp	SB	588	561	-27	-4.6%	1.1
	Adams St, Harrison St onramp	SB	966	896	-70	-7.2%	2.3
	WB I-690 onramp	SB	520	486	-34	-6.5%	1.5
	EB I-690 onramp	SB	818	808	-10	-1.2%	0.4
	EB I-690 offramp	SB	1166	1152	-14	-1.2%	0.4
	Clinton St offramp	SB	512	474	-38	-7.4%	1.7
	Butternut St offramp	SB	426	402	-24	-5.6%	1.2
	Genant Dr onramp	SB	352	336	-16	-4.6%	0.9
	Genant Dr offramp	SB	325	313	-12	-3.8%	0.7
	Genant Dr onramp	SB	528	481	-47	-8.9%	2.1
	NY 370 onramp	SB	503	458	-45	-8.9%	2.0
	Old Liverpool Rd onramp	SB	422	399	-24	-5.6%	1.2
	Onondaga Lake Pkwy off-ramp	SB	1071	1058	-14	-1.3%	0.4
	7th N St offramp	SB	583	584	0	0.0%	0.0
	7th N St onramp	SB	477	474	-3	-0.7%	0.1
	I-90 onramp	SB	331	327	-4	-1.2%	0.2
	I-90 offramp	SB	564	562	-2	-0.4%	0.1
	US 11 onramp	SB	1158	1152	-7	-0.6%	0.2
	Airport Blvd onramp	SB	726	715	-11	-1.5%	0.4
	Airport Blvd offramp	SB	413	400	-13	-3.1%	0.6
	E Taft Rd offramp	SB	317	329	12	3.9%	0.7
	EB I-481 onramp	SB	997	1013	16	1.6%	0.5
	EB I-481 offramp	SB	323	318	-5	-1.5%	0.3
	WB I-481 onramp	SB	167	177	10	6.3%	0.8
	WB I-481 offramp	SB	153	151	-3	-1.8%	0.2
I-690 Highway	Exit 7 and Exit 8 onramp	EB	2367	2381	14	0.6%	0.3
	Willis Ave onramp and Hawthawa Blvd offramp	EB	2621	2629	8	0.3%	0.1
	Exit 8 and Exit 9	EB	1951	1971	20	1.0%	0.5
	Exit 9 and Exit 10 onramp	EB	1710	1729	19	1.1%	0.5
	Geddes St onramp and West St offramp	EB	2332	2340	8	0.3%	0.2
	West St offramp and West St onramp	EB	2139	2103	-37	-1.7%	0.8
	I-81 South off and onramps	EB	1861	1822	-39	-2.1%	0.9
	McBride onramp and I-81 onramp	EB	3993	3908	-85	-2.1%	1.4
	I-81 North onramp and Exit 14	EB	4957	4667	-291	-5.9%	4.2
	Exit 14 off and onramps	EB	4178	4096	-82	-2.0%	1.3
	Teal Ave onramp and S Midler Ave offramp	EB	4649	4544	-106	-2.3%	1.6
	Exit 15 off and onramps	EB	3871	3741	-130	-3.4%	2.1
	Exit 15 onramp and Exits 16S-N and Exit 17	EB	4185	4071	-114	-2.7%	1.8
	Exit 16S-N off and onramps	EB	2492	2433	-59	-2.4%	1.2

	Exit 16S-N onramp and Exit 17 onramp	EB	2982	2933	-49	-1.7%	0.9
	Bridge St onramp and EB I690 onramp	EB	3513	3461	-52	-1.5%	0.9
	Bridge St offramp and WB I690 offramp	WB	2168	2174	6	0.3%	0.1
	Exit 17 and Exits 16N-S	WB	1745	1743	-2	-0.1%	0.0
	Exit 16N-S off and onramps	WB	1390	1385	-5	-0.4%	0.1
	S Midler Ave offramp and Thompson Rd onramp	WB	3740	3709	-31	-0.8%	0.5
	Exit 15 off and onramps	WB	3324	3314	-10	-0.3%	0.2
	Teal Ave offramp and S Midler Ave onramp	WB	4058	4028	-30	-0.7%	0.5
	Exit 14 off and onramps	WB	3599	3546	-53	-1.5%	0.9
	Exit 14 onramp and I-81 South offramp	WB	4581	4339	-242	-5.3%	3.6
	Townsend St offramp and WB I-690 onramp	WB	4062	3926	-136	-3.3%	2.1
	Exit 13 and I-81 North offramp	WB	3456	3287	-169	-4.9%	2.9
	I-81 North off and onramps	WB	2254	2126	-128	-5.7%	2.7
	West St offramp and WB I-690 offramp	WB	3405	3022	-383	-11.3%	6.8
	Exit 11 off and onramps	WB	2694	2556	-138	-5.1%	2.7
	Exit 11 onramp and Exit 10	WB	3790	3598	-192	-5.1%	3.2
	Exit 10 and Exit 9 onramp	WB	3023	2889	-134	-4.4%	2.5
	Exit 9 onramp and Exit 8 onramp	WB	3938	3738	-200	-5.1%	3.2
	Exit 8 onramp and Exit 7	WB	4453	4258	-196	-4.4%	3.0
	Hawthawa Blvd offramp	EB	670	653	-18	-2.6%	0.7
	Bear St offramp	EB	241	235	-6	-2.6%	0.4
	Geddes St onramp	EB	622	604	-18	-2.8%	0.7
	West St offramp	EB	193	192	-1	-0.5%	0.1
	West St onramp	EB	539	508	-31	-5.7%	1.4
	McBride onramp	EB	964	879	-86	-8.9%	2.8
	Teal Ave offramp	EB	780	741	-39	-4.9%	1.4
	Teal Ave onramp	EB	471	441	-30	-6.3%	1.4
	S Midler Ave offramp	EB	778	754	-25	-3.2%	0.9
	S Midler Ave onramp	EB	314	311	-3	-0.9%	0.2
	Thompson Rd offramp	EB	1693	1639	-54	-3.2%	1.3
	Thompson Rd onramp	EB	490	486	-5	-1.0%	0.2
	Bridge St onramp	EB	531	527	-4	-0.7%	0.2
	Willls Ave onramp	EB	254	251	-3	-1.3%	0.2
	Hawthawa Blvd onramp	WB	515	498	-17	-3.2%	0.7
	Bear St onramp	WB	915	853	-62	-6.7%	2.1
	Geddes St offramp	WB	767	734	-33	-4.3%	1.2
	West St onramp	WB	1095	1034	-61	-5.6%	1.9
	West St offramp	WB	712	658	-54	-7.5%	2.1
	Townsend St offramp	WB	607	602	-5	-0.8%	0.2
	Teal Ave onramp	WB	981	817	-164	-16.7%	5.5
	Teal Ave offramp	WB	459	443	-16	-3.4%	0.7
	S Midler Ave onramp	WB	733	726	-7	-1.0%	0.3
	S Midler Ave offramp	WB	415	410	-5	-1.2%	0.3
	Thompson Rd onramp	WB	2349	2335	-14	-0.6%	0.3
	Thompson Rd offramp	WB	354	360	6	1.7%	0.3
	Bridge St offramp	WB	423	428	5	1.1%	0.2
I-481 Highway	I-81 onramps and Exit 1	NB	1344	1332	-13	-1.0%	0.3
	Exit 1 off and onramps	NB	991	985	-6	-0.6%	0.2
	Exit 1 and Exit 2	NB	1361	1349	-12	-0.9%	0.3
	Exit 2 off and onramps	NB	907	914	7	0.8%	0.2
	Exit 3E onramp and Exit 3W	NB	1532	1529	-2	-0.2%	0.1
	Exit 2 onramp and Exit 3E	NB	1429	1431	2	0.1%	0.1
	Exit 3E off and onramps	NB	1179	1190	11	1.0%	0.3
	Exit 3W off and onramps	NB	1305	1316	11	0.8%	0.3
	Exit 3W onramp and Exit 4	NB	2658	2654	-3	-0.1%	0.1
	Exit 4 offramp and Exit 4 onramp	NB	1407	1413	6	0.5%	0.2
	Exit 4 onramp and Exit 5E	NB	2902	2879	-23	-0.8%	0.4
	Exit 5E off and onramps	NB	2428	2391	-37	-1.5%	0.8
	Exit 5E onramp and Exit 5W	NB	2678	2644	-34	-1.3%	0.7
	WB Kirkville Rd onramp and I90 offramp	NB	2506	2476	-30	-1.2%	0.6
	Exit 5W off and onramps	NB	2349	2324	-25	-1.0%	0.5
	Exit 5W onramp and Exit 6	NB	2506	2476	-30	-1.2%	0.6
	Exit 6 off and onramps	NB	1414	1403	-11	-0.8%	0.3
	I90 onramp and US 298 offramp	NB	1801	1786	-15	-0.8%	0.4
	Exit 7 off and onramps	NB	1328	1319	-10	-0.7%	0.3
	Exit 7 onramp and Exit 8	NB	1811	1801	-10	-0.5%	0.2
	Exit 8 off and onramps	NB	1425	1418	-7	-0.5%	0.2
	Exit 8 onramp and Exit 9N	NB	2567	2556	-11	-0.4%	0.2
	Exit 9N off and onramps	NB	1790	1765	-26	-1.4%	0.6

	Exit 9N onramp and Exit 9S	NB	3398	3341	-57	-1.7%	1.0
	Exit 9S off and onramps	NB	3231	3171	-60	-1.9%	1.1
	Before WB I-481 offramp	NB	3385	3268	-116	-3.4%	2.0
	Before EB I-481 onramp	SB	1954	1988	34	1.8%	0.8
	Exit 9S onramp and Exit 9N	SB	1280	1293	13	1.0%	0.4
	Exit 9S off and onramps	SB	957	970	13	1.4%	0.4
	Exit 9N off and onramps	SB	1112	1140	28	2.5%	0.8
	Exit 9N onramp and Exit 8	SB	1361	1399	38	2.8%	1.0
	Exit 8 off and onramps	SB	1051	1091	40	3.8%	1.2
	Exit 8 onramp and Exit 7	SB	1287	1321	34	2.6%	0.9
	Exit 7 off and onramps	SB	1157	1186	29	2.5%	0.9
	Exit 7 and Exit 6	SB	1720	1747	27	1.6%	0.7
	Exit 6 off and onramps	SB	1380	1400	21	1.5%	0.6
	Exit 6 and Exit 5W	SB	2001	2019	18	0.9%	0.4
	Exit 5W off and onramps	SB	1870	1877	7	0.4%	0.2
	Exit 5W onramp and Exit 5E	SB	1999	1997	-2	-0.1%	0.1
	Exit 5E off and onramps	SB	1752	1751	-1	0.0%	0.0
	Exit 5E onramp and Exit 4	SB	2329	2333	4	0.2%	0.1
	Exit 4 offramp and Exit 4 onramp	SB	1412	1395	-17	-1.2%	0.5
	Exit 4 onramp and Exit 3W	SB	3430	3378	-52	-1.5%	0.9
	Exit 3W onramp and Exit 3E	SB	3383	3302	-81	-2.4%	1.4
	Exit 3W off and onramps	SB	3073	3020	-54	-1.7%	1.0
	Exit 3E off and onramps	SB	1535	1523	-12	-0.8%	0.3
	Exit 3E onramp and Exit 2	SB	1904	1882	-21	-1.1%	0.5
	Exit 3E onramp and Exit 2	SB	1904	1880	-24	-1.2%	0.5
	Exit 2 off and onramps	SB	1218	1200	-18	-1.5%	0.5
	Exit 2 onramp and Exit 1	SB	1472	1452	-20	-1.4%	0.5
	I-81 North offramp and E. Brighton Av onramp	SB	131	125	-6	-4.4%	0.5
	I-81 North and I-81 South ramps	SB	740	722	-19	-2.5%	0.7
	I-81 North offramp and E. Brighton Av onramp	SB	658	647	-11	-1.6%	0.4
	Rock Cut Rd offramp	NB	353	342	-11	-3.0%	0.6
	Rock Cut Rd onramp	NB	369	360	-10	-2.6%	0.5
	Jamesville Rd offramp	NB	454	436	-18	-4.0%	0.9
	Jamesville Rd onramp	NB	522	517	-5	-1.0%	0.2
	EB US 5 offramp	NB	250	242	-9	-3.5%	0.6
	WB US 5 onramp	NB	1352	1342	-10	-0.8%	0.3
	EB US 5 onramp	NB	353	351	-2	-0.5%	0.1
	WB US 5 offramp	NB	226	224	-2	-0.9%	0.1
	WB I690 offramp	NB	1251	1238	-13	-1.1%	0.4
	EB I690 onramp	NB	1496	1463	-33	-2.2%	0.8
	EB Kirkville Rd onramp	NB	250	247	-3	-1.2%	0.2
	EB Kirkville Rd offramp	NB	474	475	1	0.3%	0.1
	WB Kirkville Rd offramp	NB	329	326	-3	-0.9%	0.2
	WB Kirkville Rd onramp	NB	157	155	-3	-1.6%	0.2
	I90 offramp	NB	1092	1068	-24	-2.2%	0.7
	I90 onramp	NB	387	383	-4	-1.1%	0.2
	US 298 offramp	NB	472	466	-6	-1.3%	0.3
	US 298 onramp	NB	483	479	-4	-0.9%	0.2
	Northern Blvd offramp	NB	386	374	-12	-3.2%	0.6
	Northern Blvd onramp	NB	1142	1133	-9	-0.8%	0.3
	Brighton Ave offramp	SB	732	727	-5	-0.7%	0.2
	Jamesville Rd offramp	SB	686	682	-3	-0.5%	0.1
	Jamesville Rd onramp	SB	254	251	-3	-1.2%	0.2
	WB US 5 offramp	SB	356	347	-9	-2.6%	0.5
	EB US 5 onramp	SB	369	367	-2	-0.6%	0.1
	EB US 5 offramp	SB	1848	1792	-57	-3.1%	1.3
	WB US 5 onramp	SB	310	307	-2	-0.7%	0.1
	EB I690 onramp	SB	2017	1994	-24	-1.2%	0.5
	WB I690 offramp	SB	917	939	22	2.4%	0.7
	EB Kirkville Rd onramp	SB	578	575	-3	-0.5%	0.1
	EB Kirkville Rd offramp	SB	248	246	-2	-0.8%	0.1
	WB Kirkville Rd onramp	SB	129	126	-4	-2.8%	0.3
	WB Kirkville Rd offramp	SB	131	135	3	2.7%	0.3
	I90 offramp	SB	340	347	7	1.9%	0.4
	I90 onramp	SB	622	619	-3	-0.4%	0.1
	US 298 offramp	SB	130	126	-4	-3.2%	0.4
	US 298 onramp	SB	563	558	-5	-0.9%	0.2
	Northern Blvd onramp	SB	235	232	-4	-1.6%	0.3
	Northern Blvd offramp	SB	310	306	-4	-1.1%	0.2

Table F-3: Freeway Traffic Volume Comparison – PM Post-Peak

Route	Segment	Direction	Traffic Volume		Difference		GEH
			Observed	Modeled	Actual	Percent	
I-81 Highway	Exit 16 onramp and Exit 16A	NB	1143	1179	35	3.1%	1.0
	Exit 16A off and onramps	NB	789	804	16	2.0%	0.6
	Exit 16A onramp and Exit 17	NB	1635	1359	-276	-16.9%	7.1
	Exit 17 off and onramps	NB	1515	1297	-218	-14.4%	5.8
	Exit 17 Brighten Ave onramp and Exit 17 Colvin St onramp	NB	1769	1815	47	2.6%	1.1
	Exit 17 onramp and Exit 18	NB	2385	2421	36	1.5%	0.7
	Exit 18 off and onramps	NB	1702	1786	84	4.9%	2.0
	Exit 18 onramp and I-690 East offramp	NB	3682	3798	116	3.2%	1.9
	I-690 EB on ramp and I-690 WB on ramp	NB	2900	3043	143	4.9%	2.6
	Exit 19 onramp and Exit 20 onramp	NB	1966	2028	62	3.1%	1.4
	WB I-690 onramp and Salina St onramp	NB	2944	2991	47	1.6%	0.9
	Salina St onramp and Butternut St onramp	NB	3868	4016	147	3.8%	2.3
	Butternut St onramp and Genant Dr offramp	NB	4699	4825	125	2.7%	1.8
	Exit 22 off and onramps	NB	4343	4500	157	3.6%	2.4
	Exit 22 onramp and Exit 23 /Exits 24A and 24B	NB	4789	4972	183	3.8%	2.6
	Exit 23 off and onramps	NB	2937	3096	159	5.4%	2.9
	Exit 23 onramp and Exit 25	NB	3789	4001	212	5.6%	3.4
	Exit 25 off and onramps	NB	3496	3694	198	5.7%	3.3
	Exit 25 onramp and Exit 25A	NB	3882	4103	221	5.7%	3.5
	I-90 onramp and US 11 offramp	NB	4025	4271	246	6.1%	3.8
	Exit 25A off and onramps	NB	3581	3815	233	6.5%	3.8
	Exit 25A onramp and Exit 26	NB	4025	4271	246	6.1%	3.8
	Exit 26 and Exits 27-28	NB	3003	3199	195	6.5%	3.5
	Exit 27-28 and Exit 27 onramp	NB	2299	2482	183	8.0%	3.7
	Exit 27 onramp and Exit 28 onramp	NB	2855	3059	204	7.2%	3.8
	Airport Blvd onramp and E Taft Rd onramp	NB	2855	3050	195	6.8%	3.6
	Exit 28 onramp and Exit 29S	NB	3273	3485	211	6.5%	3.6
	Exit 29S and Exit 29N onramp	NB	3071	3265	194	6.3%	3.4
	Exit 29N on and offramps	NB	3208	3432	224	7.0%	3.9
	Exit 29N and Exit 29S onramp	NB	1902	2057	155	8.2%	3.5
	Exit 29S onramp and Exit 30	NB	2533	2645	112	4.4%	2.2
	Exit 30 onramp and Exit 29N	SB	1513	1527	14	0.9%	0.4
	Exit 29N and Exit 29S onramp	SB	1389	1400	11	0.8%	0.3
	Exit 29S and Exit 29N onramp	SB	1262	1295	33	2.6%	0.9
	Exit 29S on and offramps	SB	1524	1564	39	2.6%	1.0
	Exit 29N onramp and Exit 28	SB	2072	2131	60	2.9%	1.3
	Exit 28 and Exits 27-26	SB	1815	1885	71	3.9%	1.6
	Airport Blvd onramp and Airport Blvd offramp	SB	1479	1549	70	4.7%	1.8
	Exit 27 onramp and Exit 26 onramp	SB	2069	2151	83	4.0%	1.8
	NY 370 onramp and Old Liverpool Rd onramp	SB	2207	2274	67	3.0%	1.4
	Exit 26 onramp and Exit 25A	SB	3009	3109	100	3.3%	1.8
	Exit 25A off and onramps	SB	2551	2659	108	4.2%	2.1
	Exit 25 off and onramps	SB	2346	2412	66	2.8%	1.4
	Exit 25 onramp and Exits 23A and 23B and Exit 22	SB	2734	2834	100	3.7%	1.9
	Exit 25A onramp and Exit 25	SB	2820	2890	70	2.5%	1.3
	Exits 23A and 23B and Exit 22 and Old Liverpool Rd onramp	SB	1864	1968	104	5.6%	2.4
	Onondaga Lake Pkwy onramp and Exit 22 onramp	SB	2615	2709	94	3.6%	1.8
	Exit 21 off and onramps	SB	2781	2879	98	3.5%	1.8
	Exit 21 onramp and Exit 20	SB	3068	3157	89	2.9%	1.6
	Clinton St offramp and Butternut St offramp	SB	2722	2819	97	3.5%	1.8
	I-690 East off and onramps	SB	2307	2404	96	4.2%	2.0
	EB I-690 onramp and Adams St offramp	SB	2026	2075	49	2.4%	1.1
	Adams St offramp and Adams St onramp	SB	1971	2056	84	4.3%	1.9
	Exit 18 and I-690 West onramp	SB	1549	1625	76	4.9%	1.9
	I-690 West onramp and Exit 18 onramp	SB	1971	2077	106	5.4%	2.4
	Exit 18 and Exit 17	SB	2756	2884	128	4.7%	2.4
	Exit 17 off and onramps	SB	1589	1695	106	6.6%	2.6
	Exit 16A off and onramps	SB	1190	1276	87	7.3%	2.5
	Exit 17 onramp and Exit 16A offramp	SB	1927	2056	129	6.7%	2.9
	Exit 16A onramp and Exit 16 offramp	SB	1684	1815	130	7.7%	3.1
	I-481 Offramp	NB	355	384	29	8.1%	1.5
	I-481 onramp	NB	534	545	11	2.1%	0.5

	S. Salina St, Brighton Av offramp	NB	90	66	-24	-26.9%	2.7
	S. Salina St, Brighton Av onramp	NB	518	512	-5	-1.0%	0.2
	E Colvin St onramp	NB	616	610	-6	-1.0%	0.2
	Adams St, Harrison St offramp	NB	683	695	11	1.7%	0.4
	Adams St, Harrison St onramp	NB	1979	2044	66	3.3%	1.5
	EB I-690 offramp	NB	782	785	3	0.3%	0.1
	EB I-690 onramp	NB	664	665	1	0.1%	0.0
	WB I-690 offramp	NB	934	977	43	4.6%	1.4
	WB I-690 onramp	NB	977	1015	39	3.9%	1.2
	Salina St onramp	NB	924	923	-1	-0.1%	0.0
	Butternut St onramp	NB	830	799	-31	-3.8%	1.1
	Genant Dr offramp	NB	357	377	20	5.7%	1.1
	Sunset St onramp	NB	445	460	16	3.5%	0.7
	Hiawatha offramp	NB	1852	1891	39	2.1%	0.9
	7th N St offramp	NB	294	294	0	0.0%	0.0
	7th N St onramp	NB	386	385	-2	-0.4%	0.1
	I-90 offramp	NB	280	329	49	17.3%	2.8
	I-90 onramp	NB	444	441	-2	-0.5%	0.1
	US 11 offramp	NB	1022	1088	66	6.5%	2.0
	Airport Blvd offramp	NB	704	750	45	6.4%	1.7
	Airport Blvd onramp	NB	556	553	-3	-0.5%	0.1
	E Taft Rd onramp	NB	419	413	-6	-1.4%	0.3
	EB I-481 offramp	NB	202	228	26	12.8%	1.8
	EB I-481 onramp	NB	137	152	16	11.6%	1.3
	WB I-481 offramp	NB	1306	1384	78	6.0%	2.1
	WB I-481 onramp	NB	631	653	22	3.6%	0.9
	I-481 Offramp	SB	737	776	39	5.3%	1.4
	I-481 onramp	SB	494	520	25	5.1%	1.1
	S. Salina St, Brighton Av offramp	SB	1167	1194	27	2.3%	0.8
	S. Salina St, Brighton Av onramp	SB	337	346	9	2.6%	0.5
	Adams St, Harrison St offramp	SB	477	490	13	2.7%	0.6
	Adams St, Harrison St onramp	SB	784	773	-11	-1.4%	0.4
	WB I-690 onramp	SB	422	428	6	1.5%	0.3
	EB I-690 onramp	SB	664	665	1	0.1%	0.0
	EB I-690 offramp	SB	947	985	38	4.0%	1.2
	Clinton St offramp	SB	416	407	-8	-2.0%	0.4
	Butternut St offramp	SB	346	357	11	3.3%	0.6
	Genant Dr onramp	SB	286	279	-7	-2.4%	0.4
	Genant Dr offramp	SB	264	260	-4	-1.3%	0.2
	Genant Dr onramp	SB	429	436	7	1.7%	0.4
	NY 370 onramp	SB	408	382	-26	-6.5%	1.3
	Old Liverpool Rd onramp	SB	343	326	-16	-4.8%	0.9
	Onondaga Lake Pkwy off-ramp	SB	870	888	18	2.0%	0.6
	7th N St offramp	SB	474	487	14	2.9%	0.6
	7th N St onramp	SB	388	385	-3	-0.8%	0.2
	I-90 onramp	SB	269	265	-4	-1.4%	0.2
	I-90 offramp	SB	458	461	2	0.5%	0.1
	US 11 onramp	SB	941	936	-5	-0.5%	0.2
	Airport Blvd onramp	SB	589	590	1	0.2%	0.0
	Airport Blvd offramp	SB	335	335	0	0.0%	0.0
	E Taft Rd offramp	SB	257	256	-1	-0.3%	0.1
	EB I-481 onramp	SB	810	809	-1	-0.1%	0.0
	EB I-481 offramp	SB	262	268	6	2.3%	0.4
	WB I-481 onramp	SB	135	160	24	18.0%	2.0
	WB I-481 offramp	SB	124	127	2	1.9%	0.2
I-690 Highway	Exit 7 and Exit 8 onramp	EB	1922	1939	17	0.9%	0.4
	Willis Ave onramp and Hawthawa Blvd offramp	EB	2128	2149	20	1.0%	0.4
	Exit 8 and Exit 9	EB	1584	1629	45	2.9%	1.1
	Exit 9 and Exit 10 onramp	EB	1388	1433	44	3.2%	1.2
	Geddes St onramp and West St offramp	EB	1893	1958	65	3.4%	1.5
	West St offramp and West St onramp	EB	1737	1778	40	2.3%	1.0
	I-81 South off and onramps	EB	1511	1577	66	4.4%	1.7
	McBride onramp and I-81 onramp	EB	3243	3381	139	4.3%	2.4
	I-81 North onramp and Exit 14	EB	4025	4064	39	1.0%	0.6
	Exit 14 off and onramps	EB	3393	3563	170	5.0%	2.9
	Teal Ave onramp and S Midler Ave offramp	EB	3775	3969	193	5.1%	3.1
	Exit 15 off and onramps	EB	3144	3300	157	5.0%	2.8
	Exit 15 onramp and Exits 16S-N and Exit 17	EB	3398	3593	195	5.7%	3.3
	Exit 16S-N off and onramps	EB	2024	2171	148	7.3%	3.2

	Exit 16S-N onramp and Exit 17 onramp	EB	2422	2580	158	6.5%	3.2
	Bridge St onramp and EB I690 onramp	EB	2853	3013	160	5.6%	3.0
	Bridge St offramp and WB I690 offramp	WB	1761	1870	110	6.2%	2.6
	Exit 17 and Exits 16N-S	WB	1417	1487	70	4.9%	1.8
	Exit 16N-S off and onramps	WB	1129	1191	62	5.5%	1.8
	S Midler Ave offramp and Thompson Rd onramp	WB	3037	3096	59	1.9%	1.1
	Exit 15 off and onramps	WB	2700	2766	67	2.5%	1.3
	Teal Ave offramp and S Midler Ave onramp	WB	3295	3361	66	2.0%	1.1
	Exit 14 off and onramps	WB	2923	2979	56	1.9%	1.0
	Exit 14 onramp and I-81 South offramp	WB	3720	3706	-14	-0.4%	0.2
	Townsend St offramp and WB I-690 onramp	WB	3298	3357	59	1.8%	1.0
	Exit 13 and I-81 North offramp	WB	2806	2855	49	1.7%	0.9
	I-81 North off and onramps	WB	1830	1843	13	0.7%	0.3
	West St offramp and WB I-690 offramp	WB	2765	2668	-97	-3.5%	1.9
	Exit 11 off and onramps	WB	2188	2239	51	2.4%	1.1
	Exit 11 onramp and Exit 10	WB	3078	3178	101	3.3%	1.8
	Exit 10 and Exit 9 onramp	WB	2455	2564	109	4.5%	2.2
	Exit 9 onramp and Exit 8 onramp	WB	3198	3357	159	5.0%	2.8
	Exit 8 onramp and Exit 7	WB	3616	3812	195	5.4%	3.2
	Hawthawa Blvd offramp	EB	544	519	-25	-4.7%	1.1
	Bear St offramp	EB	196	201	5	2.5%	0.4
	Geddes St onramp	EB	505	507	2	0.4%	0.1
	West St offramp	EB	156	157	0	0.2%	0.0
	West St onramp	EB	438	445	8	1.8%	0.4
	McBride onramp	EB	783	757	-26	-3.3%	0.9
	Teal Ave offramp	EB	633	664	31	4.9%	1.2
	Teal Ave onramp	EB	382	380	-3	-0.7%	0.1
	S Midler Ave offramp	EB	632	652	21	3.2%	0.8
	S Midler Ave onramp	EB	255	251	-3	-1.3%	0.2
	Thompson Rd offramp	EB	1375	1456	81	5.9%	2.2
	Thompson Rd onramp	EB	398	393	-5	-1.2%	0.2
	Bridge St onramp	EB	431	427	-4	-0.9%	0.2
	Willls Ave onramp	EB	206	203	-3	-1.5%	0.2
	Hawthawa Blvd onramp	WB	418	412	-6	-1.5%	0.3
	Bear St onramp	WB	743	782	39	5.2%	1.4
	Geddes St offramp	WB	623	641	18	2.9%	0.7
	West St onramp	WB	889	924	35	3.9%	1.2
	West St offramp	WB	578	604	27	4.6%	1.1
	Townsend St offramp	WB	493	482	-11	-2.2%	0.5
	Teal Ave onramp	WB	796	736	-60	-7.6%	2.2
	Teal Ave offramp	WB	372	370	-2	-0.6%	0.1
	S Midler Ave onramp	WB	595	591	-5	-0.8%	0.2
	S Midler Ave offramp	WB	337	362	24	7.2%	1.3
	Thompson Rd onramp	WB	1908	1900	-8	-0.4%	0.2
	Thompson Rd offramp	WB	288	306	18	6.2%	1.0
	Bridge St offramp	WB	344	390	47	13.6%	2.4
I-481 Highway	I-81 onramps and Exit 1	NB	1092	1169	77	7.0%	2.3
	Exit 1 off and onramps	NB	805	894	89	11.1%	3.1
	Exit 1 and Exit 2	NB	1105	1212	107	9.7%	3.1
	Exit 2 off and onramps	NB	736	808	72	9.8%	2.6
	Exit 3E onramp and Exit 3W	NB	1244	1301	57	4.6%	1.6
	Exit 2 onramp and Exit 3E	NB	1161	1240	79	6.8%	2.3
	Exit 3E off and onramps	NB	957	1023	66	6.9%	2.1
	Exit 3W off and onramps	NB	1060	1114	54	5.1%	1.7
	Exit 3W onramp and Exit 4	NB	2158	2236	78	3.6%	1.7
	Exit 4 offramp and Exit 4 onramp	NB	1142	1170	28	2.4%	0.8
	Exit 4 onramp and Exit 5E	NB	2357	2484	127	5.4%	2.6
	Exit 5E off and onramps	NB	1972	2088	116	5.9%	2.6
	Exit 5E onramp and Exit 5W	NB	2175	2299	124	5.7%	2.6
	WB Kirkville Rd onramp and I90 offramp	NB	2035	2153	118	5.8%	2.6
	Exit 5W off and onramps	NB	1907	2020	113	5.9%	2.5
	Exit 5W onramp and Exit 6	NB	2035	2153	118	5.8%	2.6
	Exit 6 off and onramps	NB	1148	1227	79	6.9%	2.3
	I90 onramp and US 298 offramp	NB	1462	1541	79	5.4%	2.0
	Exit 7 off and onramps	NB	1078	1145	67	6.2%	2.0
	Exit 7 onramp and Exit 8	NB	1471	1558	87	5.9%	2.2
	Exit 8 off and onramps	NB	1157	1241	84	7.3%	2.4
	Exit 8 onramp and Exit 9N	NB	2084	2177	93	4.5%	2.0
	Exit 9N off and onramps	NB	1454	1540	86	5.9%	2.2

	Exit 9N onramp and Exit 9S	NB	2759	2933	174	6.3%	3.3
	Exit 9S off and onramps	NB	2624	2785	161	6.1%	3.1
	Before WB I-481 offramp	NB	2748	2873	124	4.5%	2.3
	Before EB I-481 onramp	SB	1587	1615	28	1.8%	0.7
	Exit 9S onramp and Exit 9N	SB	1039	1078	38	3.7%	1.2
	Exit 9S off and onramps	SB	777	805	28	3.6%	1.0
	Exit 9N off and onramps	SB	903	929	26	2.9%	0.9
	Exit 9N onramp and Exit 8	SB	1105	1167	62	5.6%	1.8
	Exit 8 off and onramps	SB	854	904	51	6.0%	1.7
	Exit 8 onramp and Exit 7	SB	1045	1114	69	6.6%	2.1
	Exit 7 off and onramps	SB	939	1008	68	7.3%	2.2
	Exit 7 and Exit 6	SB	1397	1482	86	6.2%	2.3
	Exit 6 off and onramps	SB	1120	1193	72	6.5%	2.1
	Exit 6 and Exit 5W	SB	1625	1704	79	4.9%	1.9
	Exit 5W off and onramps	SB	1518	1593	75	4.9%	1.9
	Exit 5W onramp and Exit 5E	SB	1623	1696	72	4.4%	1.8
	Exit 5E off and onramps	SB	1422	1500	78	5.5%	2.0
	Exit 5E onramp and Exit 4	SB	1892	1982	90	4.8%	2.1
	Exit 4 offramp and Exit 4 onramp	SB	1147	1198	52	4.5%	1.5
	Exit 4 onramp and Exit 3W	SB	2785	2957	172	6.2%	3.2
	Exit 3W onramp and Exit 3E	SB	2747	2928	181	6.6%	3.4
	Exit 3W off and onramps	SB	2496	2656	160	6.4%	3.2
	Exit 3E off and onramps	SB	1246	1295	48	3.9%	1.4
	Exit 3E onramp and Exit 2	SB	1546	1601	55	3.5%	1.4
	Exit 3E onramp and Exit 2	SB	1546	1607	61	4.0%	1.5
	Exit 2 off and onramps	SB	989	1025	36	3.7%	1.1
	Exit 2 onramp and Exit 1	SB	1195	1240	44	3.7%	1.3
	I-81 North offramp and E. Brighton Av onramp	SB	107	120	13	12.4%	1.2
	I-81 North and I-81 South ramps	SB	601	636	35	5.9%	1.4
	I-81 North offramp and E. Brighton Av onramp	SB	534	545	11	2.1%	0.5
	Rock Cut Rd offramp	NB	287	279	-8	-2.6%	0.5
	Rock Cut Rd onramp	NB	300	293	-7	-2.4%	0.4
	Jamesville Rd offramp	NB	369	408	40	10.8%	2.0
	Jamesville Rd onramp	NB	424	420	-4	-1.0%	0.2
	EB US 5 offramp	NB	203	221	18	8.8%	1.2
	WB US 5 onramp	NB	1098	1103	5	0.5%	0.2
	EB US 5 onramp	NB	286	284	-2	-0.8%	0.1
	WB US 5 offramp	NB	184	196	13	6.8%	0.9
	WB I690 offramp	NB	1016	1072	56	5.5%	1.7
	EB I690 onramp	NB	1215	1289	74	6.1%	2.1
	EB Kirkville Rd onramp	NB	203	201	-1	-0.7%	0.1
	EB Kirkville Rd offramp	NB	385	406	22	5.6%	1.1
	WB Kirkville Rd offramp	NB	267	288	21	7.8%	1.3
	WB Kirkville Rd onramp	NB	128	124	-4	-2.8%	0.3
	I90 offramp	NB	887	929	42	4.7%	1.4
	I90 onramp	NB	314	311	-3	-0.9%	0.2
	US 298 offramp	NB	384	404	20	5.2%	1.0
	US 298 onramp	NB	392	389	-4	-0.9%	0.2
	Northern Blvd offramp	NB	314	329	16	5.0%	0.9
	Northern Blvd onramp	NB	927	919	-8	-0.9%	0.3
	Brighton Ave offramp	SB	594	623	29	4.9%	1.2
	Jamesville Rd offramp	SB	557	595	38	6.9%	1.6
	Jamesville Rd onramp	SB	206	204	-2	-1.2%	0.2
	WB US 5 offramp	SB	289	323	33	11.5%	1.9
	EB US 5 onramp	SB	300	296	-3	-1.1%	0.2
	EB US 5 offramp	SB	1501	1674	173	11.5%	4.3
	WB US 5 onramp	SB	251	248	-3	-1.2%	0.2
	EB I690 onramp	SB	1638	1730	92	5.6%	2.2
	WB I690 offramp	SB	745	794	49	6.6%	1.8
	EB Kirkville Rd onramp	SB	469	465	-4	-0.9%	0.2
	EB Kirkville Rd offramp	SB	201	200	-1	-0.4%	0.1
	WB Kirkville Rd onramp	SB	105	102	-3	-3.1%	0.3
	WB Kirkville Rd offramp	SB	107	114	7	6.5%	0.7
	I90 offramp	SB	276	295	19	6.8%	1.1
	I90 onramp	SB	505	505	0	0.0%	0.0
	US 298 offramp	SB	105	122	17	16.0%	1.6
	US 298 onramp	SB	457	457	0	0.0%	0.0
	Northern Blvd onramp	SB	191	189	-3	-1.4%	0.2
	Northern Blvd offramp	SB	251	268	17	6.7%	1.0

APPENDIX G:
ROUTE TRAVEL TIME VALIDATION SUMMARY – AM PEAK PERIOD

Table G-1: Route Travel Time Validation Summary – AM Pre-Peak

Route Name	Dir	Length	Travel Time (min)		Difference	
		(mi)	Observed	Modeled	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	12.18	12.30	13.28	0.98	8%
	SB	11.65	11.63	12.92	1.29	11%
I-481 from Exit 2 to Exit 8	NB	13.99	12.78	13.24	0.46	4%
	SB	14.06	12.89	13.33	0.44	3%
I-690 from Exit 8 to Exit 17	EB	8.05	8.12	9.15	1.03	13%
	WB	8.13	7.78	8.93	1.15	15%
Fayette St from West St to Walnut Ave	EB	1.37	4.71	5.70	0.99	21%
	WB	1.27	5.35	6.31	0.96	18%
Adams St from West St to Comstock Ave	EB	1.45	6.22	8.02	1.80	29%
Harrison St from Comstock Ave to S West St	WB	1.45	6.68	7.59	0.91	14%
State St from Adams St to Butternut St	NB	1.09	5.94	5.69	-0.25	-4%
Clinton St from Webster Landing to Adams St	SB	0.85	5.08	4.21	-0.87	-17%
West St from Genesee St To Adams St	NB	0.76	2.35	2.64	0.29	12%
	SB	0.77	1.47	2.30	0.83	56%
Irving Ave from E Raynor St to Fayette St	NB	0.84	4.00	3.84	-0.16	-4%
	SB	0.85	3.40	3.75	0.35	10%
Almond St from Van Burn St to Burnet St	NB	1.00	4.27	4.24	-0.03	-1%
	SB	1.03	7.50	6.45	-1.05	-14%

Table G-2: Route Travel Time Validation Summary – AM Peak Hour

Route Name	Dir	Length	Travel Time (min)		Difference	
		(mi)	Observed	Modeled	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	12.18	12.17	11.93	-0.24	-2%
	SB	11.65	12.70	14.15	1.45	11%
I-481 from Exit 2 to Exit 8	NB	13.99	12.80	13.29	0.49	4%
	SB	14.06	12.72	13.39	0.67	5%
I-690 from Exit 8 to Exit 17	EB	8.05	13.19	11.42	-1.77	-13%
	WB	8.13	7.76	8.81	1.05	13%
Fayette St from West St to Walnut Ave	EB	1.37	4.62	6.14	1.52	33%
	WB	1.27	6.23	6.59	0.36	6%
Adams St from West St to Comstock Ave	EB	1.45	7.29	7.97	0.68	9%
Harrison St from Comstock Ave to S West St	WB	1.45	8.47	7.75	-0.72	-9%
State St from Adams St to Butternut St	NB	1.09	6.54	5.65	-0.89	-14%
Clinton St from Webster Landing to Adams St	SB	0.85	3.88	4.47	0.59	15%
West St from Genesee St To Adams St	NB	0.76	1.58	2.33	0.75	47%
	SB	0.77	1.63	2.21	0.58	36%
Irving Ave from E Raynor St to Fayette St	NB	0.84	4.33	3.83	-0.50	-12%
	SB	0.85	4.10	4.01	-0.09	-2%
Almond St from Van Burn St to Burnet St	NB	1.00	4.80	4.28	-0.52	-11%
	SB	1.03	4.50	5.45	0.95	21%

Table G-3: Route Travel Time Validation Summary – AM Post-Peak

Route Name	Dir	Length	Travel Time (min)		Difference	
		(mi)	Observed	Modeled	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	12.18	12.54	12.86	0.32	3%
	SB	11.65	12.04	13.87	1.83	15%
I-481 from Exit 2 to Exit 8	NB	13.99	12.87	13.25	0.38	3%
	SB	14.06	12.89	13.32	0.43	3%
I-690 from Exit 8 to Exit 17	EB	8.05	7.68	8.63	0.95	12%
	WB	8.13	7.73	8.60	0.87	11%
Fayette St from West St to Walnut Ave	EB	1.37	4.62	5.73	1.11	24%
	WB	1.27	6.23	6.19	-0.04	-1%
Adams St from West St to Comstock Ave	EB	1.45	7.29	7.44	0.15	2%
Harrison St from Comstock Ave to S West St	WB	1.45	8.47	7.80	-0.67	-8%
State St from Adams St to Butternut St	NB	1.09	6.54	5.59	-0.95	-15%
Clinton St from Webster Landing to Adams St	SB	0.85	3.88	4.53	0.65	17%
West St from Genesee St To Adams St	NB	0.76	1.58	2.39	0.81	51%
	SB	0.77	1.63	2.21	0.58	36%
Irving Ave from E Raynor St to Fayette St	NB	0.84	4.33	3.68	-0.65	-15%
	SB	0.85	4.10	3.72	-0.38	-9%
Almond St from Van Burn St to Burnet St	NB	1.00	4.80	3.97	-0.83	-17%
	SB	1.03	4.50	5.24	0.74	16%

APPENDIX H:
ROUTE TRAVEL TIME VALIDATION SUMMARY – PM PEAK PERIOD

Table H-1: Route Travel Time Validation Summary – PM Pre-Peak

Route Name	Dir	Length	Travel Time (min)		Difference	
		(mi)	Observed	Modeled	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	12.18	12.52	13.61	1.09	9%
	SB	11.65	12.03	13.17	1.14	9%
I-481 from Exit 2 to Exit 8	NB	13.99	12.96	13.36	0.40	3%
	SB	14.06	12.69	13.29	0.60	5%
I-690 from Exit 8 to Exit 17	EB	8.05	8.06	9.41	1.35	17%
	WB	8.13	8.20	9.05	0.86	10%
Fayette St from West St to Walnut Ave	EB	1.37	6.30	6.10	-0.20	-3%
	WB	1.27	6.96	7.01	0.05	1%
Adams St from West St to Comstock Ave	EB	1.45	7.35	8.37	1.02	14%
Harrison St from Comstock Ave to S West St	WB	1.45	7.08	6.79	-0.29	-4%
State St from Adams St to Butternut St	NB	1.09	6.48	5.56	-0.92	-14%
Clinton St from Webster Landing to Adams St	SB	0.85	4.24	4.93	0.69	16%
West St from Genesee St To Adams St	NB	0.76	1.97	2.43	0.46	24%
	SB	0.77	1.45	2.03	0.58	40%
Irving Ave from E Raynor St to Fayette St	NB	0.84	3.67	4.18	0.51	14%
	SB	0.85	4.92	4.86	-0.06	-1%
Almond St from Van Burn St to Burnet St	NB	1.00	6.67	5.61	-1.05	-16%
	SB	1.03	4.90	5.43	0.53	11%

Table H-2: Route Travel Time Validation Summary – PM Peak Hour

Route Name	Dir	Length	Travel Time (min)		Difference	
		(mi)	Observed	Modeled	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	12.18	12.42	13.73	1.31	11%
	SB	11.65	12.27	13.13	0.86	7%
I-481 from Exit 2 to Exit 8	NB	13.99	13.38	13.36	-0.02	0%
	SB	14.06	13.37	13.47	0.11	1%
I-690 from Exit 8 to Exit 17	EB	8.05	8.59	9.50	0.91	11%
	WB	8.13	8.89	9.55	0.66	7%
Fayette St from West St to Walnut Ave	EB	1.37	5.89	5.27	-0.62	-11%
	WB	1.27	7.78	6.65	-1.13	-14%
Adams St from West St to Comstock Ave	EB	1.45	7.93	8.35	0.42	5%
Harrison St from Comstock Ave to S West St	WB	1.45	7.90	6.98	-0.92	-12%
State St from Adams St to Butternut St	NB	1.09	8.89	6.77	-2.12	-24%
Clinton St from Webster Landing to Adams St	SB	0.85	4.28	5.08	0.80	19%
West St from Genesee St To Adams St	NB	0.76	2.31	2.48	0.17	7%
	SB	0.77	1.20	2.09	0.89	74%
Irving Ave from E Raynor St to Fayette St	NB	0.84	4.22	3.93	-0.29	-7%
	SB	0.85	6.01	5.37	-0.64	-11%
Almond St from Van Burn St to Burnet St	NB	1.00	5.62	5.52	-0.10	-2%
	SB	1.03	5.72	5.54	-0.18	-3%

Table H-3: Route Travel Time Validation Summary – PM Post-Peak

Route Name	Dir	Length	Travel Time (min)		Difference	
		(mi)	Observed	Modeled	Actual	Percent
I-81 from Exit 17 to Exit 29N	NB	12.18	12.46	13.26	0.80	6%
	SB	11.65	12.69	12.83	0.14	1%
I-481 from Exit 2 to Exit 8	NB	13.99	12.92	13.30	0.38	3%
	SB	14.06	13.44	13.32	-0.12	-1%
I-690 from Exit 8 to Exit 17	EB	8.05	8.43	9.26	0.83	10%
	WB	8.13	9.18	9.31	0.13	1%
Fayette St from West St to Walnut Ave	EB	1.37	5.66	4.84	-0.82	-14%
	WB	1.27	8.08	7.19	-0.89	-11%
Adams St from West St to Comstock Ave	EB	1.45	7.81	8.67	0.86	11%
Harrison St from Comstock Ave to S West St	WB	1.45	6.42	5.87	-0.55	-9%
State St from Adams St to Butternut St	NB	1.09	6.42	5.22	-1.20	-19%
Clinton St from Webster Landing to Adams St	SB	0.85	5.38	4.91	-0.47	-9%
West St from Genesee St To Adams St	NB	0.76	1.92	2.36	0.44	23%
	SB	0.77	1.69	2.43	0.74	44%
Irving Ave from E Raynor St to Fayette St	NB	0.84	3.63	3.42	-0.21	-6%
	SB	0.85	6.48	5.58	-0.90	-14%
Almond St from Van Burn St to Burnet St	NB	1.00	4.98	5.00	0.02	0%
	SB	1.03	5.17	5.16	-0.01	0%

APPENDIX I:
FREEWAY LINK TRAVEL TIME VALIDATION SUMMARY – AM PEAK PERIOD

Table I-1: Freeway Link Travel Time Validation Summary – AM Pre-Peak

Route Name	Segment	Length (mi)	Travel Time (min)		Difference	
			Observed	Modeled	Actual	Percent
I-81 NB	from Exit 16A to Exit 17	0.76	0.85	0.73	-0.12	-14%
	from Exit 17 to Exit 18	1.82	1.96	2.13	0.17	9%
	from Exit 18 to I-690 Exit	0.71	0.87	0.97	0.10	11%
	from I-690 Exit to Exit 22	1.17	1.48	1.50	0.02	1%
	from Exit 22 to Exit 23	0.75	0.81	0.88	0.07	9%
	from Exit 23 to Exit 25	1.50	1.51	1.59	0.08	5%
	from Exit 25 to Exit 25A	0.54	0.50	0.51	0.01	2%
	from Exit25A to Exit 26	0.98	0.90	0.92	0.02	3%
	from Exit 26 to Exit 27	0.57	0.52	0.54	0.02	4%
	from Exit 27 to Exit 29S	2.26	2.09	2.14	0.05	3%
	from Exit 29S to Exit 29N	0.61	0.57	0.58	0.01	2%
	from Exit 29N to after merge from I-481	0.29	0.24	0.27	0.03	14%
I-81 SB	before exit ramp to I-481 NB to Exit 29N	0.29	0.25	0.28	0.03	11%
	from Exit 29N to Exit 29S	0.44	0.40	0.42	0.02	6%
	from Exit 29S to Exit 28	0.98	0.91	0.93	0.02	2%
	from Exit 28 to Exit 27	0.74	0.68	0.71	0.03	4%
	from Exit 27 to Exit 25A	2.11	1.94	2.01	0.07	3%
	from Exit 25A to Exit 25	0.43	0.40	0.41	0.01	2%
	from Exit 25 to Exit 23A	0.67	0.62	0.64	0.02	3%
	from Exit 25 to Exit 21	1.50	1.41	1.79	0.38	27%
	from Exit 21 to Exit 20	0.60	0.65	0.72	0.07	11%
	from Exit 20 to Exit 19	0.13	0.14	0.16	0.02	12%
	from Exit 19 to Exit 18	0.83	0.96	1.15	0.19	19%
	from Exit 18 to Exit 17	1.73	2.09	2.20	0.11	5%
	from Exit 17 to Exit to I-481	1.08	1.18	1.24	0.06	5%
I-481 NB	before Exit 1 to Exit 2	2.45	2.24	2.32	0.08	4%
	from Exit 2 to Exit 3	1.87	1.70	1.77	0.07	4%
	from Exit 3 to Exit 4	1.64	1.50	1.57	0.07	5%
	from Exit 4 to Exit 5	1.41	1.29	1.46	0.17	13%
	from Exit 5 to Exit 6	1.68	1.53	1.61	0.08	5%
	from Exit 6 to Exit 7	0.65	0.60	0.62	0.02	3%
	from Exit 7 to Exit 8	3.06	2.80	2.89	0.09	3%
	from Exit 8 to Exit 9N	1.23	1.12	1.16	0.04	4%
I-481 SB	from Exit 9N to Exit 8	0.80	0.72	0.78	0.06	8%
	from Exit 8 to Exit 7	3.14	2.87	2.99	0.12	4%
	from Exit 7 to Exit 6	0.71	0.65	0.68	0.03	4%
	from Exit 6 to Exit 5	1.20	1.10	1.14	0.04	4%
	from Exit 5 to Exit 4	1.44	1.36	1.38	0.02	2%
	from Exit 4 to Exit 3	1.81	1.71	1.71	0.00	0%
	from Exit 3 to Exit 2	1.54	1.42	1.46	0.04	3%
	from Exit 2 to Exit 1	3.37	3.06	3.21	0.15	5%
I-690 EB	from Exit 7 to Exit 8	0.81	0.79	0.77	-0.02	-3%
	from Exit 8 to Exit 9	0.37	0.35	0.35	0.00	1%
	from Exit 9 to Exit 12	1.03	1.03	1.08	0.05	5%
	from 12 to Exit to I-81 South	0.47	0.48	0.60	0.12	24%
	to Exit 14	1.36	1.43	1.63	0.20	14%
	from Exit 14 to Exit 15	0.87	0.85	1.00	0.15	18%
	from Exit 15 to Exit 16N	1.07	1.00	1.22	0.22	22%
	from Exit 16N to exit 16 S	0.15	0.13	0.17	0.04	30%
	from Exit 16S to Exit 17	0.34	0.31	0.38	0.07	24%
	from Exit 17 to merge to I-481	1.53	1.75	1.86	0.11	6%
I-690 WB	from I-481 Exit to Exit 17	1.02	1.00	1.27	0.27	27%
	from Exit 17 to Exit 16N & 16S	0.30	0.30	0.29	-0.01	-3%
	from Exit 16N & 16S to Exit 15	1.26	1.24	1.20	-0.04	-3%
	from Exit 15 to Exit 14	1.03	0.97	0.98	0.01	1%
	from Exit 14 to Exit 13	1.60	1.53	1.57	0.04	3%
	from Exit 13 to Exit 11	0.28	0.31	0.36	0.05	17%
	from Exit 11 to Exit 10	0.63	0.64	0.71	0.07	11%
	from Exit 10 to route end	1.88	1.79	2.24	0.45	25%

Table I-2: Freeway Link Travel Time Validation Summary – AM Peak Hour

	Segment		Travel Time (min)	Difference

Route Name		Length (mi)	Observed	Modeled	Actual	Percent
I-81 NB	from Exit 16A to Exit 17	0.76	0.85	0.73	-0.12	-14%
	from Exit 17 to Exit 18	1.82	1.96	2.08	0.12	6%
	from Exit 18 to I-690 Exit	0.71	0.78	0.99	0.21	27%
	from I-690 Exit to Exit 22	1.17	1.42	1.51	0.09	6%
	from Exit 22 to Exit 23	0.75	0.81	0.89	0.08	10%
	from Exit 23 to Exit 25	1.50	1.52	1.59	0.07	5%
	from Exit 25 to Exit 25A	0.54	0.50	0.51	0.01	3%
	from Exit25A to Exit 26	0.98	0.90	0.93	0.03	3%
	from Exit 26 to Exit 27	0.57	0.52	0.54	0.02	4%
	from Exit 27 to Exit 29S	2.26	2.10	2.15	0.05	2%
	from Exit 29S to Exit 29N	0.61	0.57	0.59	0.02	3%
	from Exit 29N to after merge from I-481	0.29	0.24	0.27	0.03	14%
I-81 SB	before exit ramp to I-481 NB to Exit 29N	0.29	0.25	0.28	0.03	11%
	from Exit 29N to Exit 29S	0.44	0.40	0.43	0.03	7%
	from Exit 29S to Exit 28	0.98	0.90	0.94	0.04	4%
	from Exit 28 to Exit 27	0.74	0.68	0.71	0.03	4%
	from Exit 27 to Exit 25A	2.11	1.93	2.01	0.08	4%
	from Exit 25A to Exit 25	0.43	0.40	0.41	0.01	3%
	from Exit 25 to Exit 23A	0.67	0.62	0.64	0.02	4%
	from Exit 25 to Exit 21	1.50	2.19	1.45	-0.74	-34%
	from Exit 21 to Exit 20	0.60	0.68	1.01	0.33	49%
	from Exit 20 to Exit 19	0.13	0.14	0.28	0.14	103%
	from Exit 19 to Exit 18	0.83	1.26	2.67	1.41	112%
	from Exit 18 to Exit 17	1.73	2.09	2.21	0.12	6%
	from Exit 17 to Exit to I-481	1.08	1.17	1.25	0.08	7%
I-481 NB	before Exit 1 to Exit 2	2.45	2.22	2.33	0.11	5%
	from Exit 2 to Exit 3	1.87	1.68	1.77	0.09	5%
	from Exit 3 to Exit 4	1.64	1.51	1.59	0.09	6%
	from Exit 4 to Exit 5	1.41	1.31	1.46	0.15	12%
	from Exit 5 to Exit 6	1.68	1.55	1.62	0.07	4%
	from Exit 6 to Exit 7	0.65	0.61	0.62	0.01	2%
	from Exit 7 to Exit 8	3.06	2.83	2.90	0.07	3%
	from Exit 8 to Exit 9N	1.23	1.11	1.17	0.06	5%
I-481 SB	from Exit 9N to Exit 8	0.80	0.71	0.78	0.07	9%
	from Exit 8 to Exit 7	3.14	2.83	3.00	0.17	6%
	from Exit 7 to Exit 6	0.71	0.65	0.68	0.03	4%
	from Exit 6 to Exit 5	1.20	1.09	1.15	0.06	5%
	from Exit 5 to Exit 4	1.44	1.31	1.40	0.09	7%
	from Exit 4 to Exit 3	1.81	1.69	1.71	0.02	1%
	from Exit 3 to Exit 2	1.54	1.40	1.46	0.06	4%
	from Exit 2 to Exit 1	3.37	3.04	3.21	0.17	6%
I-690 EB	from Exit 7 to Exit 8	0.81	1.28	0.77	-0.50	-39%
	from Exit 8 to Exit 9	0.37	0.68	0.36	-0.31	-46%
	from Exit 9 to Exit 12	1.03	1.03	1.13	0.10	10%
	from 12 to Exit to I-81 South	0.47	1.51	0.72	-0.78	-52%
	to Exit 14	1.36	1.60	1.68	0.09	6%
	from Exit 14 to Exit 15	0.87	0.82	1.01	0.19	23%
	from Exit 15 to Exit 16N	1.07	1.03	1.24	0.22	21%
	from Exit 16N to Exit 16 S	0.15	0.14	0.17	0.03	25%
	from Exit 16S to Exit 17	0.34	0.31	0.38	0.07	24%
	from Exit 17 to merge to I-481	1.53	1.76	1.85	0.10	6%
I-690 WB	from I-481 Exit to Exit 17	1.02	1.00	1.28	0.28	28%
	from Exit 17 to Exit 16N & 16S	0.30	0.29	0.30	0.01	5%
	from Exit 16N & 16S to Exit 15	1.26	1.16	1.21	0.05	5%
	from Exit 15 to Exit 14	1.03	1.00	1.00	0.00	0%
	from Exit 14 to Exit 13	1.60	1.64	1.59	-0.05	-3%
	from Exit 13 to Exit 11	0.28	0.30	0.36	0.06	19%
	from Exit 11 to Exit 10	0.63	0.62	0.72	0.10	16%
	from Exit 10 to route end	1.88	1.77	2.21	0.44	25%

Table I-3: Freeway Link Travel Time Validation Summary – AM Post-Peak

Route Name	Segment	Length (mi)	Travel Time (min)		Difference	
			Observed	Modeled	Actual	Percent
I-81 NB	from Exit 16A to Exit 17	0.76	0.85	0.73	-0.12	-14%
	from Exit 17 to Exit 18	1.82	2.00	2.07	0.07	3%
	from Exit 18 to I-690 Exit	0.71	0.78	0.95	0.17	22%
	from I-690 Exit to Exit 22	1.17	1.43	1.47	0.04	3%
	from Exit 22 to Exit 23	0.75	0.81	0.87	0.06	7%
	from Exit 23 to Exit 25	1.50	1.61	1.59	-0.02	-1%
	from Exit 25 to Exit 25A	0.54	0.59	0.51	-0.08	-13%
	from Exit25A to Exit 26	0.98	0.96	0.93	-0.03	-4%
	from Exit 26 to Exit 27	0.57	0.59	0.54	-0.05	-9%
	from Exit 27 to Exit 29S	2.26	2.10	2.14	0.04	2%
	from Exit 29S to Exit 29N	0.61	0.57	0.58	0.01	2%
	from Exit 29N to after merge from I-481	0.29	0.25	0.27	0.02	9%
I-81 SB	before exit ramp to I-481 NB to Exit 29N	0.29	0.25	0.28	0.03	10%
	from Exit 29N to Exit 29S	0.44	0.40	0.42	0.02	5%
	from Exit 29S to Exit 28	0.98	0.90	0.93	0.03	4%
	from Exit 28 to Exit 27	0.74	0.68	0.70	0.02	4%
	from Exit 27 to Exit 25A	2.11	1.93	2.01	0.08	4%
	from Exit 25A to Exit 25	0.43	0.40	0.41	0.01	2%
	from Exit 25 to Exit 23A	0.67	0.63	0.64	0.01	2%
	from Exit 25 to Exit 21	1.50	1.62	2.97	1.35	83%
	from Exit 21 to Exit 20	0.60	0.65	1.12	0.47	72%
	from Exit 20 to Exit 19	0.13	0.14	0.29	0.15	105%
	from Exit 19 to Exit 18	0.83	1.16	2.90	1.74	150%
	from Exit 18 to Exit 17	1.73	2.11	2.17	0.06	3%
	from Exit 17 to Exit to I-481	1.08	1.17	1.23	0.06	5%
I-481 NB	before Exit 1 to Exit 2	2.45	2.22	2.32	0.10	5%
	from Exit 2 to Exit 3	1.87	1.68	1.77	0.09	5%
	from Exit 3 to Exit 4	1.64	1.50	1.57	0.07	5%
	from Exit 4 to Exit 5	1.41	1.32	1.39	0.07	5%
	from Exit 5 to Exit 6	1.68	1.56	1.61	0.05	3%
	from Exit 6 to Exit 7	0.65	0.61	0.62	0.01	1%
	from Exit 7 to Exit 8	3.06	2.85	2.89	0.04	1%
	from Exit 8 to Exit 9N	1.23	1.13	1.16	0.03	3%
I-481 SB	from Exit 9N to Exit 8	0.80	0.72	0.77	0.05	7%
	from Exit 8 to Exit 7	3.14	2.87	3.00	0.13	4%
	from Exit 7 to Exit 6	0.71	0.65	0.68	0.03	4%
	from Exit 6 to Exit 5	1.20	1.10	1.14	0.04	4%
	from Exit 5 to Exit 4	1.44	1.36	1.38	0.02	1%
	from Exit 4 to Exit 3	1.81	1.71	1.71	0.00	0%
	from Exit 3 to Exit 2	1.54	1.42	1.46	0.04	3%
	from Exit 2 to Exit 1	3.37	3.06	3.21	0.15	5%
I-690 EB	from Exit 7 to Exit 8	0.81	0.73	0.77	0.04	5%
	from Exit 8 to Exit 9	0.37	0.33	0.36	0.03	8%
	from Exit 9 to Exit 12	1.03	0.94	1.08	0.14	15%
	from 12 to Exit to I-81 South	0.47	0.48	0.65	0.17	36%
	to Exit 14	1.36	1.43	1.62	0.19	13%
	from Exit 14 to Exit 15	0.87	0.74	1.01	0.27	36%
	from Exit 15 to Exit 16N	1.07	0.93	1.23	0.30	32%
	from Exit 16N to Exit 16 S	0.15	0.13	0.17	0.04	30%
	from Exit 16S to Exit 17	0.34	0.29	0.38	0.09	32%
	from Exit 17 to merge to I-481	1.53	1.68	1.85	0.17	10%
I-690 WB	from I-481 Exit to Exit 17	1.02	1.02	1.27	0.25	25%
	from Exit 17 to Exit 16N & 16S	0.30	0.27	0.29	0.02	8%
	from Exit 16N & 16S to Exit 15	1.26	1.19	1.20	0.01	1%
	from Exit 15 to Exit 14	1.03	0.98	0.98	0.00	0%
	from Exit 14 to Exit 13	1.60	1.56	1.55	-0.01	-1%
	from Exit 13 to Exit 11	0.28	0.34	0.33	-0.01	-2%
	from Exit 11 to Exit 10	0.63	0.64	0.71	0.07	12%
	from Exit 10 to route end	1.88	1.73	2.18	0.45	26%

APPENDIX J:
FREEWAY LINK TRAVEL TIME VALIDATION SUMMARY – PM PEAK PERIOD

Table J-1: Freeway Link Travel Time Validation Summary – PM Pre-Peak

Route Name	Segment	Length (mi)	Travel Time (min)		Difference	
			Observed	Modeled	Actual	Percent
I-81 NB	from Exit 16A to Exit 17	0.76	0.80	0.74	-0.06	-8%
	from Exit 17 to Exit 18	1.82	1.93	2.14	0.21	11%
	from Exit 18 to I-690 Exit	0.71	0.85	1.04	0.19	23%
	from I-690 Exit to Exit 22	1.17	1.48	1.63	0.15	10%
	from Exit 22 to Exit 23	0.75	0.83	0.93	0.10	12%
	from Exit 23 to Exit 25	1.50	1.47	1.60	0.13	9%
	from Exit 25 to Exit 25A	0.54	0.64	0.54	-0.10	-16%
	from Exit25A to Exit 26	0.98	1.02	0.94	-0.08	-8%
	from Exit 26 to Exit 27	0.57	0.55	0.54	-0.01	-1%
	from Exit 27 to Exit 29S	2.26	2.12	2.16	0.04	2%
	from Exit 29S to Exit 29N	0.61	0.58	0.59	0.01	2%
	from Exit 29N to after merge from I-481	0.29	0.25	0.27	0.02	10%
I-81 SB	before exit ramp to I-481 NB to Exit 29N	0.29	0.28	0.28	0.00	-1%
	from Exit 29N to Exit 29S	0.44	0.42	0.42	0.00	-1%
	from Exit 29S to Exit 28	0.98	0.95	0.93	-0.02	-2%
	from Exit 28 to Exit 27	0.74	0.70	0.71	0.01	1%
	from Exit 27 to Exit 25A	2.11	2.05	2.00	-0.05	-2%
	from Exit 25A to Exit 25	0.43	0.43	0.41	-0.02	-5%
	from Exit 25 to Exit 23A	0.67	0.69	0.64	-0.05	-7%
	from Exit 25 to Exit 21	1.50	1.55	1.78	0.23	15%
	from Exit 21 to Exit 20	0.60	0.64	0.72	0.08	12%
	from Exit 20 to Exit 19	0.13	0.15	0.15	0.00	1%
	from Exit 19 to Exit 18	0.83	1.02	1.12	0.10	10%
	from Exit 18 to Exit 17	1.73	1.95	2.32	0.37	19%
	from Exit 17 to Exit to I-481	1.08	1.20	1.28	0.08	6%
I-481 NB	before Exit 1 to Exit 2	2.45	2.25	2.32	0.07	3%
	from Exit 2 to Exit 3	1.87	1.73	1.77	0.04	2%
	from Exit 3 to Exit 4	1.64	1.52	1.56	0.04	3%
	from Exit 4 to Exit 5	1.41	1.32	1.43	0.11	8%
	from Exit 5 to Exit 6	1.68	1.54	1.66	0.12	8%
	from Exit 6 to Exit 7	0.65	0.61	0.62	0.01	2%
	from Exit 7 to Exit 8	3.06	2.84	2.91	0.07	2%
	from Exit 8 to Exit 9N	1.23	1.15	1.18	0.03	2%
I-481 SB	from Exit 9N to Exit 8	0.80	0.72	0.77	0.05	7%
	from Exit 8 to Exit 7	3.14	2.83	2.98	0.15	5%
	from Exit 7 to Exit 6	0.71	0.65	0.68	0.03	4%
	from Exit 6 to Exit 5	1.20	1.09	1.14	0.05	5%
	from Exit 5 to Exit 4	1.44	1.31	1.40	0.09	7%
	from Exit 4 to Exit 3	1.81	1.68	1.74	0.06	3%
	from Exit 3 to Exit 2	1.54	1.39	1.47	0.08	6%
	from Exit 2 to Exit 1	3.37	3.02	3.21	0.19	6%
I-690 EB	from Exit 7 to Exit 8	0.81	0.73	0.76	0.03	4%
	from Exit 8 to Exit 9	0.37	0.32	0.35	0.03	10%
	from Exit 9 to Exit 12	1.03	1.01	1.07	0.06	6%
	from 12 to Exit to I-81 South	0.47	0.47	0.64	0.17	36%
	to Exit 14	1.36	1.40	1.83	0.43	31%
	from Exit 14 to Exit 15	0.87	0.86	1.02	0.16	18%
	from Exit 15 to Exit 16N	1.07	1.03	1.25	0.22	22%
	from Exit 16N to Exit 16 S	0.15	0.13	0.17	0.04	31%
	from Exit 16S to Exit 17	0.34	0.31	0.39	0.08	25%
	from Exit 17 to merge to I-481	1.53	1.80	1.88	0.08	4%
I-690 WB	from I-481 Exit to Exit 17	1.02	1.04	1.16	0.12	12%
	from Exit 17 to Exit 16N & 16S	0.30	0.30	0.34	0.05	16%
	from Exit 16N & 16S to Exit 15	1.26	1.24	1.44	0.21	17%
	from Exit 15 to Exit 14	1.03	1.00	1.18	0.18	18%
	from Exit 14 to Exit 13	1.60	1.86	1.94	0.08	4%
	from Exit 13 to Exit 11	0.28	0.31	0.34	0.03	10%
	from Exit 11 to Exit 10	0.63	0.64	0.72	0.08	13%
	from Exit 10 to route end	1.88	1.82	2.26	0.44	24%

Table J-2: Freeway Link Travel Time Validation Summary – PM Peak Hour

Route Name	Segment	Length (mi)	Travel Time (min)		Difference	
			Observed	Modeled	Actual	Percent
I-81 NB	from Exit 16A to Exit 17	0.76	0.80	0.73	-0.07	-8%
	from Exit 17 to Exit 18	1.82	1.90	2.07	0.17	9%
	from Exit 18 to I-690 Exit	0.71	0.85	1.10	0.25	29%
	from I-690 Exit to Exit 22	1.17	1.46	1.66	0.20	14%
	from Exit 22 to Exit 23	0.75	0.93	0.95	0.02	2%
	from Exit 23 to Exit 25	1.50	1.51	1.60	0.09	6%
	from Exit 25 to Exit 25A	0.54	0.50	0.54	0.04	8%
	from Exit25A to Exit 26	0.98	0.92	0.94	0.02	2%
	from Exit 26 to Exit 27	0.57	0.56	0.54	-0.02	-3%
	from Exit 27 to Exit 29S	2.26	2.16	2.17	0.01	0%
	from Exit 29S to Exit 29N	0.61	0.57	0.59	0.02	4%
	from Exit 29N to after merge from I-481	0.29	0.26	0.27	0.01	6%
I-81 SB	before exit ramp to I-481 NB to Exit 29N	0.29	0.29	0.28	-0.01	-3%
	from Exit 29N to Exit 29S	0.44	0.41	0.42	0.01	3%
	from Exit 29S to Exit 28	0.98	0.95	0.93	-0.02	-2%
	from Exit 28 to Exit 27	0.74	0.72	0.71	-0.01	-1%
	from Exit 27 to Exit 25A	2.11	2.09	2.00	-0.09	-4%
	from Exit 25A to Exit 25	0.43	0.44	0.41	-0.03	-6%
	from Exit 25 to Exit 23A	0.67	0.69	0.64	-0.05	-7%
	from Exit 25 to Exit 21	1.50	1.62	1.78	0.16	10%
	from Exit 21 to Exit 20	0.60	0.68	0.72	0.04	6%
	from Exit 20 to Exit 19	0.13	0.16	0.15	-0.01	-5%
	from Exit 19 to Exit 18	0.83	1.06	1.14	0.08	8%
	from Exit 18 to Exit 17	1.73	2.03	2.31	0.29	14%
	from Exit 17 to Exit to I-481	1.08	1.16	1.28	0.12	10%
I-481 NB	before Exit 1 to Exit 2	2.45	2.31	2.32	0.01	0%
	from Exit 2 to Exit 3	1.87	1.76	1.77	0.01	0%
	from Exit 3 to Exit 4	1.64	1.62	1.56	-0.06	-4%
	from Exit 4 to Exit 5	1.41	1.50	1.44	-0.06	-4%
	from Exit 5 to Exit 6	1.68	1.66	1.66	0.00	0%
	from Exit 6 to Exit 7	0.65	0.60	0.63	0.03	4%
	from Exit 7 to Exit 8	3.06	2.79	2.91	0.12	4%
	from Exit 8 to Exit 9N	1.23	1.14	1.18	0.04	3%
I-481 SB	from Exit 9N to Exit 8	0.80	0.73	0.76	0.04	5%
	from Exit 8 to Exit 7	3.14	2.83	2.98	0.15	5%
	from Exit 7 to Exit 6	0.71	0.65	0.68	0.03	5%
	from Exit 6 to Exit 5	1.20	1.10	1.14	0.05	4%
	from Exit 5 to Exit 4	1.44	1.40	1.39	-0.01	-1%
	from Exit 4 to Exit 3	1.81	2.05	1.77	-0.28	-14%
	from Exit 3 to Exit 2	1.54	1.53	1.48	-0.04	-3%
	from Exit 2 to Exit 1	3.37	3.10	3.22	0.12	4%
I-690 EB	from Exit 7 to Exit 8	0.81	0.77	0.76	-0.01	-2%
	from Exit 8 to Exit 9	0.37	0.36	0.35	-0.01	-2%
	from Exit 9 to Exit 12	1.03	1.02	1.07	0.05	5%
	from 12 to Exit to I-81 South	0.47	0.49	0.64	0.16	32%
	to Exit 14	1.36	1.56	1.85	0.30	19%
	from Exit 14 to Exit 15	0.87	0.91	1.02	0.11	12%
	from Exit 15 to Exit 16N	1.07	1.09	1.26	0.17	15%
	from Exit 16N to Exit 16 S	0.15	0.14	0.17	0.03	19%
	from Exit 16S to Exit 17	0.34	0.33	0.39	0.06	18%
	from Exit 17 to merge to I-481	1.53	1.93	1.88	-0.05	-3%
I-690 WB	from I-481 Exit to Exit 17	1.02	1.05	1.16	0.12	11%
	from Exit 17 to Exit 16N & 16S	0.30	0.29	0.34	0.06	20%
	from Exit 16N & 16S to Exit 15	1.26	1.23	1.44	0.21	17%
	from Exit 15 to Exit 14	1.03	1.02	1.18	0.16	16%
	from Exit 14 to Exit 13	1.60	1.98	1.92	-0.05	-3%
	from Exit 13 to Exit 11	0.28	0.40	0.35	-0.05	-12%
	from Exit 11 to Exit 10	0.63	0.93	0.72	-0.21	-22%
	from Exit 10 to route end	1.88	2.01	2.24	0.23	12%

Table J-3: Freeway Link Travel Time Validation Summary – PM Post-Peak

Route Name	Segment	Length (mi)	Travel Time (min)		Difference	
			Observed	Modeled	Actual	Percent
I-81 NB	from Exit 16A to Exit 17	0.76	0.80	0.73	-0.07	-8%
	from Exit 17 to Exit 18	1.82	1.97	2.07	0.10	5%
	from Exit 18 to I-690 Exit	0.71	0.91	1.04	0.13	14%
	from I-690 Exit to Exit 22	1.17	1.45	1.61	0.16	11%
	from Exit 22 to Exit 23	0.75	0.82	0.91	0.09	11%
	from Exit 23 to Exit 25	1.50	1.48	1.60	0.12	8%
	from Exit 25 to Exit 25A	0.54	0.54	0.53	-0.01	-2%
	from Exit25A to Exit 26	0.98	0.95	0.93	-0.02	-2%
	from Exit 26 to Exit 27	0.57	0.56	0.54	-0.02	-3%
	from Exit 27 to Exit 29S	2.26	2.15	2.15	0.00	0%
	from Exit 29S to Exit 29N	0.61	0.58	0.59	0.01	1%
	from Exit 29N to after merge from I-481	0.29	0.25	0.27	0.02	10%
I-81 SB	before exit ramp to I-481 NB to Exit 29N	0.29	0.29	0.27	-0.02	-5%
	from Exit 29N to Exit 29S	0.44	0.41	0.42	0.01	1%
	from Exit 29S to Exit 28	0.98	0.97	0.93	-0.04	-4%
	from Exit 28 to Exit 27	0.74	0.73	0.70	-0.03	-4%
	from Exit 27 to Exit 25A	2.11	2.11	2.00	-0.11	-5%
	from Exit 25A to Exit 25	0.43	0.44	0.41	-0.03	-7%
	from Exit 25 to Exit 23A	0.67	0.71	0.64	-0.07	-10%
	from Exit 25 to Exit 21	1.50	1.66	1.77	0.11	7%
	from Exit 21 to Exit 20	0.60	0.71	0.71	0.00	0%
	from Exit 20 to Exit 19	0.13	0.17	0.15	-0.02	-13%
	from Exit 19 to Exit 18	0.83	1.15	1.10	-0.05	-4%
	from Exit 18 to Exit 17	1.73	2.13	2.26	0.13	6%
	from Exit 17 to Exit to I-481	1.08	1.21	1.25	0.04	4%
I-481 NB	before Exit 1 to Exit 2	2.45	2.25	2.32	0.07	3%
	from Exit 2 to Exit 3	1.87	1.72	1.77	0.05	3%
	from Exit 3 to Exit 4	1.64	1.56	1.56	0.00	0%
	from Exit 4 to Exit 5	1.41	1.33	1.39	0.06	4%
	from Exit 5 to Exit 6	1.68	1.54	1.65	0.11	7%
	from Exit 6 to Exit 7	0.65	0.60	0.62	0.02	4%
	from Exit 7 to Exit 8	3.06	2.81	2.90	0.09	3%
	from Exit 8 to Exit 9N	1.23	1.11	1.17	0.06	6%
I-481 SB	from Exit 9N to Exit 8	0.80	0.72	0.76	0.04	6%
	from Exit 8 to Exit 7	3.14	2.82	2.97	0.15	5%
	from Exit 7 to Exit 6	0.71	0.64	0.67	0.03	5%
	from Exit 6 to Exit 5	1.20	1.09	1.14	0.05	5%
	from Exit 5 to Exit 4	1.44	1.31	1.38	0.07	5%
	from Exit 4 to Exit 3	1.81	2.07	1.76	-0.31	-15%
	from Exit 3 to Exit 2	1.54	1.64	1.47	-0.17	-10%
	from Exit 2 to Exit 1	3.37	3.15	3.21	0.06	2%
I-690 EB	from Exit 7 to Exit 8	0.81	0.75	0.76	0.01	1%
	from Exit 8 to Exit 9	0.37	0.34	0.35	0.01	3%
	from Exit 9 to Exit 12	1.03	0.97	1.07	0.10	10%
	from 12 to Exit to I-81 South	0.47	0.48	0.64	0.16	32%
	to Exit 14	1.36	1.54	1.81	0.27	17%
	from Exit 14 to Exit 15	0.87	0.97	1.01	0.04	4%
	from Exit 15 to Exit 16N	1.07	1.09	1.24	0.15	14%
	from Exit 16N to Exit 16 S	0.15	0.14	0.17	0.03	22%
	from Exit 16S to Exit 17	0.34	0.33	0.39	0.06	17%
	from Exit 17 to merge to I-481	1.53	1.82	1.87	0.05	3%
I-690 WB	from I-481 Exit to Exit 17	1.02	1.03	1.16	0.13	13%
	from Exit 17 to Exit 16N & 16S	0.30	0.29	0.34	0.05	18%
	from Exit 16N & 16S to Exit 15	1.26	1.23	1.44	0.21	17%
	from Exit 15 to Exit 14	1.03	1.04	1.18	0.14	13%
	from Exit 14 to Exit 13	1.60	2.30	1.86	-0.44	-19%
	from Exit 13 to Exit 11	0.28	0.45	0.34	-0.11	-25%
	from Exit 11 to Exit 10	0.63	0.72	0.72	0.00	0%
	from Exit 10 to route end	1.88	2.12	2.20	0.08	4%

APPENDIX K:
MAXIMUM QUEUE LENGTH VALIDATION SUMMARY – AM PEAK PERIOD

Table K-1: Maximum Queue Length Validation Summary – AM Pre-Peak

Freeway / Intersection	Segment / Approach	Queue length (ft.)		Difference	
		Observed	Modeled	(%)	(veh.)
NB I-81	Northbound I-81 at Exit 18 (Harrison St/Adams St)	0	0	-	-
	Northbound I-81 at I-690 EB Split	-	95	-	-
SB I-81	Southbound I-81 at Exit 19 (Clinton St/Salina St)	200	9	-95%	-8
	Southbound I-81 at Harrison Street off-ramp	263	1	-100%	-10
EB I-690	Eastbound I-690 at Diverge to SB I-81	200	0	-	-8
EB I-690 Connector to SB I-81	EB I-690 Connector to SB I-81 at Merge onto SB 1-81	109	2	-99%	-4
WB I-690	Westbound I-690 at Diverge to I-81 SB	0	0	-	-
NB I-481	Northbound I-481 at Diverge to WB I-690	0	0	-	-
SB I-481	Southbound I-481 at Exit 3E (5/92)	-	42	-	-
Almond Street and Adams Street	Adams Street Eastbound	397	444	12%	2
	Almond Street Northbound	45	133	196%	4
	Almond Street Southbound	342	193	-44%	-6
	Northbound I-81 off-ramp	418	315	-25%	-4
Almond Street and Harrison Street	Almond Street Northbound	451	450	0%	0
	Almond Street Southbound	720	518	-28%	-8
	Harrison Street Westbound	179	308	72%	5
Erie Blvd and Crouse Ave	Crouse Avenue Northbound	17	181	940%	7
	Crouse Avenue Southbound	48	110	128%	2
	Erie Blvd Eastbound	13	92	594%	3
	Erie Blvd Westbound	13	104	724%	4
Genesee Street and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	107	287	168%	7
	Genesee Street Eastbound	62	310	401%	10
	Genesee Street Westbound	-	85	-	-
Almond Street and SB 1-81 off-ramp	SB I-81 off-ramp	337	502	49%	7
Salina Street and SB I-81 off-ramp	SB I-81 off-ramp	26	210	701%	7
Townsend Street and WB I-690 off-ramp	WB I-690 off-ramp	68	144	111%	3

Table K-2: Maximum Queue Length Validation Summary – AM Peak Hour

Freeway / Intersection	Segment / Approach	Queue length (ft.)		Difference	
		Observed	Modeled	(%)	(veh.)
NB I-81	Northbound I-81 at Exit 18 (Harrison St/Adams St)	218	86	-61%	-5
	Northbound I-81 at I-690 EB Split	-	167	-	-
SB I-81	Southbound I-81 at Exit 19 (Clinton St/Salina St)	5200	4366	-16%	-33
	Southbound I-81 at Harrison Street off-ramp	1240	1202	-3%	-2
EB I-690	Eastbound I-690 at Diverge to SB I-81	491	676	38%	7
EB I-690 Connector to SB I-81	EB I-690 Connector to SB I-81 at Merge onto SB 1-81	619	678	10%	2
WB I-690	Westbound I-690 at Diverge to I-81 SB	0	2	NA	0
NB I-481	Northbound I-481 at Diverge to WB I-690	0	0	NA	0
SB I-481	Southbound I-481 at Exit 3E (5/92)	-	71	-	-
Almond Street and Adams Street	Adams Street Eastbound	661	566	-14%	-4
	Almond Street Northbound	107	177	65%	3
	Almond Street Southbound	479	376	-22%	-4
	Northbound I-81 off-ramp	845	789	-7%	-2
Almond Street and Harrison Street	Almond Street Northbound	859	961	12%	4
	Almond Street Southbound	842	659	-22%	-7
	Harrison Street Westbound	374	381	2%	0
Erie Blvd and Crouse Ave	Crouse Avenue Northbound	40	207	423%	7
	Crouse Avenue Southbound	74	128	74%	2
	Erie Blvd Eastbound	19	103	451%	3
	Erie Blvd Westbound	45	113	150%	3
Genesee Street and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	203	432	112%	9
	Genesee Street Eastbound	151	417	177%	11
	Genesee Street Westbound	-	110	-	-
Almond Street and SB 1-81 off-ramp	SB I-81 off-ramp	547	764	40%	9
Salina Street and SB I-81 off-ramp	SB I-81 off-ramp	394	552	40%	6
Townsend Street and WB I-690 off-ramp	WB I-690 off-ramp	131	186	42%	2

Table K-3: Maximum Queue Length Validation Summary – AM Post-Peak

Freeway / Intersection	Segment / Approach	Queue length (ft.)		Difference	
		Observed	Modeled	(%)	(veh.)
NB I-81	Northbound I-81 at Exit 18 (Harrison St/Adams St)	375	0	-100%	-15
	Northbound I-81 at I-690 EB Split	-	127	-	-
SB I-81	Southbound I-81 at Exit 19 (Clinton St/Salina St)	2325	2986	28%	26
	Southbound I-81 at Harrison Street off-ramp	1950	1840	-6%	-4
EB I-690	Eastbound I-690 at Diverge to SB I-81	7	316	4646%	12
EB I-690 Connector to SB I-81	EB I-690 Connector to SB I-81 at Merge onto SB 1-81	525	485	-8%	-2
WB I-690	Westbound I-690 at Diverge to I-81 SB	0	3	-	0
NB I-481	Northbound I-481 at Diverge to WB I-690	0	0	-	0
SB I-481	Southbound I-481 at Exit 3E (5/92)	-	50	-	-
Almond Street and Adams Street	Adams Street Eastbound	423	491	16%	3
	Almond Street Northbound	116	165	43%	2
	Almond Street Southbound	352	341	-3%	0
	Northbound I-81 off-ramp	575	396	-31%	-7
Almond Street and Harrison Street	Almond Street Northbound	727	547	-25%	-7
	Almond Street Southbound	754	597	-21%	-6
	Harrison Street Westbound	254	343	35%	4
Erie Blvd and Crouse Ave	Crouse Avenue Northbound	37	189	413%	6
	Crouse Avenue Southbound	63	120	90%	2
	Erie Blvd Eastbound	28	93	229%	3
	Erie Blvd Westbound	36	123	238%	3
Genesee Street and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	98	310	215%	8
	Genesee Street Eastbound	231	315	36%	3
	Genesee Street Westbound	-	106	-	-
Almond Street and SB 1-81 off-ramp	SB I-81 off-ramp	500	675	35%	7
Salina Street and SB I-81 off-ramp	SB I-81 off-ramp	325	423	30%	4
Townsend Street and WB I-690 off-ramp	WB I-690 off-ramp	124	169	36%	2

APPENDIX L:
MAXIMUM QUEUE LENGTH VALIDATION SUMMARY – PM PEAK PERIOD

Table L-1: Maximum Queue Length Validation Summary – PM Pre-Peak

Freeway / Intersection	Segment / Approach	Queue length (ft.)		Difference	
		Observed	Modeled	(%)	(veh.)
NB I-81	Northbound I-81 at Exit 18 (Harrison St/Adams St)	0	31	-	1
	Northbound I-81 at I-690 EB Split	150	345	130%	8
SB I-81	Southbound I-81 at Exit 19 (Clinton St/Salina St)	-	0	-	-
	Southbound I-81 at Harrison Street off-ramp	-	31	-	-
EB I-690	Eastbound I-690 at Diverge to SB I-81	205	0	-	-8
EB I-690 Connector to SB I-81	EB I-690 Connector to SB I-81 at Merge onto SB 1-81	-	0	-	-
WB I-690	Westbound I-690 at Diverge to I-81 SB	0	29	-	1
NB I-481	Northbound I-481 at Diverge to WB I-690	-	0	-	-
SB I-481	Southbound I-481 at Exit 3E (5/92)	0	295	-	12
Almond Street and Adams Street	Adams Street Eastbound	562	764	36%	8
	Almond Street Northbound	688	449	-35%	-10
	Almond Street Southbound	560	365	-35%	-8
	Northbound I-81 off-ramp	-	725	-	-
Almond Street and Harrison Street	Almond Street Northbound	490	673	37%	7
	Almond Street Southbound	667	492	-26%	-7
	Harrison Street Westbound	689	653	-5%	-1
Erie Blvd and Crouse Ave	Crouse Avenue Northbound	97	233	140%	5
	Crouse Avenue Southbound	41	159	291%	5
	Erie Blvd Eastbound	97	113	17%	1
	Erie Blvd Westbound	60	117	95%	2
Genesee Street and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	-	61	-	-
	Genesee Street Eastbound	-	191	-	-
	Genesee Street Westbound	155	146	-6%	0
Almond Street and SB 1-81 off-ramp	SB I-81 off-ramp	-	203	-	-
Salina Street and SB I-81 off-ramp	SB I-81 off-ramp	-	73	-	-
Townsend Street and WB I-690 off-ramp	WB I-690 off-ramp	-	111	-	-

Table L-2: Maximum Queue Length Validation Summary – PM Peak Hour

Route	Observation Location	Queue length (ft.)		Difference	
		Observed	Modeled	(%)	(veh.)
NB I-81	Northbound I-81 at Exit 18 (Harrison St/Adams St)	0	123	-	5
	Northbound I-81 at I-690 EB Split	213	484	128%	11
SB I-81	Southbound I-81 at Exit 19 (Clinton St/Salina St)	-	0	-	-
	Southbound I-81 at Harrison Street off-ramp	-	105	-	-
EB I-690	Eastbound I-690 at Diverge to SB I-81	45	0	-100%	-2
EB I-690 Connector to SB I-81	EB I-690 Connector to SB I-81 at Merge onto SB 1-81	-	0	-	-
WB I-690	Westbound I-690 at Diverge to I-81 SB	0	40	-	2
NB I-481	Northbound I-481 at Diverge to WB I-690	-	2	-	-
SB I-481	Southbound I-481 at Exit 3E (5/92)	0	441	-	18
Almond Street and Adams Street	Adams Street Eastbound	689	830	20%	6
	Almond Street Northbound	718	512	-29%	-8
	Almond Street Southbound	728	484	-34%	-10
	Northbound I-81 off-ramp	-	881	-	-
Almond Street and Harrison Street	Almond Street Northbound	488	684	40%	8
	Almond Street Southbound	778	442	-41%	-12
	Harrison Street Westbound	1001	695	-31%	-12
Erie Blvd and Crouse Ave	Crouse Avenue Northbound	89	245	174%	6
	Crouse Avenue Southbound	39	172	342%	5
	Erie Blvd Eastbound	119	119	0%	0
	Erie Blvd Westbound	79	110	41%	1
Genesee Street and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	-	62	-	-
	Genesee Street Eastbound	-	199	-	-
	Genesee Street Westbound	154	158	2%	0
Almond Street and SB 1-81 off-ramp	SB I-81 off-ramp	-	219	-	-
Salina Street and SB I-81 off-ramp	SB I-81 off-ramp	-	89	-	-
Townsend Street and WB I-690 off-ramp	WB I-690 off-ramp	-	110	-	-

Table L-3: Maximum Queue Length Validation Summary – PM Post-Peak

Route	Observation Location	Queue length (ft.)		Difference	
		Observed	Modeled	(%)	(veh.)
NB I-81	Northbound I-81 at Exit 18 (Harrison St/Adams St)	0	82	-	3
	Northbound I-81 at I-690 EB Split	100	283	183%	7
SB I-81	Southbound I-81 at Exit 19 (Clinton St/Salina St)	-	0	-	-
	Southbound I-81 at Harrison Street off-ramp	-	45	-	-
EB I-690	Eastbound I-690 at Diverge to SB I-81	0	0	-	0
EB I-690 Connector to SB I-81	EB I-690 Connector to SB I-81 at Merge onto SB 1-81	-	0	-	-
WB I-690	Westbound I-690 at Diverge to I-81 SB	0	19	-	1
NB I-481	Northbound I-481 at Diverge to WB I-690	-	0	-	-
SB I-481	Southbound I-481 at Exit 3E (5/92)	0	301	-	12
Almond Street and Adams Street	Adams Street Eastbound	470	742	58%	11
	Almond Street Northbound	313	392	25%	3
	Almond Street Southbound	549	407	-26%	-6
	name	-	491	-	-
Almond Street and Harrison Street	Almond Street Northbound	463	707	53%	10
	Almond Street Southbound	513	371	-28%	-6
	Harrison Street Westbound	629	573	-9%	-2
Erie Blvd and Crouse Ave	Crouse Avenue Northbound	48	225	371%	7
	Crouse Avenue Southbound	24	153	528%	5
	Erie Blvd Eastbound	69	113	63%	2
	Erie Blvd Westbound	42	106	154%	3
Genesee Street and Eastbound I-690 off-ramp/N. West St	EB I-690 off-ramp	-	48	-	-
	Genesee Street Eastbound	-	157	-	-
	Genesee Street Westbound	123	151	23%	1
Almond Street and SB 1-81 off-ramp	SB I-81 off-ramp	-	198	-	-
Salina Street and SB I-81 off-ramp	SB I-81 off-ramp	-	58	-	-
Townsend Street and WB I-690 off-ramp	WB I-690 off-ramp	-	96	-	-

5-2: Traffic Volumes and Levels of Service

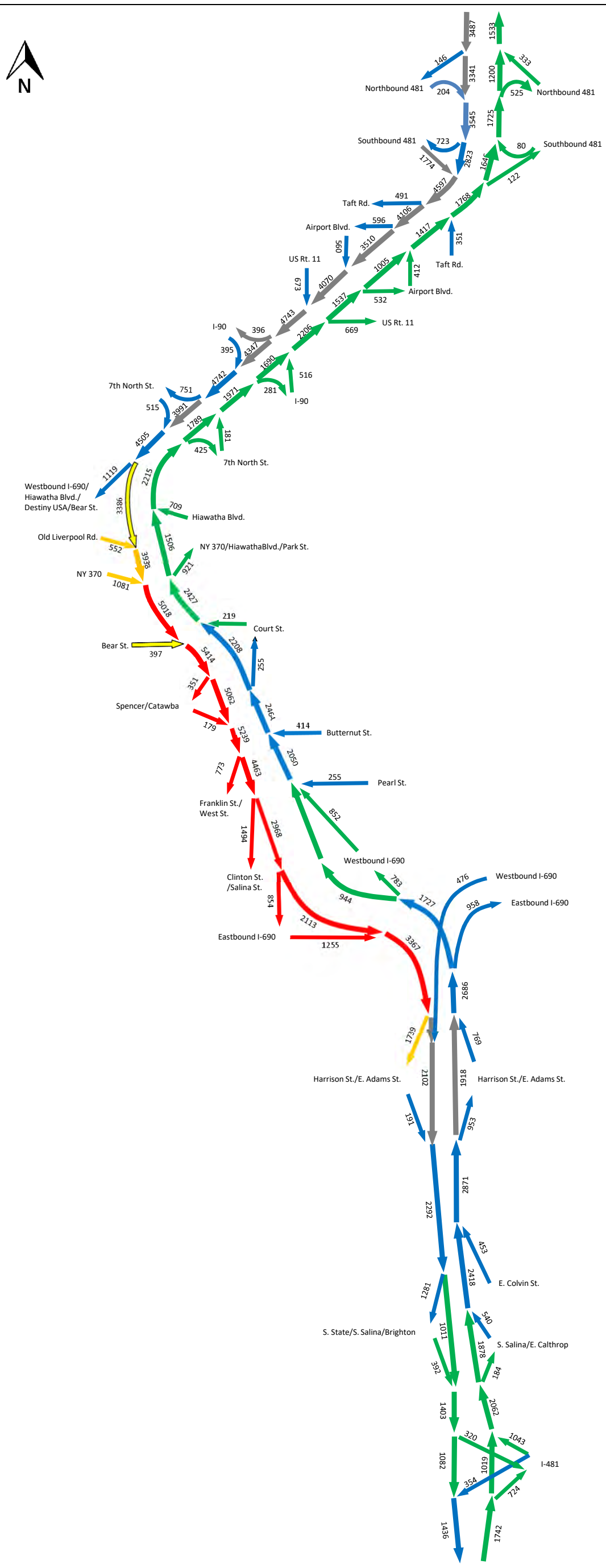
5-2-1: 2013 Existing Freeway Traffic Volumes and Level of Service

I-81

Existing, 2013, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F



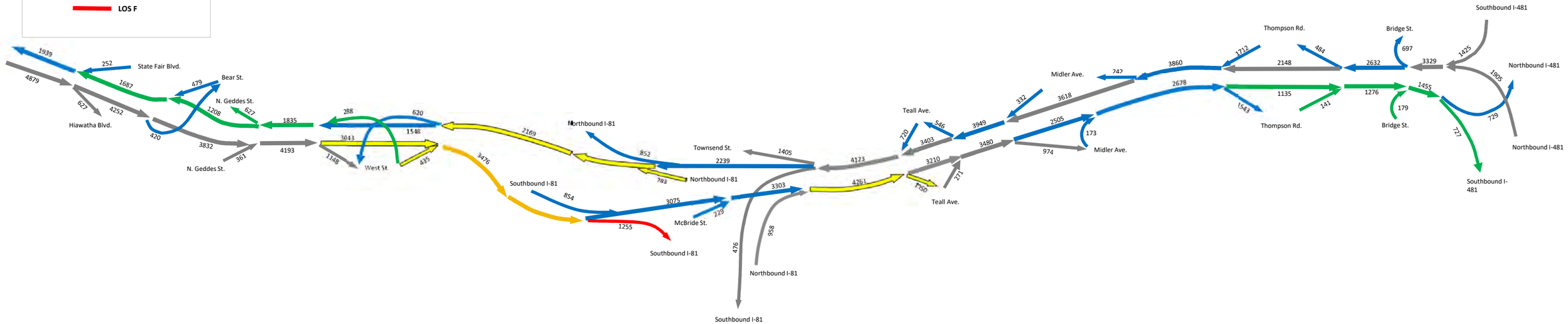
I-481
Existing, 2013, AM
LEGEND
LOS A
LOS B
LOS C
LOS D
LOS E
LOS F
Southbound I-81
Northbound I-81
146
204
525
333
1263
1118
1322
797
1130
3311
1537
2259
2180
2302
1774
723
80
122
Southbound I-81
Northbound I-81
331
Northern Blvd.
799
306
976
1626
Northern Blvd.
424
1105
2050
508
98
RT 298
1542
1007
RT 298
399
463
1941
1471
314
1157
I-90
251
1690
509
I-90
690
2380
1666
299
2081
1487
180
Westbound
Kirkville Rd.
325
605
Westbound
Kirkville Rd.
2405
2092
Eastbound
Kirkville Rd.
182
86
Eastbound
Kirkville Rd.
379
2223
2006
129
2602
2135
1425
Westbound I-690
1905
1177
Eastbound I-690
729
1407
727
1904
3310
207
1699
1441
1869
Westbound
RT5/RT92
211
353
Westbound
RT5/RT92
1910
1793
Eastbound
RT5/RT92
840
1070
1493
300
Eastbound
RT5/RT92
133
207
1203
1699
353
Jamesville Rd.
488
851
595
1104
Brighton Ave.
544
603
I-81
1043
320
795
1338
Jamesville Rd.
223
354
1044
825
1304
219
473
724
I-81
Rock Cut Rd.
N

I-690

Existing, 2013, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

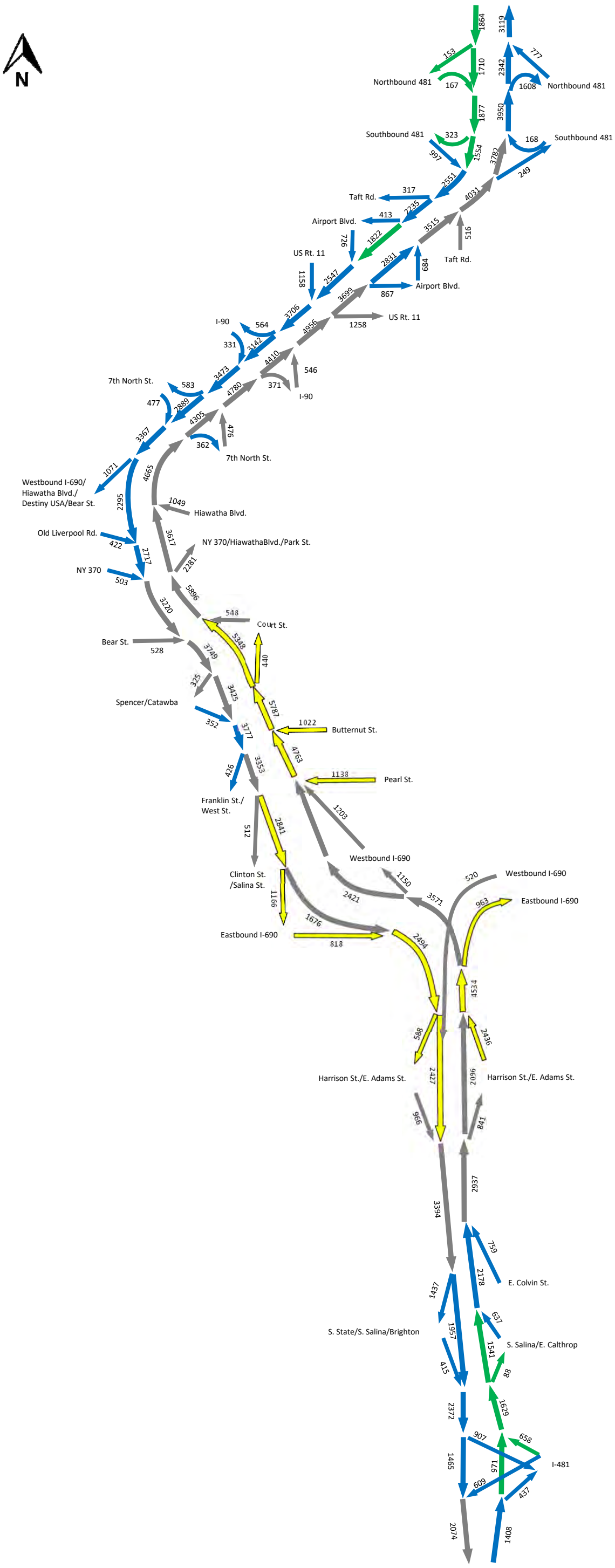


I-81

Existing, 2013, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

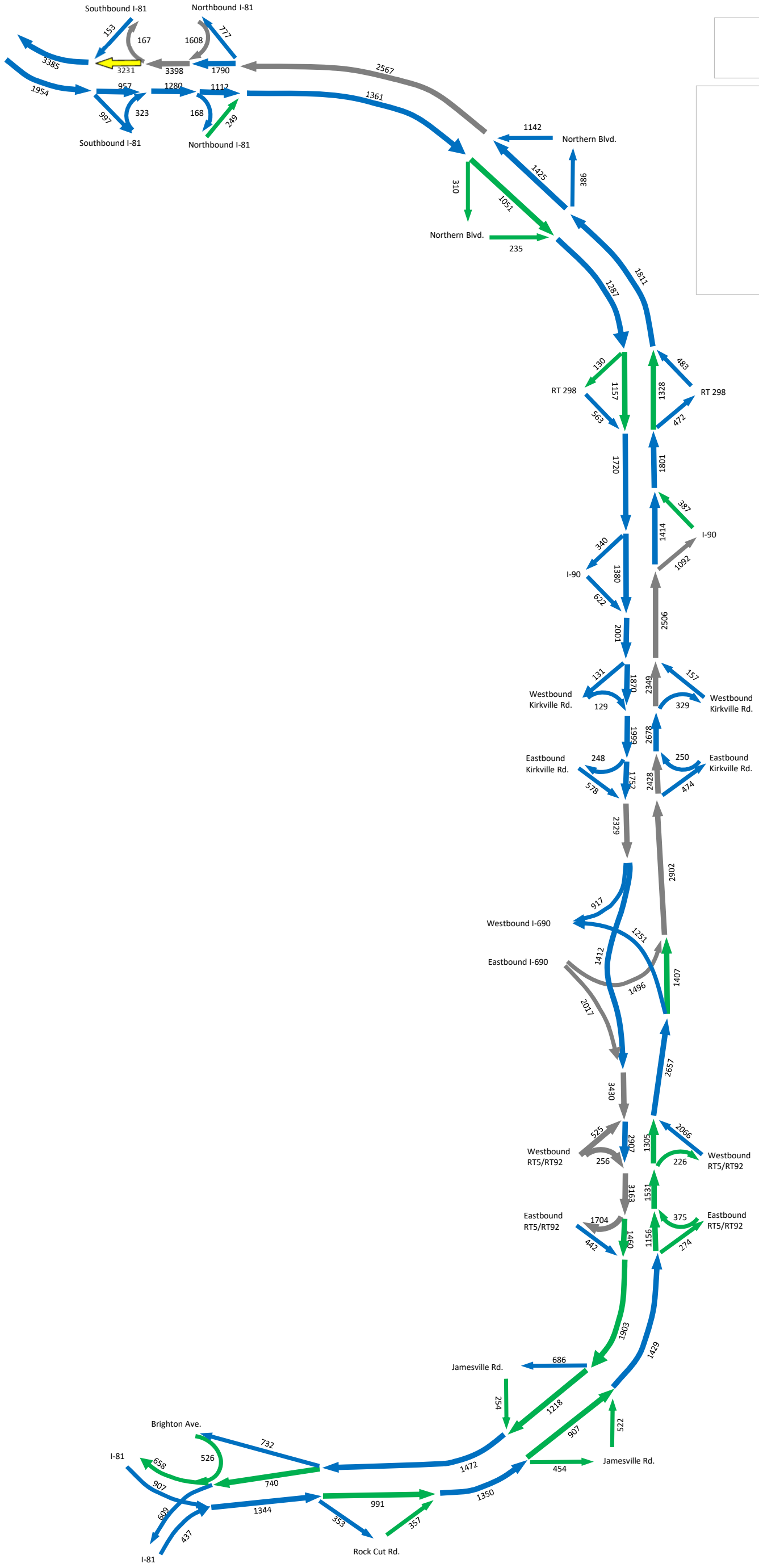


I-481

Existing, 2013, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

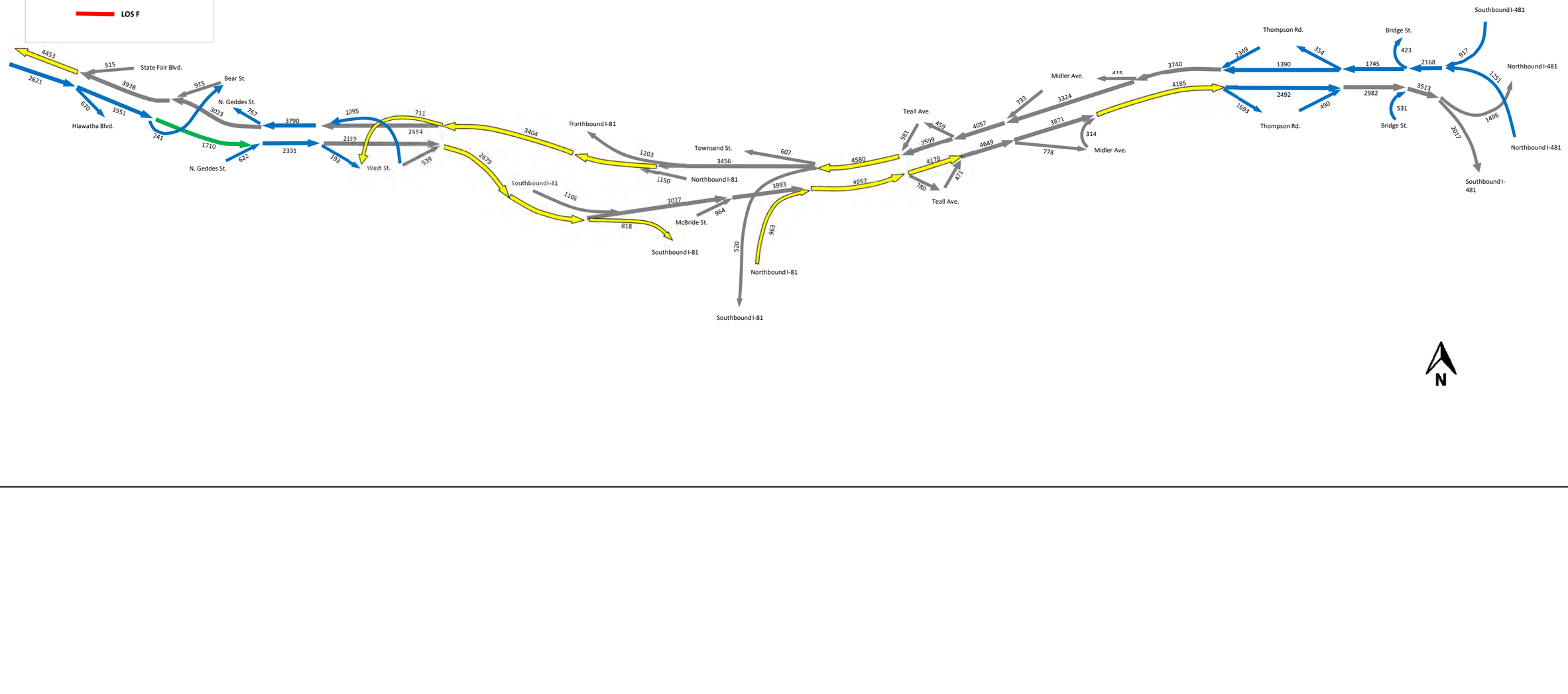


I-690

Existing, 2013, PM

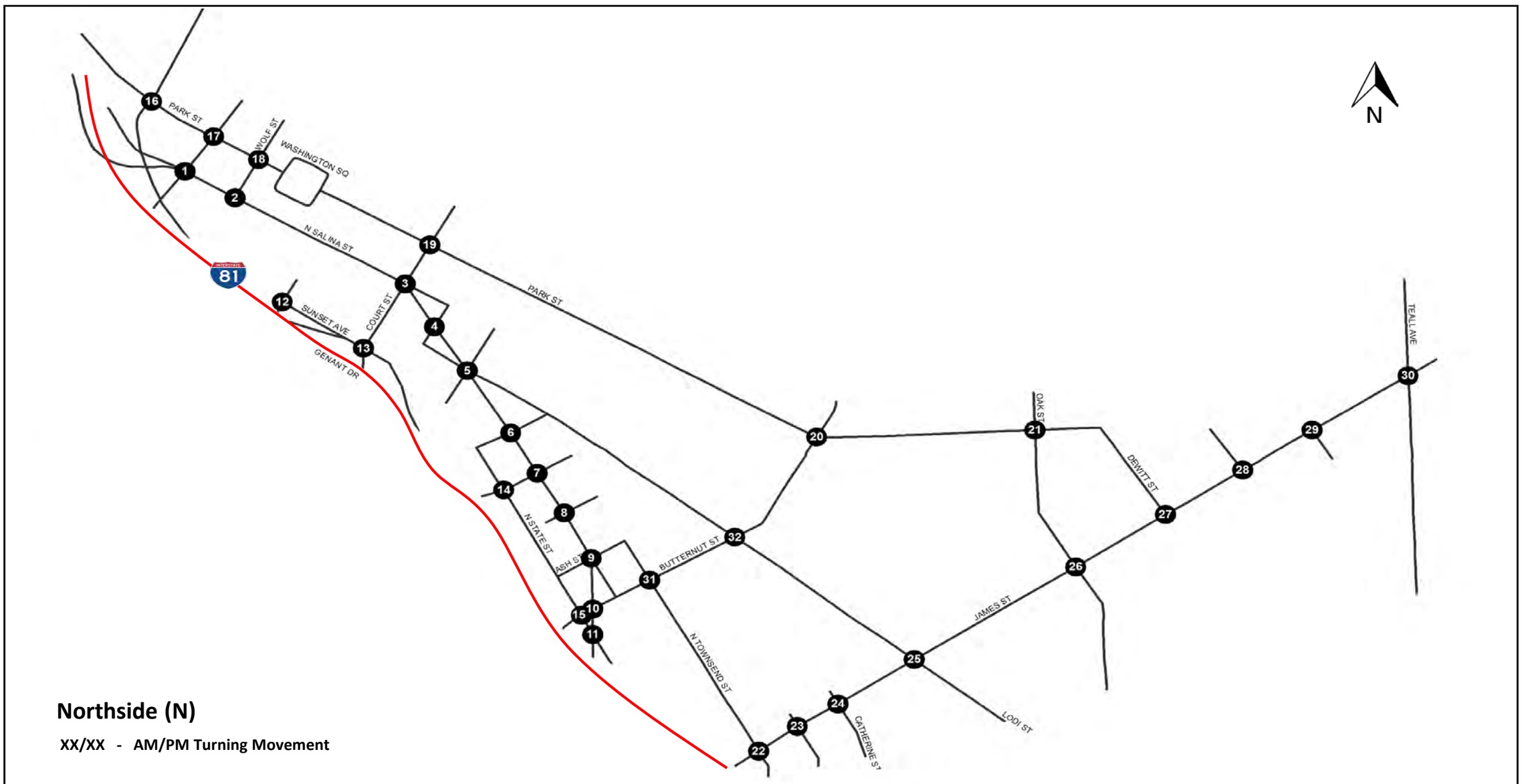
LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F



5-2-2: 2013 Existing Intersection Traffic Volumes

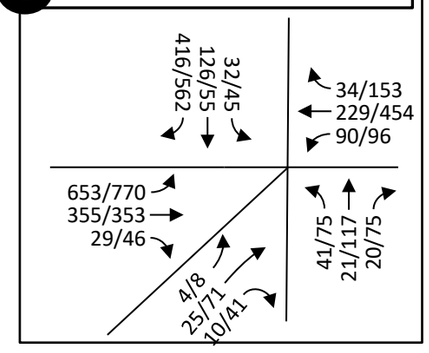
Existing 2013



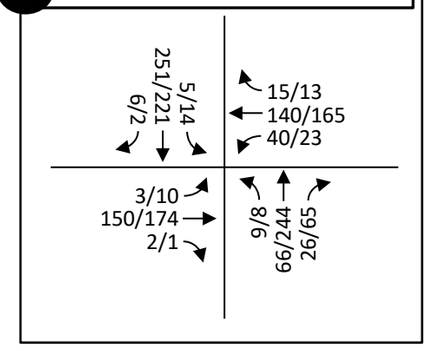
Northside (N)

XX/XX - AM/PM Turning Movement

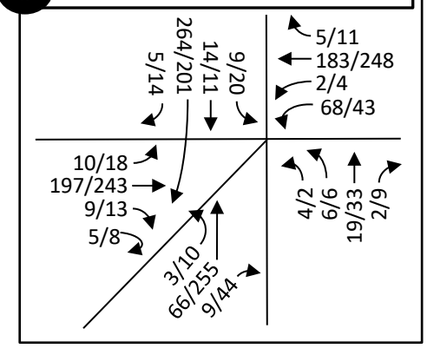
1 US 11/N. Salina St & Hiawatha Blvd E.



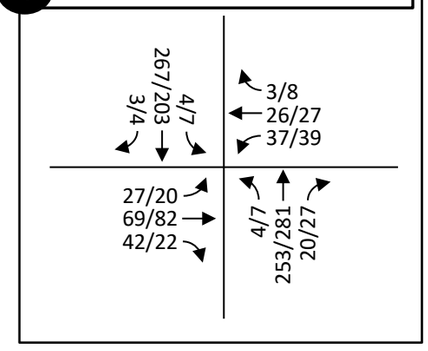
2 US 11/N. Salina St & Wolf St



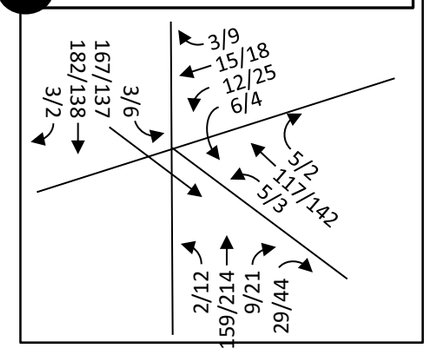
3 US 11/N. Salina St & NY 298/Court St &



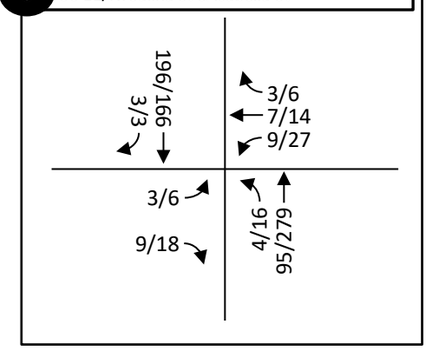
4 US 11/N. Salina St & Danforth St



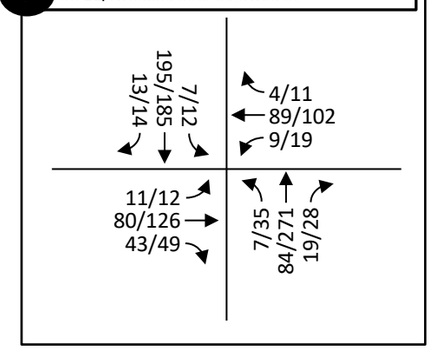
5 US 11/N. Salina St & Lodi St & Kickpatrick St



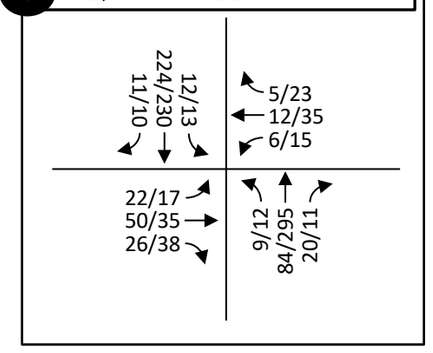
6 US 11/N. Salina St & Isabella St



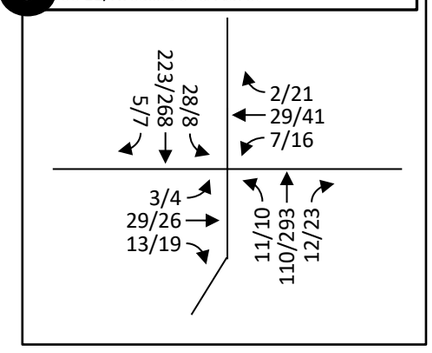
7 US 11/N. Salina St & Catawba St



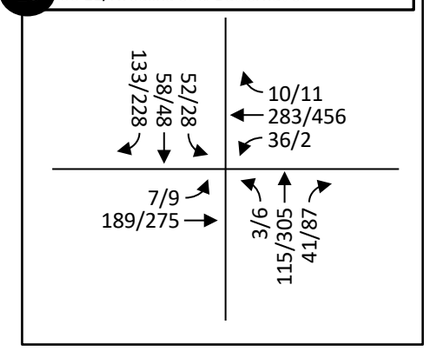
8 US 11/N. Salina St & E. Division St



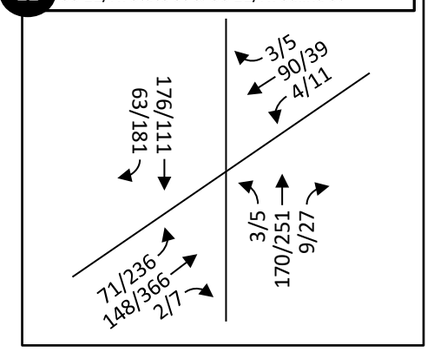
9 US 11/N. Salina St & Ash St



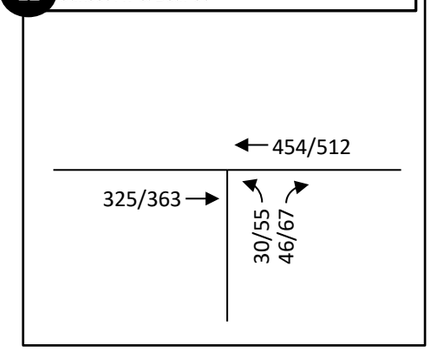
10 US 11/N. Salina St & Butternut St



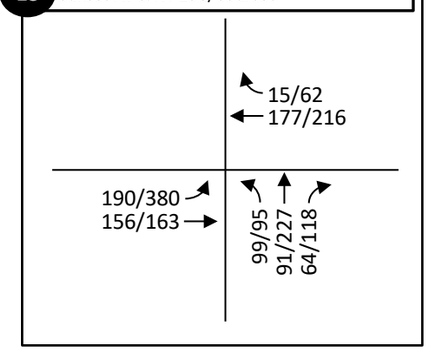
11 US 11/N. State St & US 11/N. Salina St



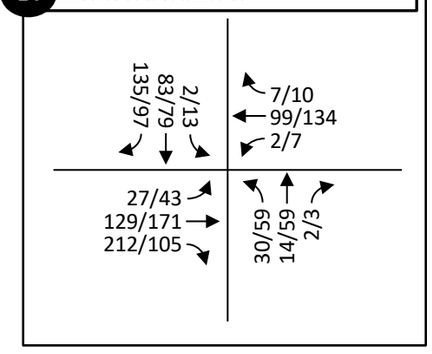
12 Sunset Av & Bear St



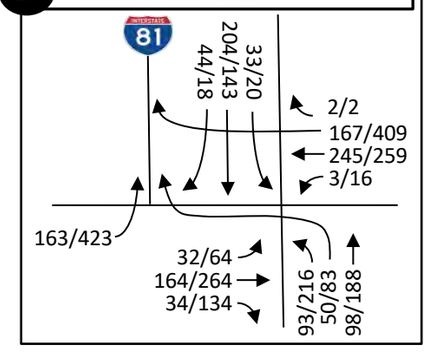
13 Sunset Av & NY 298/Court St



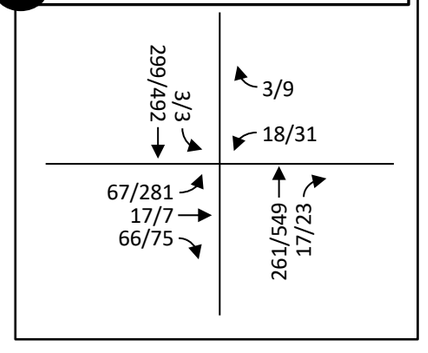
14 N. State St & Catawba St



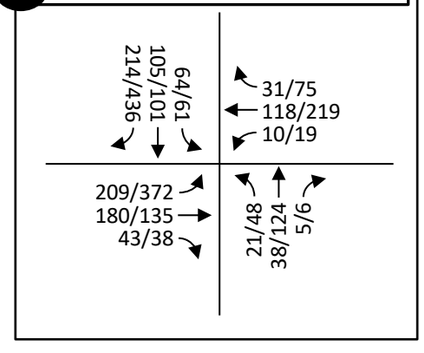
15 N. State St & Butternut St



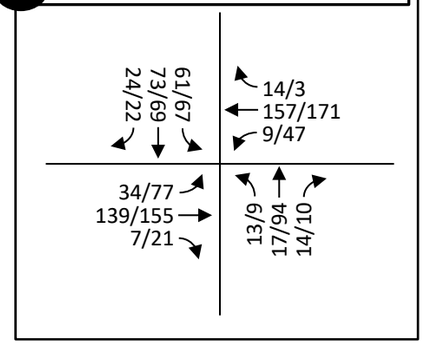
16 Park St & Farmers Market Pl



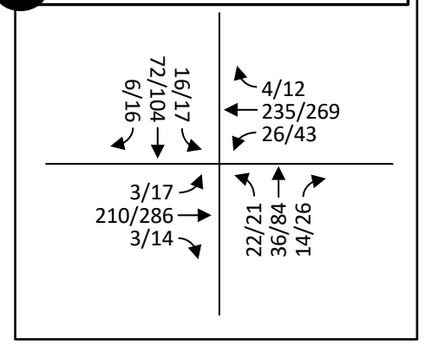
17 Park St & Hiawatha Blvd E.



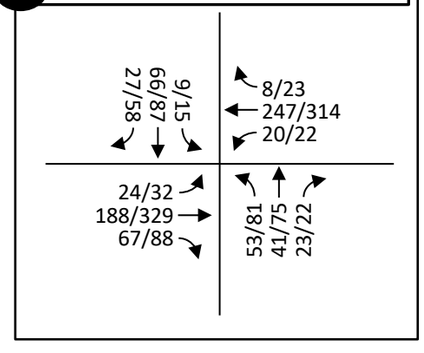
18 Park St & Wolf St



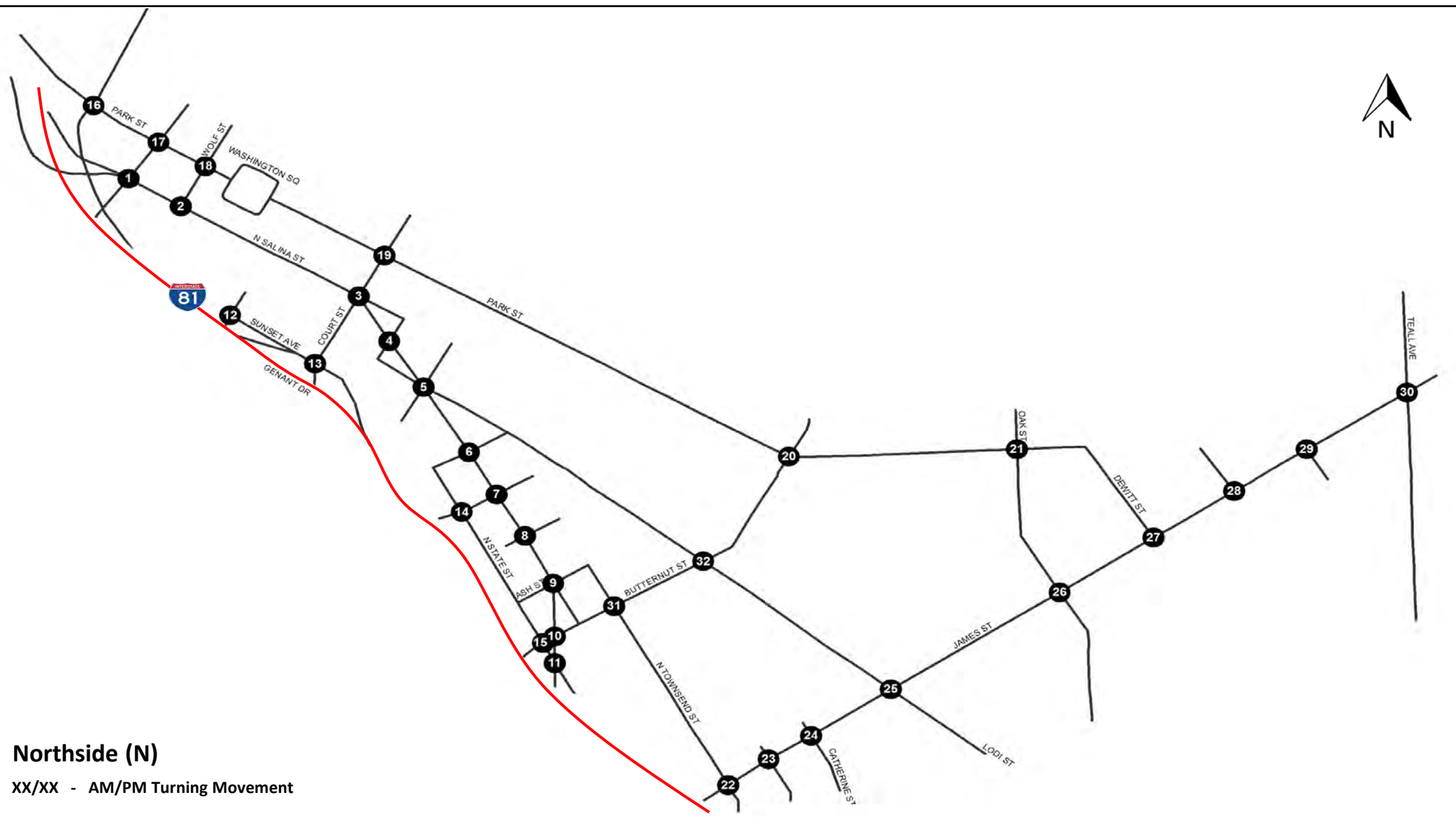
19 Park St & Court St



20 Park St & Butternut St



Existing 2013



Northside (N)

XX/XX - AM/PM Turning Movement

21 Park St & Oak St

10/20 109/110 33/67	23/29 262/126 19/16	
27/61 80/227 20/30	37/49 67/88 13/27	

22 N. Townsend St & James St

24/48 118/171 31/28	18/42 508/687 38/19	
12/12 563/555 64/63	119/136 190/230 44/82	

23 N. McBride St & James St

6/77 22/63 8/45	24/28 549/694 4/9	
79/34 533/639 18/12	7/8 46/56 4/8	

24 Catherine St & James St

2/7 109/126 21/38	10/15 532/559 133/57	
30/25 453/666 59/34	25/134 67/190 28/65	

25 Lodi St & James St

31/40 203/224 18/29	47/68 638/564 11/9	
2/16 459/660 21/61	19/38 180/318 21/47	

26 Oak St & James St

30/41 181/83 121/117	22/46 552/485 63/15	
51/143 371/579 90/25	24/39 53/129 19/26	

27 Dewitt St & James St

98/122 3/3 47/31	104/116 584/501 2/2	
13/46 398/593 10/8	5/15 6/6 2/4	

28 Sedgwick Dr & James St

74/86 46/34	101/85 643/584	
71/38 426/681		

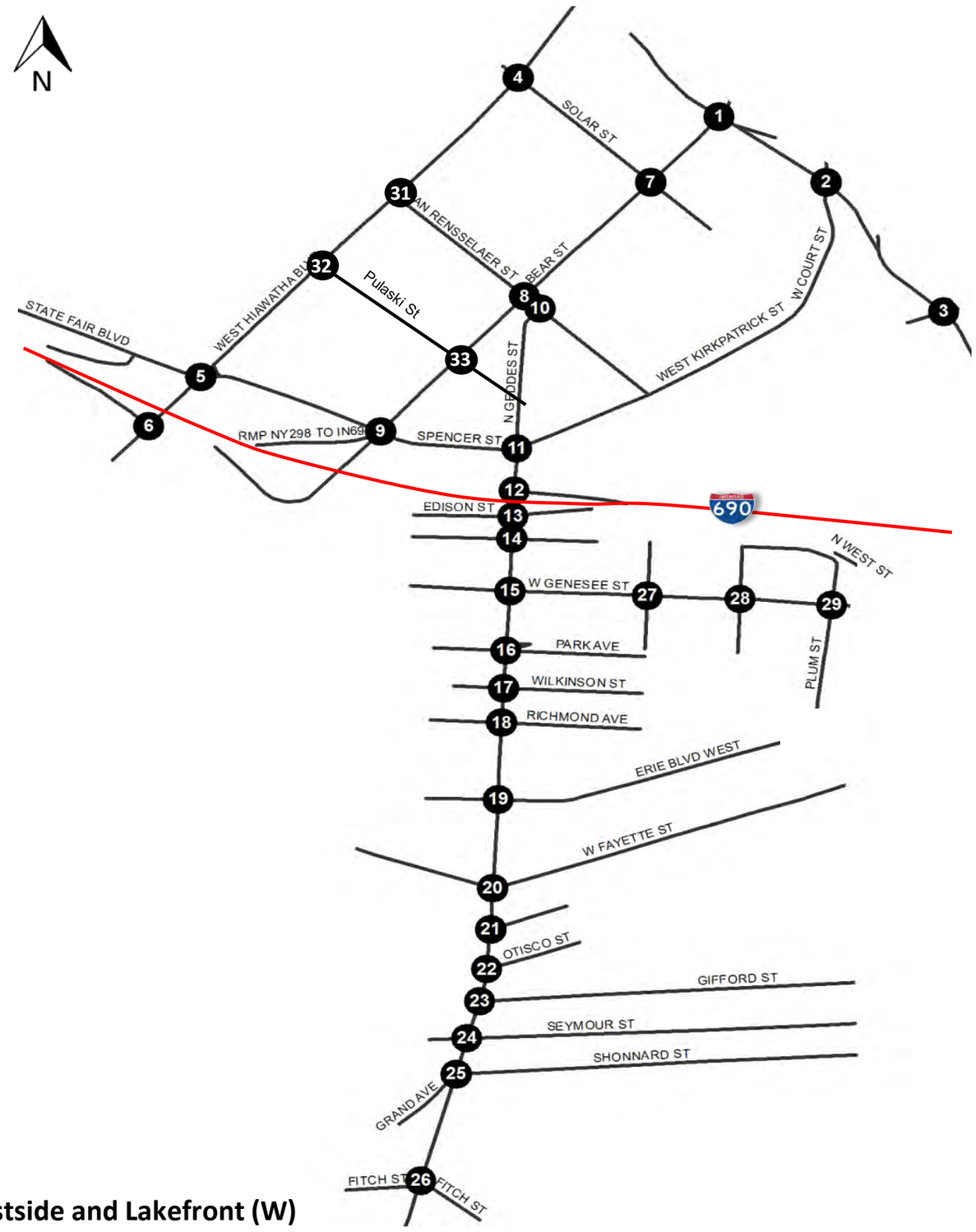
29 Wilson St & James St

	732/658 14/12	
485/760 15/8	11/11	24/18

30 Teall Av & James St

6/11 354/433 154/110	13/13 455/408 68/122	
73/164 286/483 150/131	137/152 299/427 100/126	

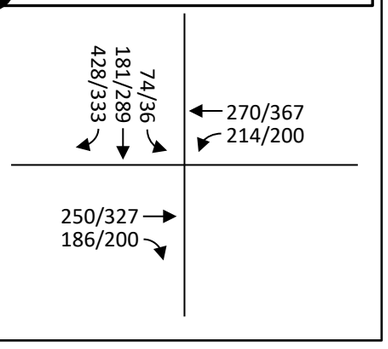
Existing 2013



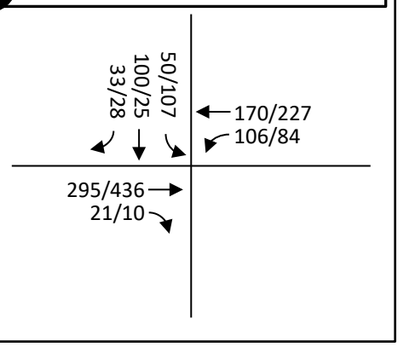
Westside and Lakefront (W)

XX/XX - AM/PM Turning Movement

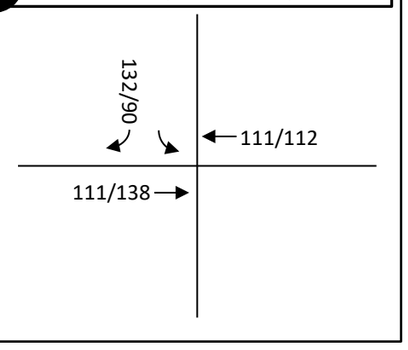
1 I-81 South On-Ramp/Genant Dr & Bear St



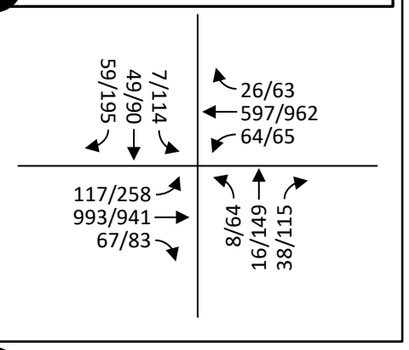
2 Genant Dr & NY 298/W. Court St



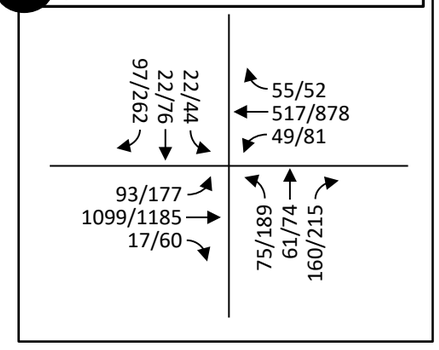
3 I-81 South Off-Ramp/Genant Dr & Spencer St



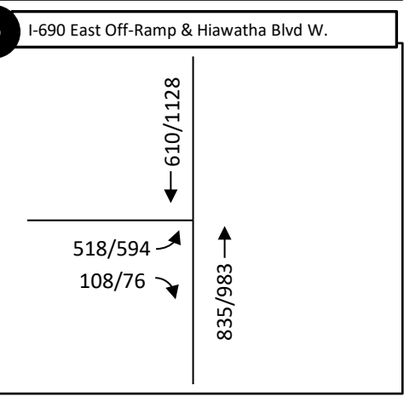
4 Solar St & Hiawatha Blvd W.



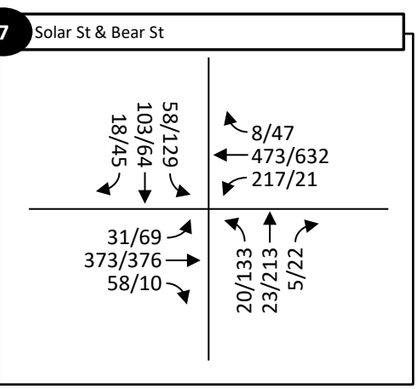
5 Spencer St & Hiawatha Blvd W.



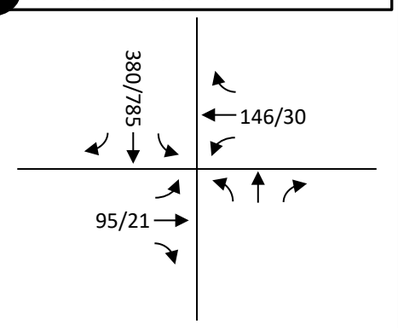
6 I-690 East Off-Ramp & Hiawatha Blvd W.



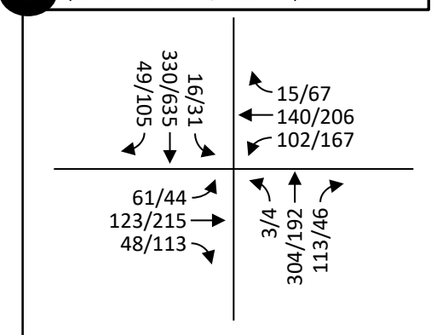
7 Solar St & Bear St



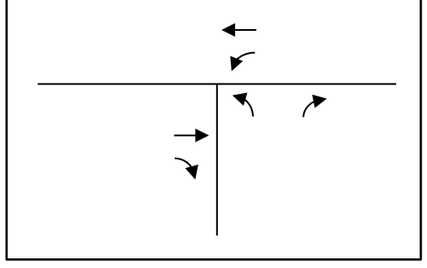
8 Van Rensselaer St & Bear St



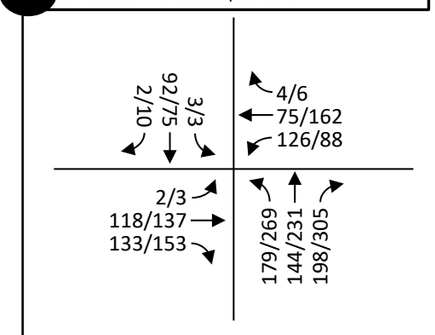
9 Spencer St & Bear St/I-690 Ramps



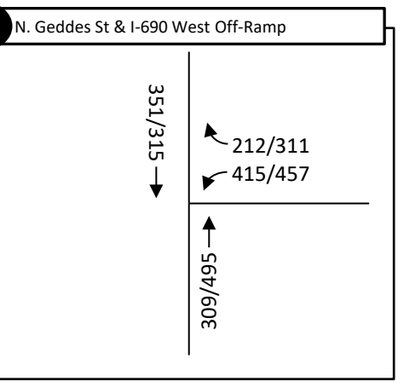
10 N. Geddes St & Van Rensselaer St



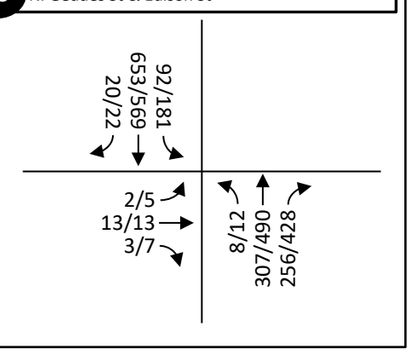
11 N. Geddes St & W. Kirkpatrick St



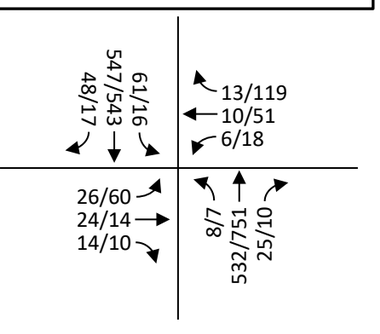
12 N. Geddes St & I-690 West Off-Ramp



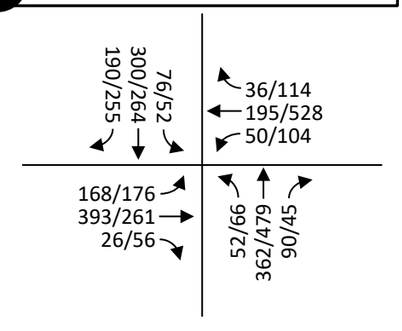
13 N. Geddes St & Edison St



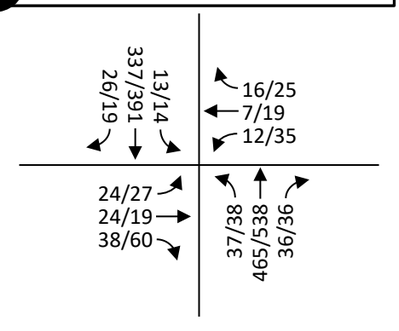
14 N. Geddes St & W. Belden Av



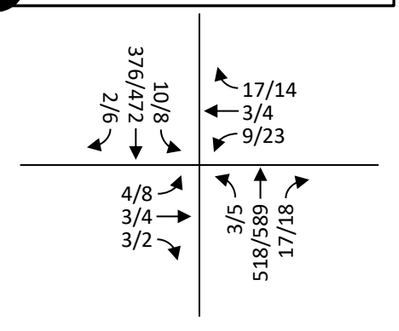
15 N. Geddes St & NY 5/W. Genesee St



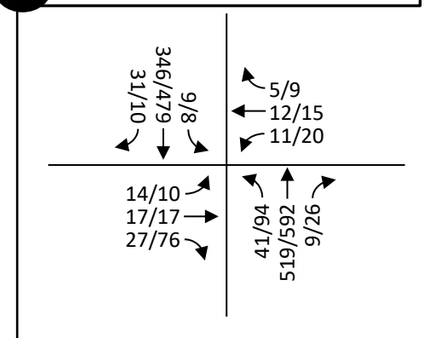
16 N. Geddes St & Park Av



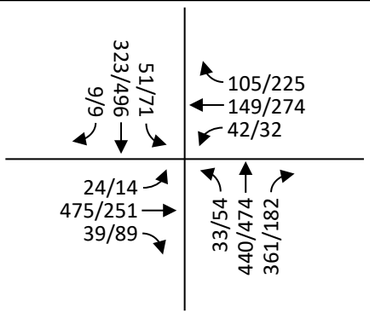
17 N. Geddes St & Wilkinson St



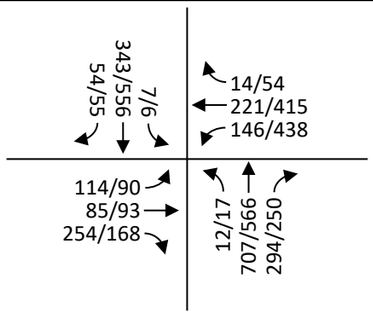
18 N. Geddes St & Richmond Av



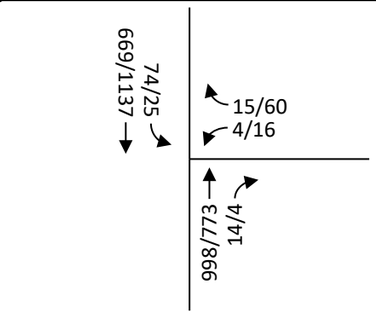
19 N./S. Geddes St & Erie Blvd W.



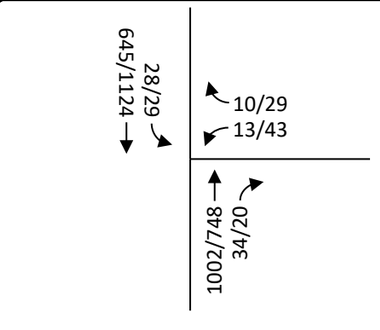
20 S. Geddes St & W. Fayette St



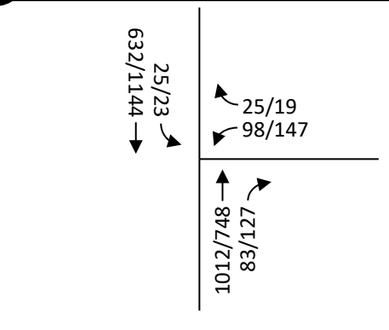
21 S. Geddes St & Marcellus St



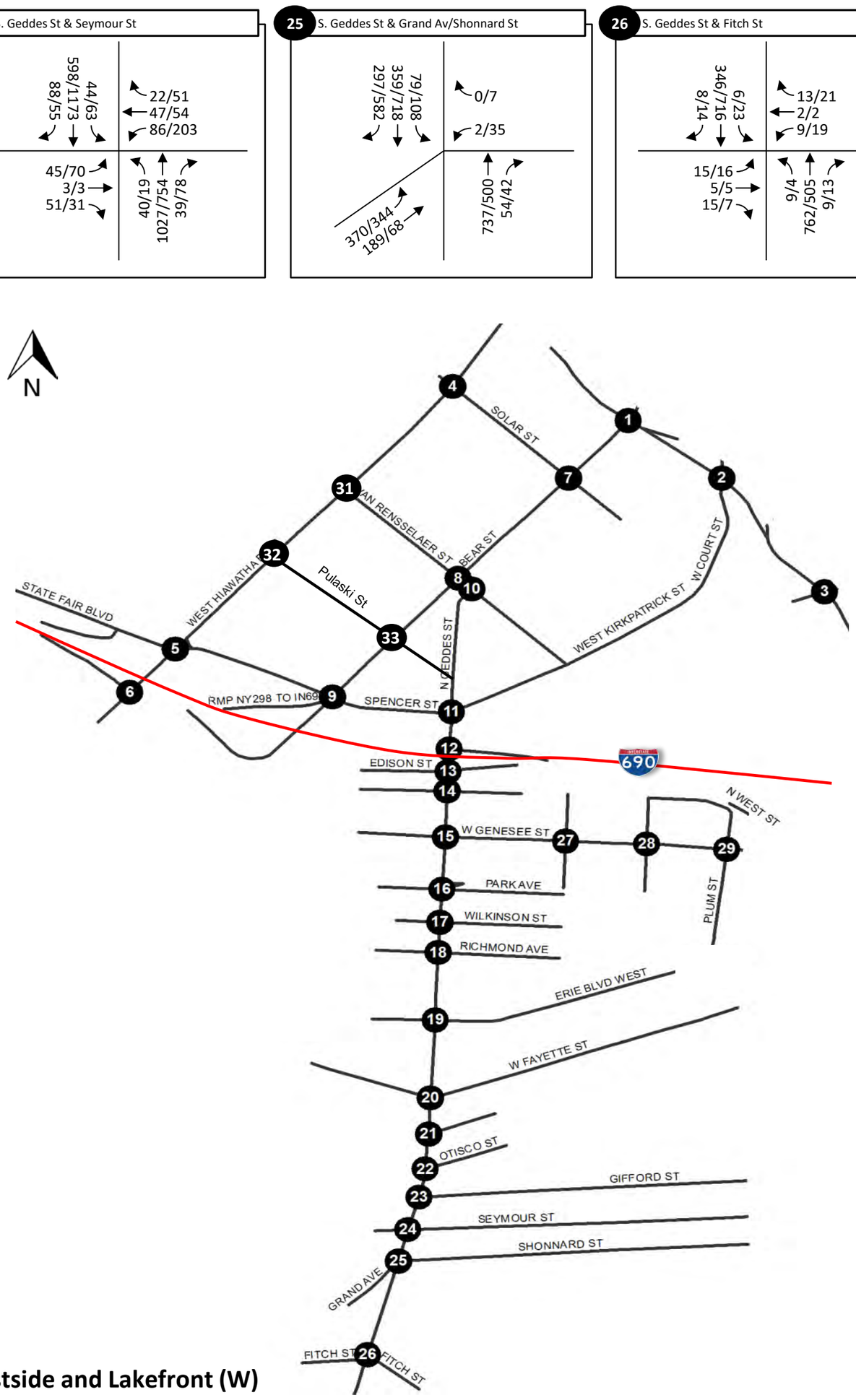
22 S. Geddes St & Otisco St



23 S. Geddes St & Gifford St



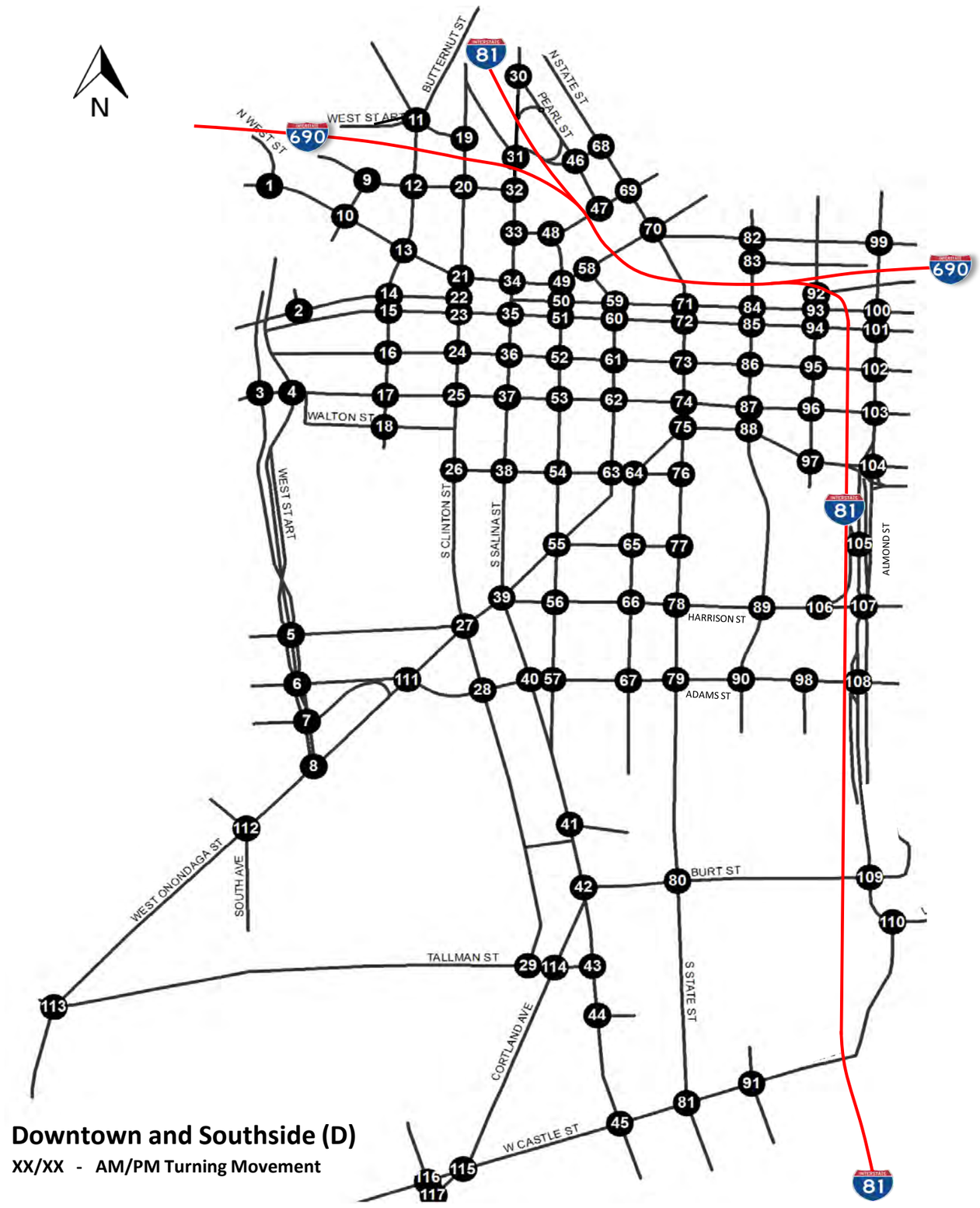
Existing 2013



Westside and Lakefront (W)

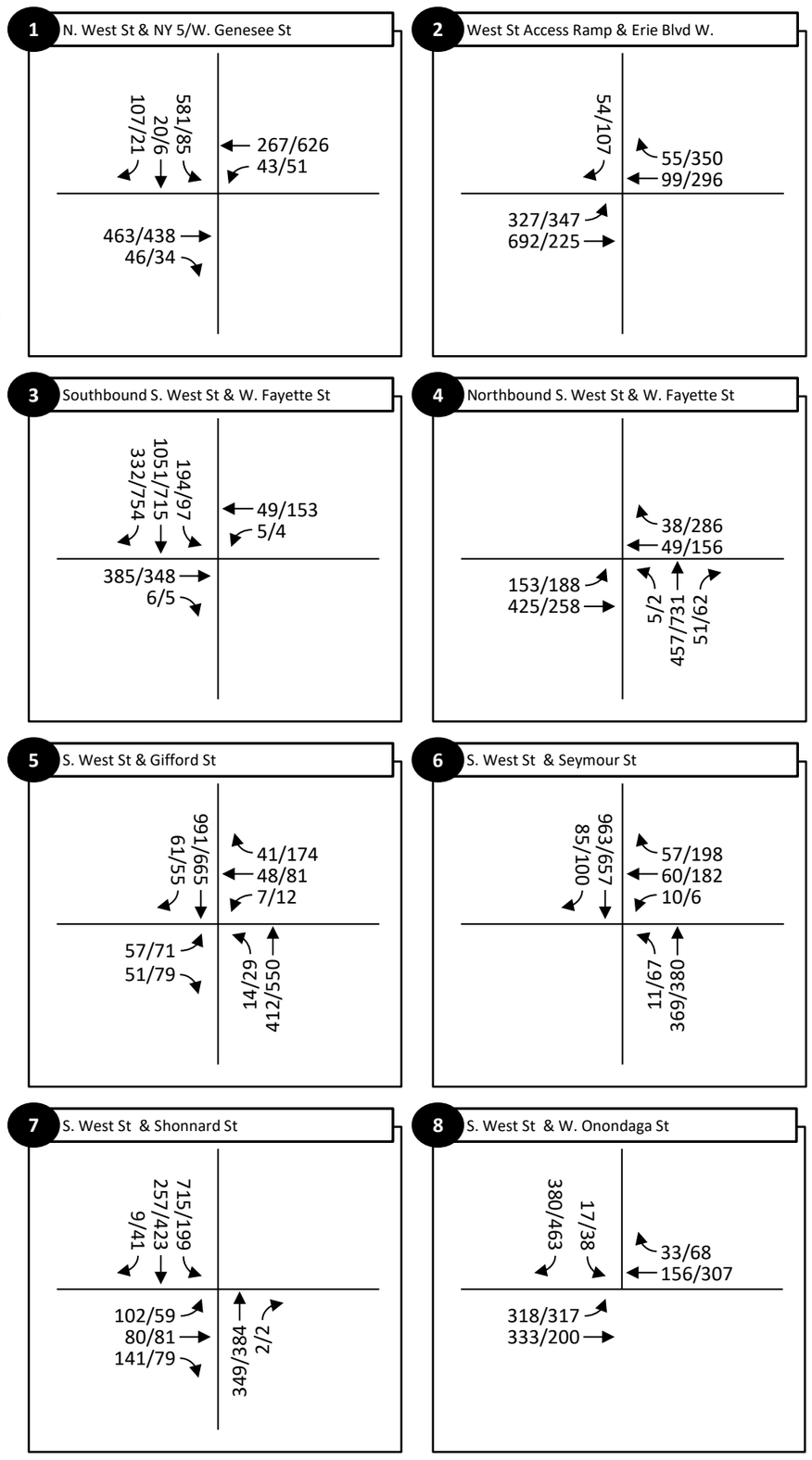
XX/XX - AM/PM Turning Movement

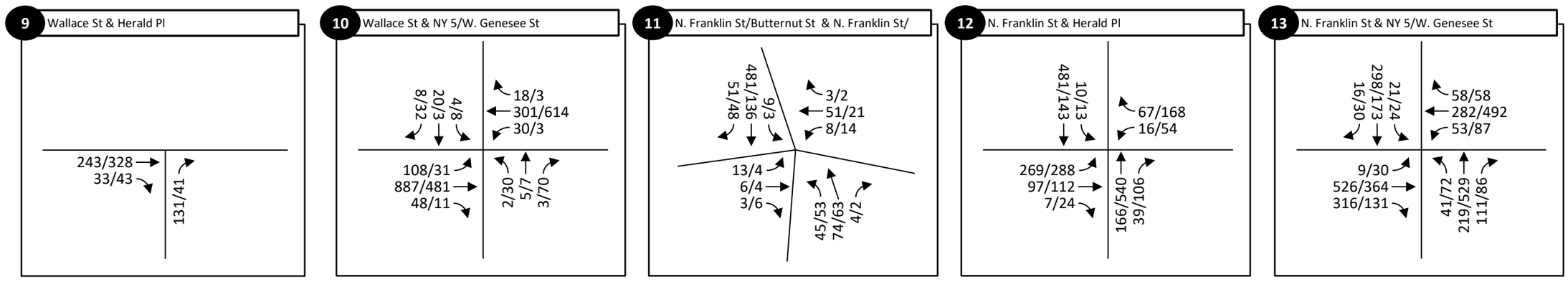
Existing 2013

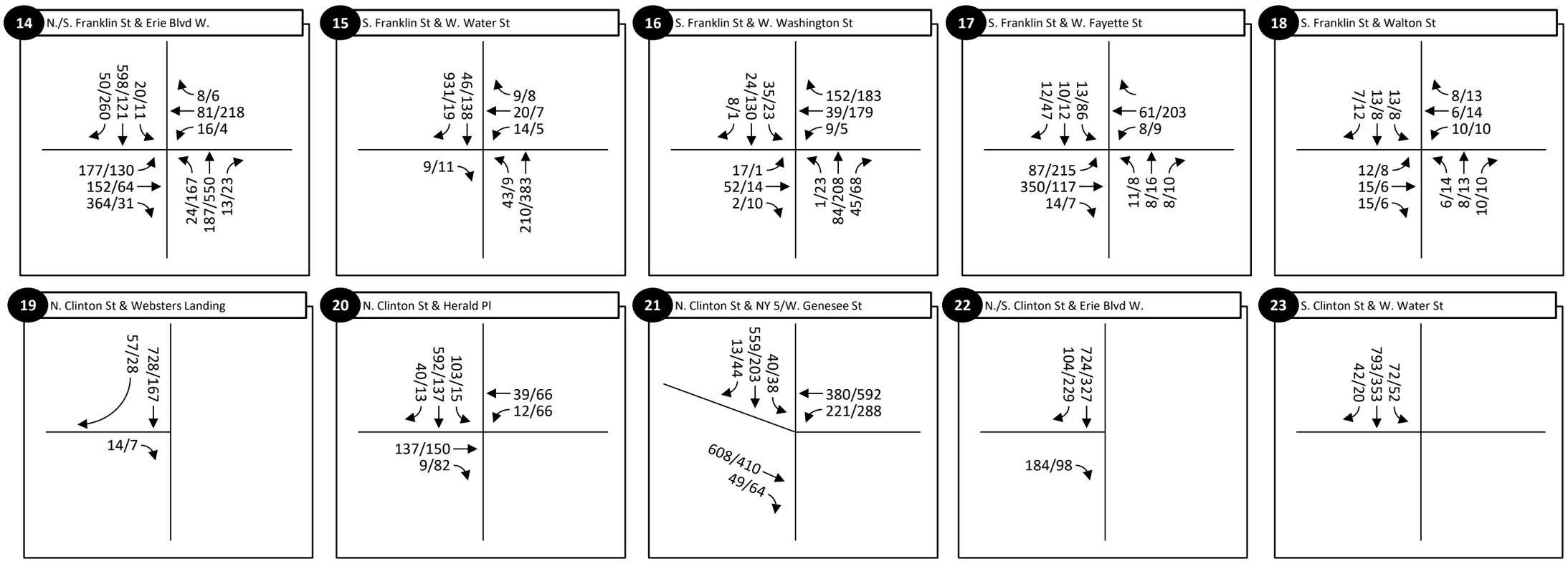


Downtown and Southside (D)

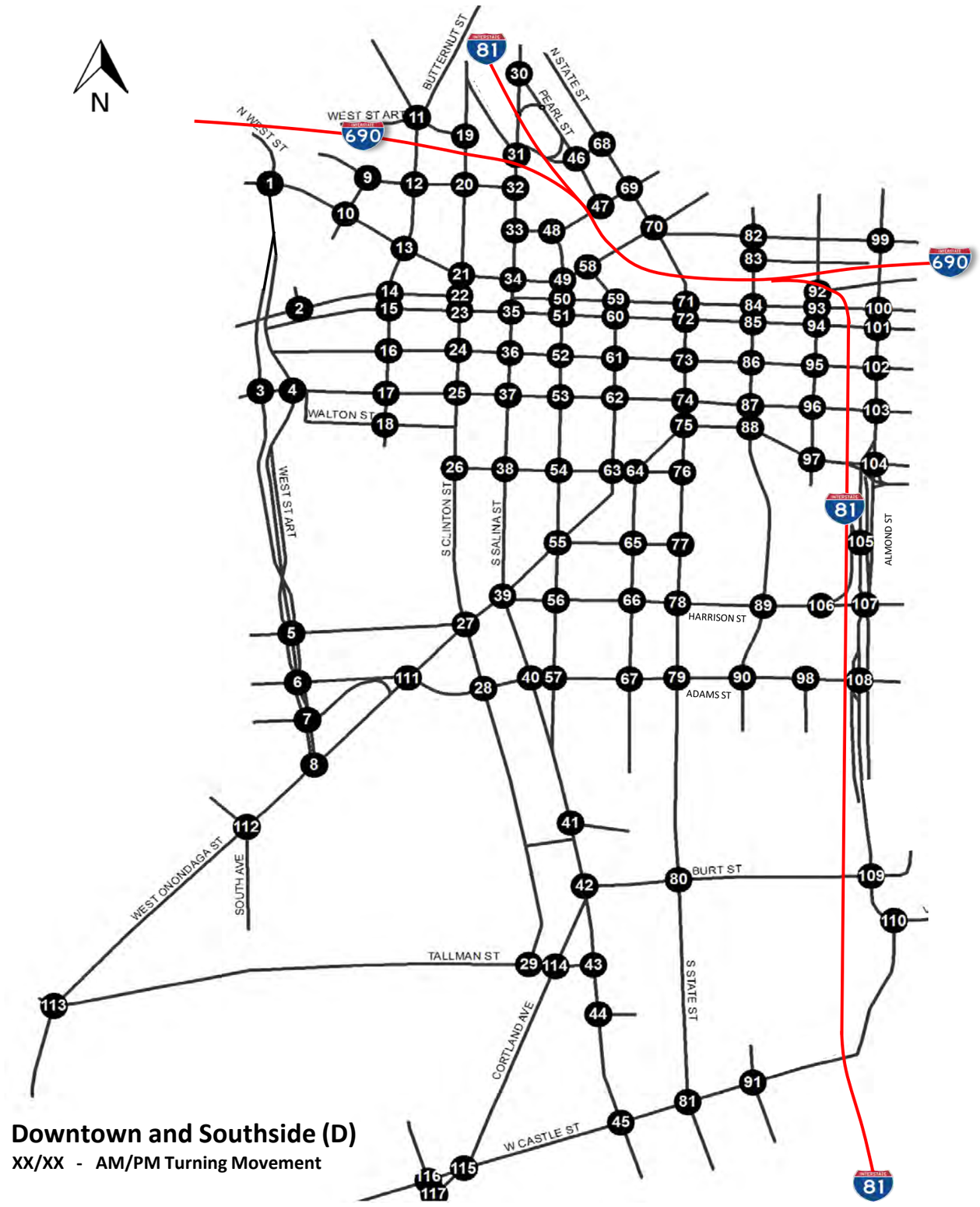
XX/XX - AM/PM Turning Movement

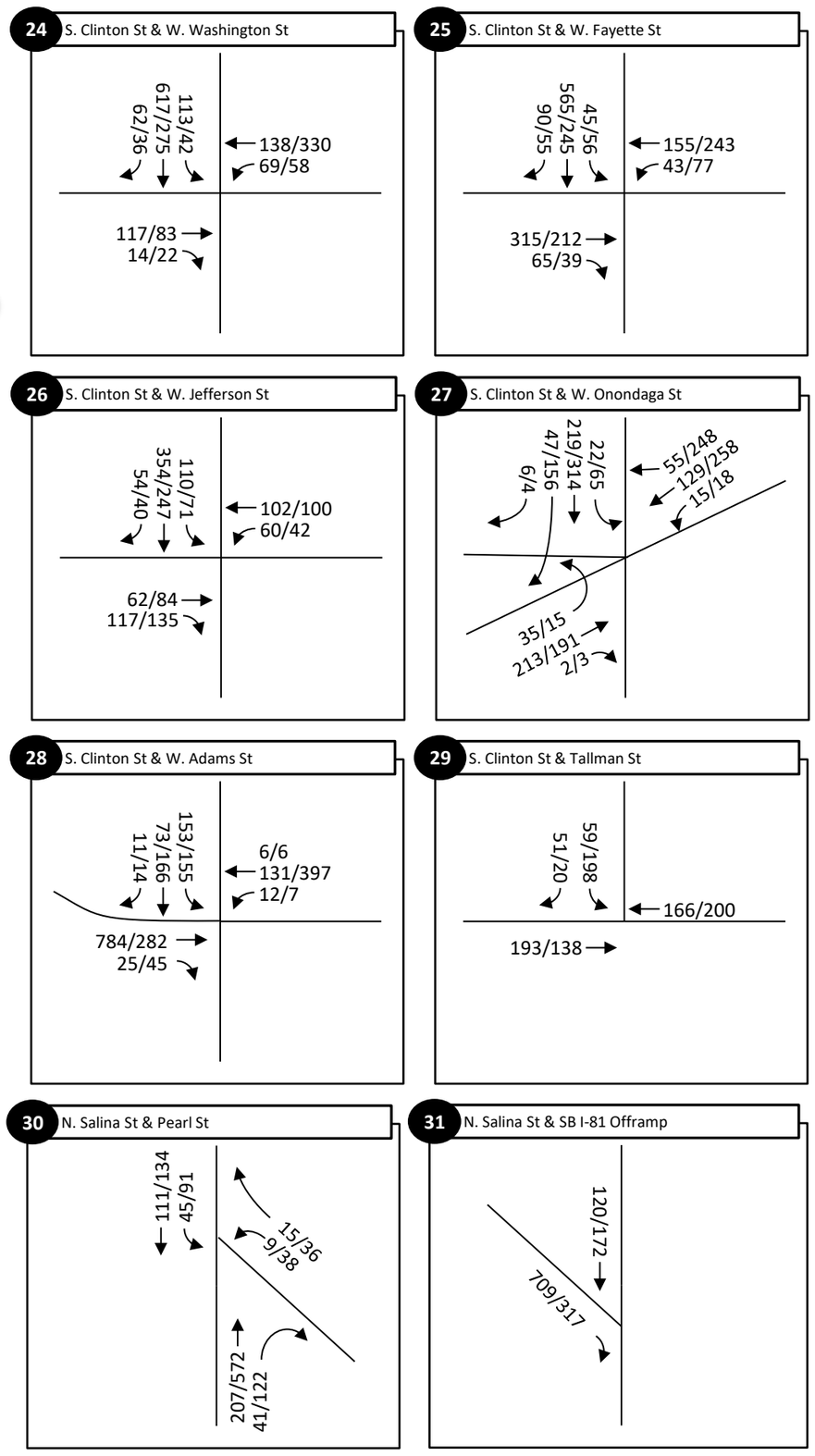






Existing 2013





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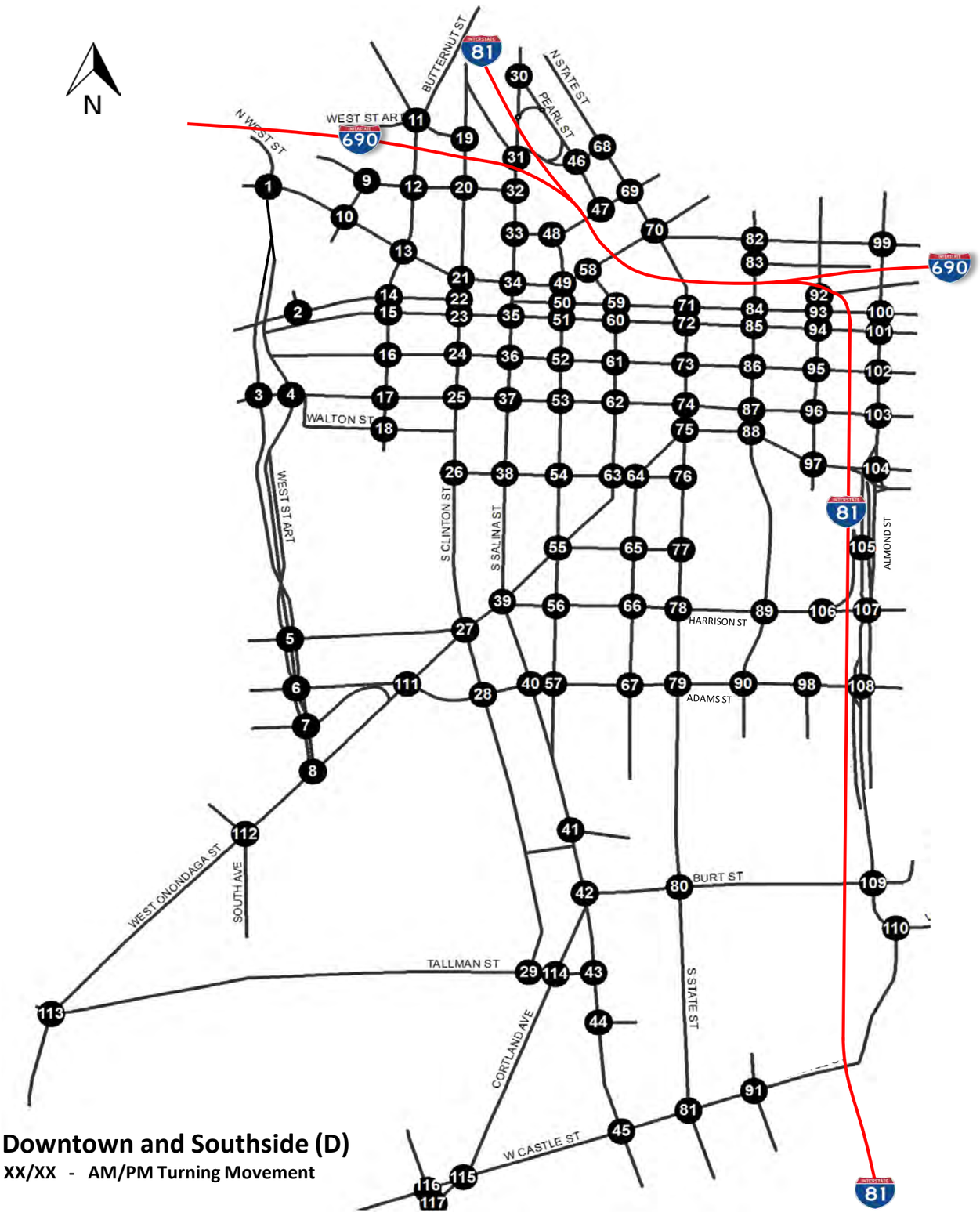
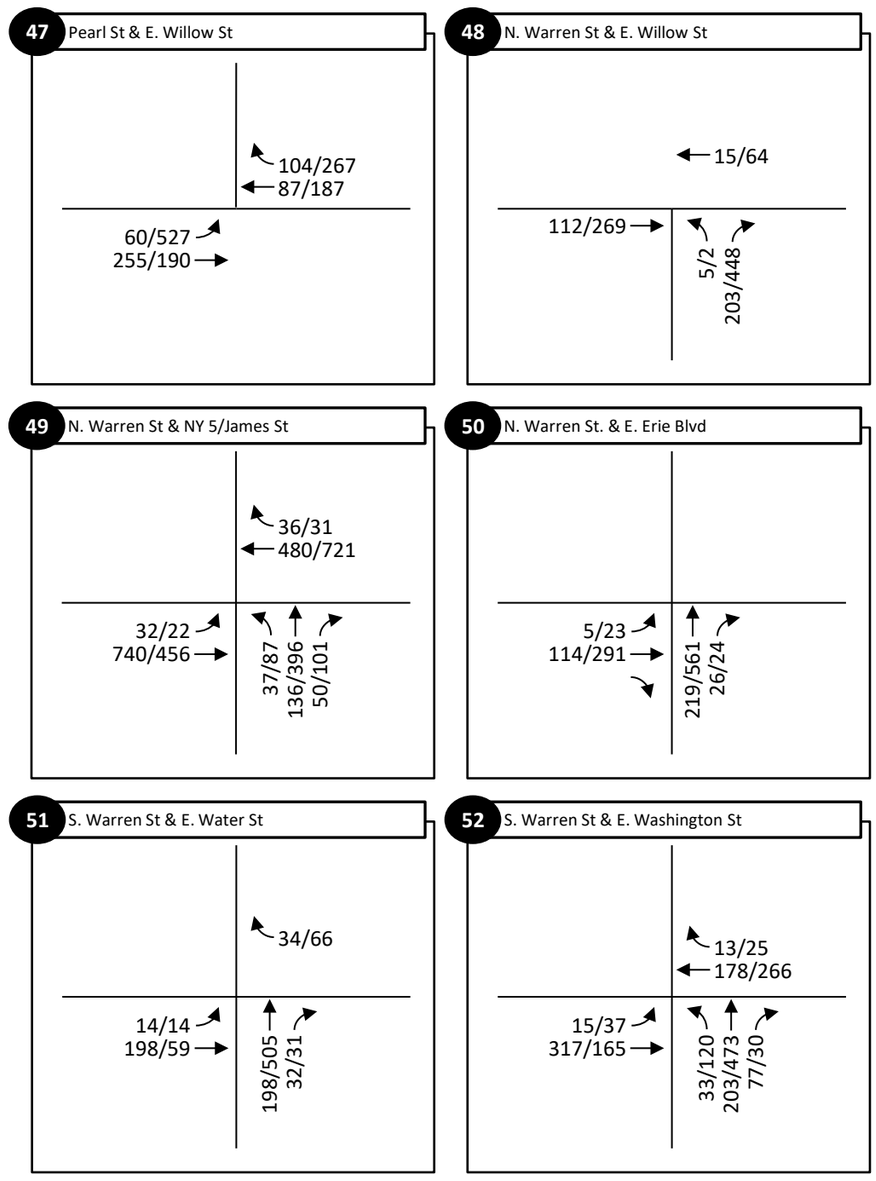
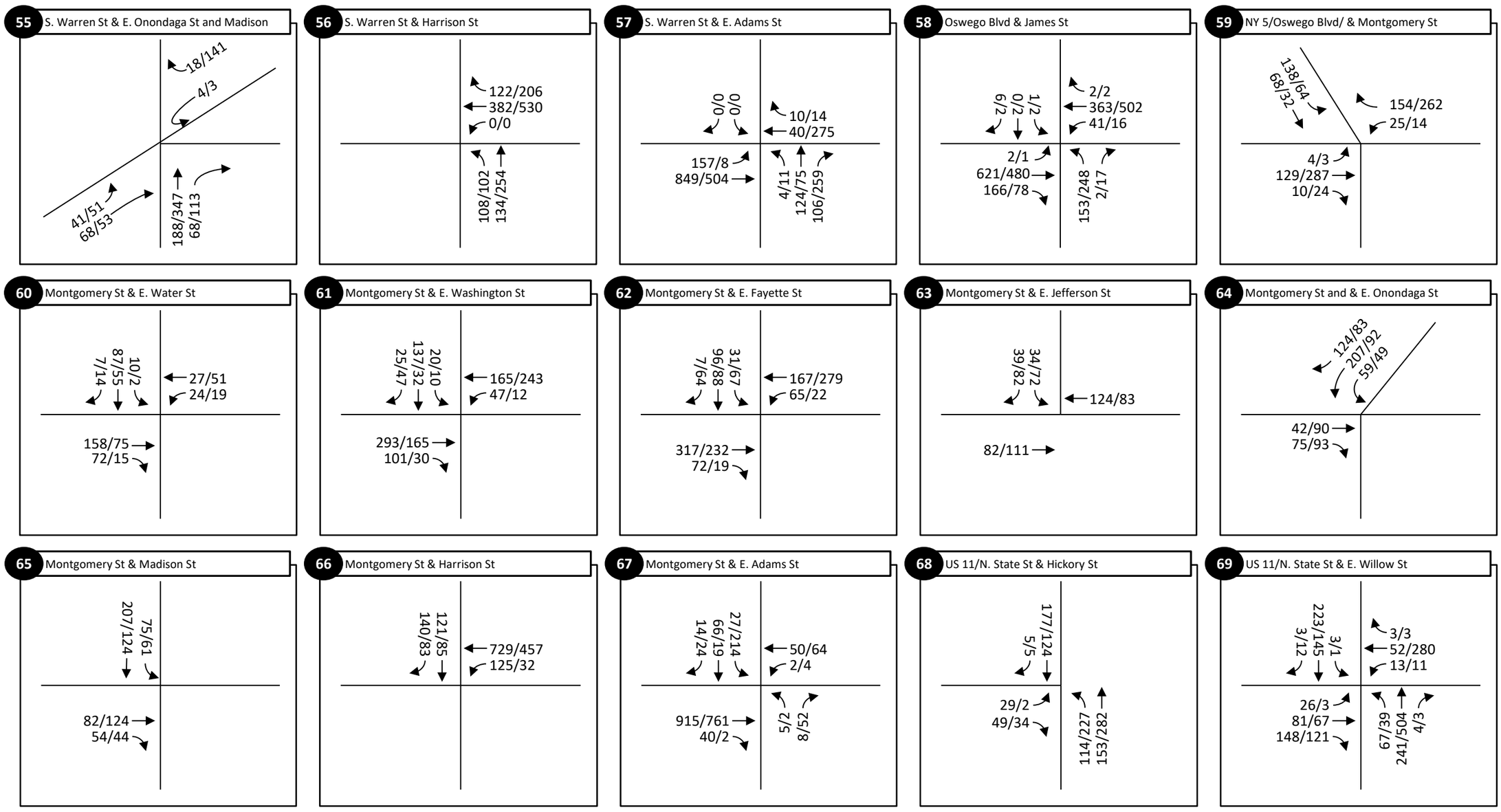
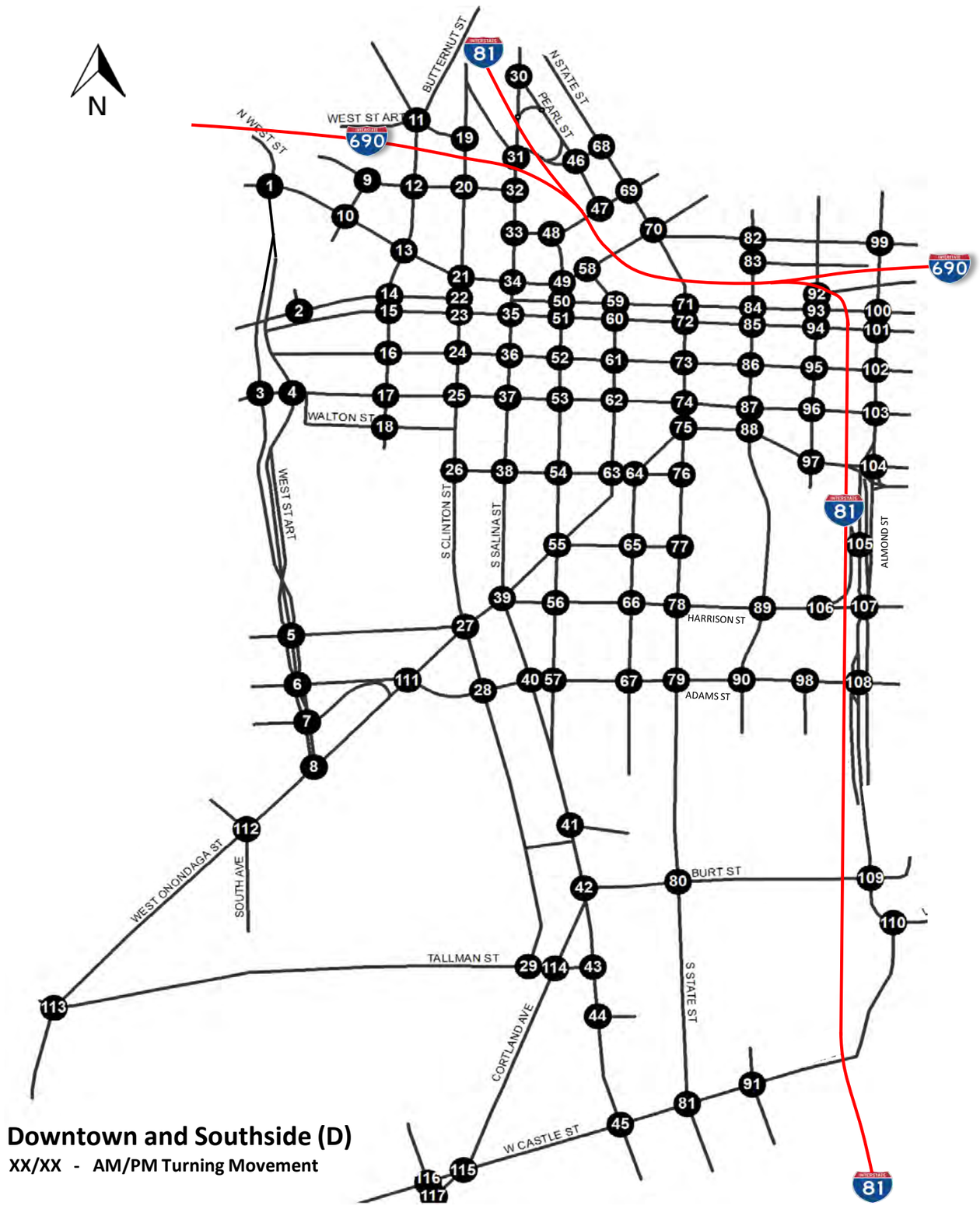






Existing 2013



70 US 11/N. State St & James St

105/76 337/192 33/26 → 147/292 ← 360/470 ← 149/90

77/42 492/437 → 54/22 → 13/22 ← 158/607 ← 42/118

71 US 11/S. State St & NY 5/Erie Blvd E.

174/151 361/144 6/9 → 89/322 ← 159/248 ← 208/63

4/7 228/318 → 34/26 → 15/18 ← 119/418 ← 36/61

72 US 11/S. State St & E. Water St

17/12 564/189 21/31 → 17/68 ← 25/27 ← 45/9

12/19 112/53 → 43/6 → 5/12 ← 141/410 ← 17/33

73 US 11/S. State St & E. Washington St

20/16 447/342 4/17 → 9/15 ← 194/192 ← 8/2

6/31 60/165 → 3/15 → 15/45 ← 237/435 ← 18/7

74 US 11/S. State St & E. Fayette St

25/43 392/282 40/34 → 17/22 ← 133/174 ← 13/18

72/113 180/141 → 96/45 → 59/92 ← 181/351 ← 17/21

75 US 11/S. State St & NY 92/E. Genesee St

72/61 256/200 173/84 → 47/83 ← 166/118 ← 26/24

51/21 210/381 → 57/82 →

76 US 11/S. State St & E. Jefferson St

282/225 440/402 → 76/109 25/31 → 243/374 ←

77 US 11/S. State St & Madison St

307/256 → 94/150 63/35 → 149/224 ←

78 US 11/S. State St & Harrison St

225/226 145/65 → 47/88 ← 681/402 ← 37/86

28/23 102/136 →

79 US 11/S. State St & E. Adams St

107/143 116/115 39/55 → 42/76 891/924 → 16/27 → 13/10 ← 87/82 ← 128/114 ←

80 S. State St & Burt St

25/5 101/129 6/7 → 7/25 ← 22/43 ← 27/57

66/31 104/67 → 6/15 → 6/20 ← 155/150 ← 42/61 ←

81 S. State St & E. MLK Jr Dr

9/17 87/128 38/55 → 14/9 ← 70/204 ← 12/32

7/11 179/107 → 9/16 → 9/17 ← 183/212 ← 25/10 ←

82 N. Townsend St & Burnet Av

35/39 173/186 11/28 → 19/62 ← 36/38 ← 19/20

2/19 3/21 → 5/5 → 10/12 ← 334/367 ← 15/17 ←

83 N. Townsend St & Westbound I-690 offramp

191/209 2/2 → 280/196 ← 5/8 ← 1120/403

4/2 79/199 →

84 N./S. Townsend St & NY 5/Erie Blvd E.

110/78 938/396 262/138 → 8/13 ← 179/417 ← 54/40

392/497 374 45/31 → 17/77 ← 71/183 ← 32/131 ←

85 S. Townsend St & E. Water St

18/7 981/449 37/11 → 2/7 ← 29/46 ← 7/7

7/16 108/67 → 32/15 → 21/47 ← 111/367 ← 10/46 ←

86 S. Townsend St & E. Washington St

24/6 913/412 82/54 → 2/10 ← 110/108 ← 17/8

3/34 73/130 → 22/24 → 19/46 ← 136/415 ← 21/8 ←

87 S. Townsend St & E. Fayette St

26/18 887/395 38/31 → 9/29 ← 110/134 ← 29/22

10/13 173/171 → 39/22 → 15/48 ← 157/427 ← 36/36 ←

88 S. Townsend St & NY 92/E. Genesee St

88/69 781/326 85/44 → 57/67 ← 146/160 ← 81/59

10/11 99/125 → 19/7 → 9/21 ← 141/433 ← 86/104 ←

89 S. Townsend St & Harrison St

352/288 275/109 → 289/138 ← 772/455 ← 158/143

10/25 203/281 →

90 S. Townsend St & E. Adams St

287/293 223/138 → 149/175 752/1237 → 28/9 →

91 Oakwood Av & E. MLK Jr Dr

2/8 7/55 3/46 → 5/3 ← 93/189 ← 23/12

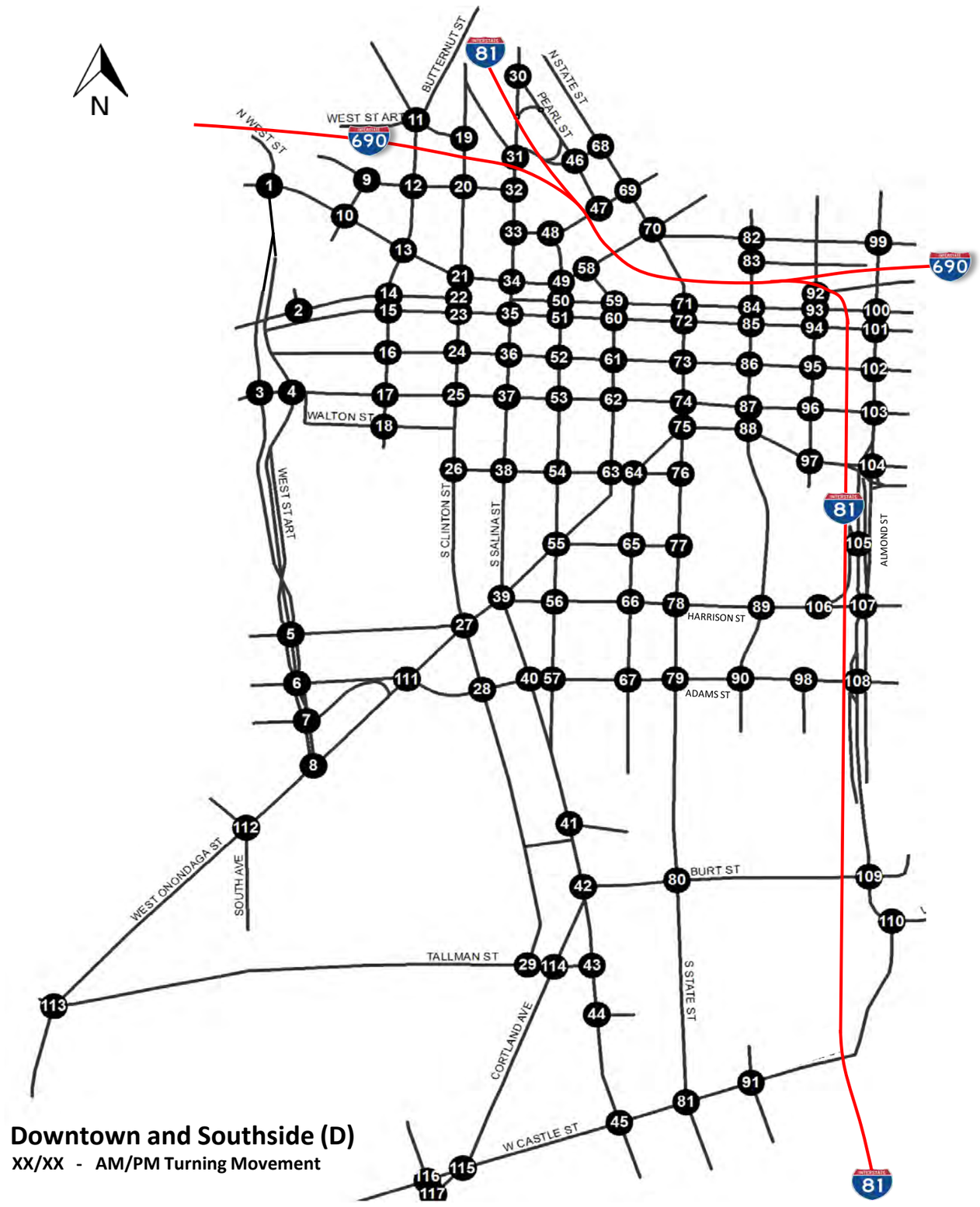
36/30 174/96 → 3/9 → 4/11 ← 115/72 ← 2/4 ←

92 N. McBride St & EB I-690 Onramp

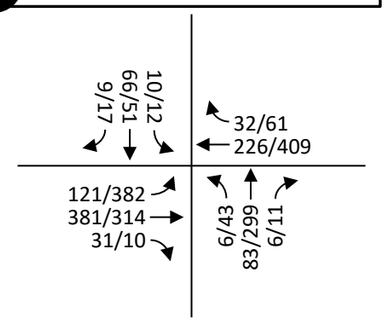
65/292 84/80 →

71/71 165/672 ←

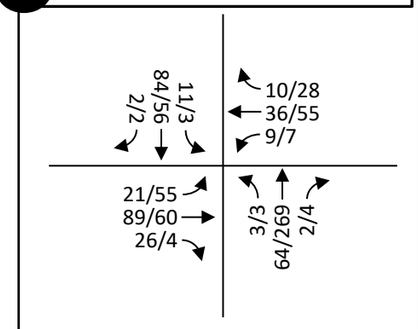
Existing 2013



93 N./S. McBride St & NY 5/Erie Blvd E.



94 S. McBride St & E. Water St



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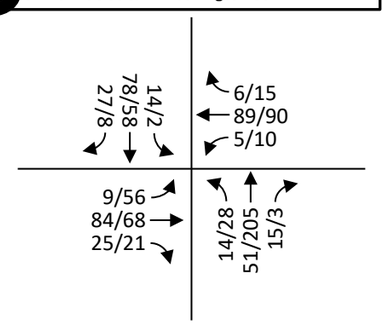
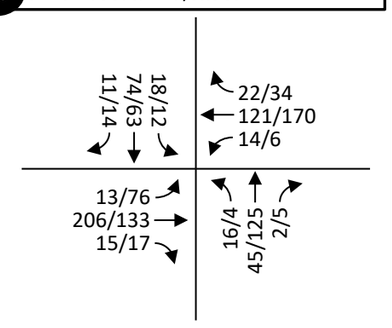
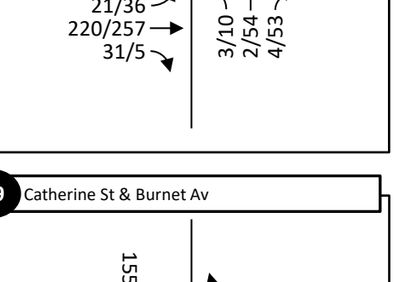


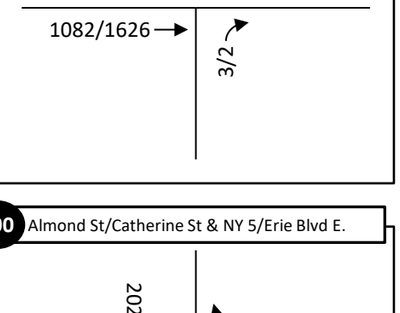
96 S. McBride St & E. Fayette St



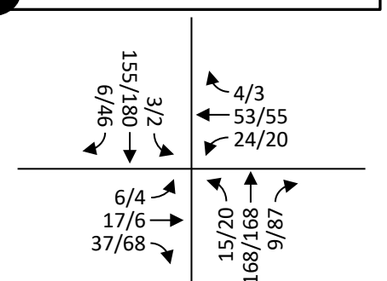
97 S. McBride St & NY 92/E. Genesee St



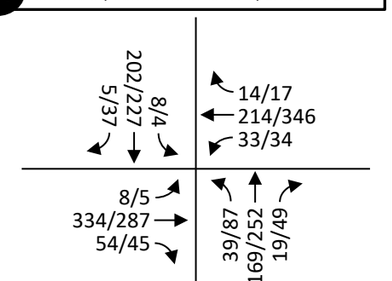
98 S. McBride St & E. Adams St



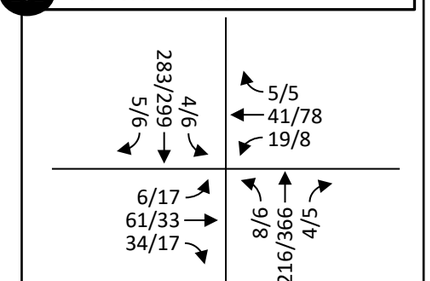
99 Catherine St & Burnet Av



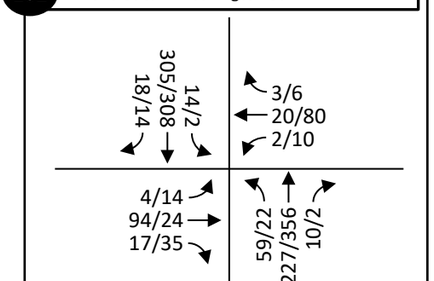
100 Almond St/Catherine St & NY 5/Erie Blvd E.



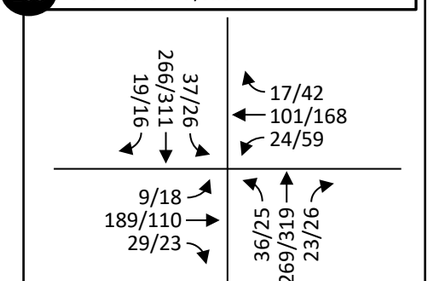
101 Almond St & E. Water St



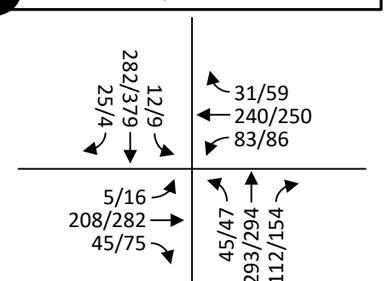
102 Almond St & E. Washington St



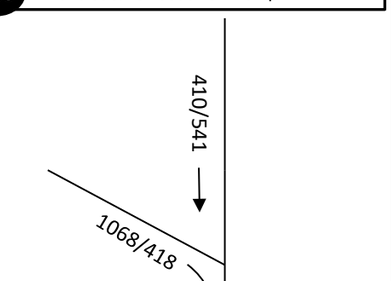
103 Almond St & E. Fayette St



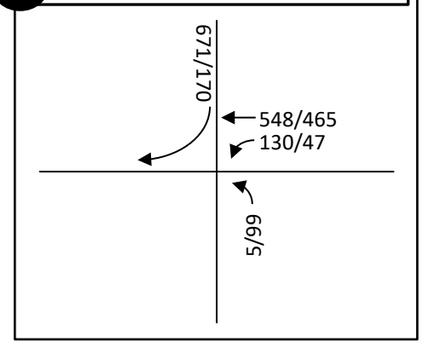
104 Almond St & NY 92/E. Genesee St



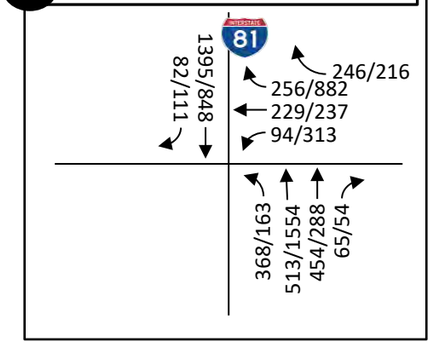
105 Almond St & I-81 South Off-Ramp



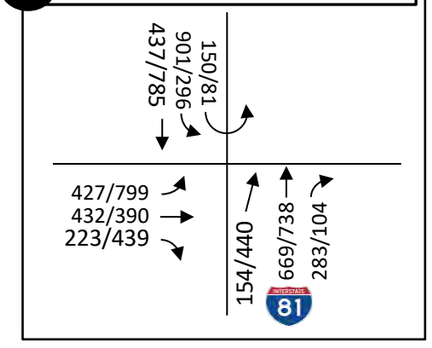
106 Harrison St & I-81 South Off-Ramp



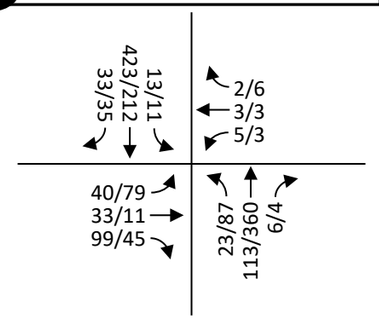
107 Almond St & Harrison St



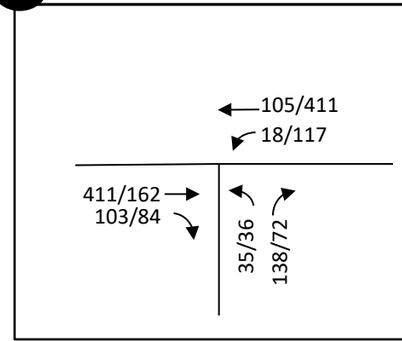
108 Almond St & E. Adams St



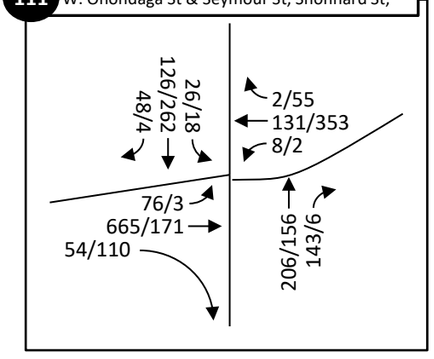
109 Almond St & Burt St



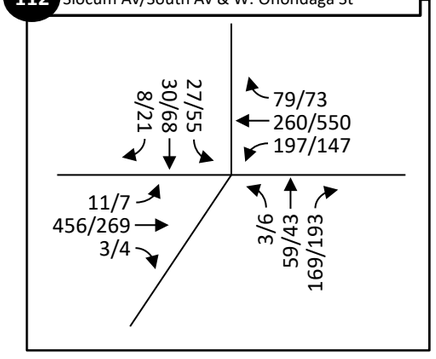
110 Almond St & Van Buren St



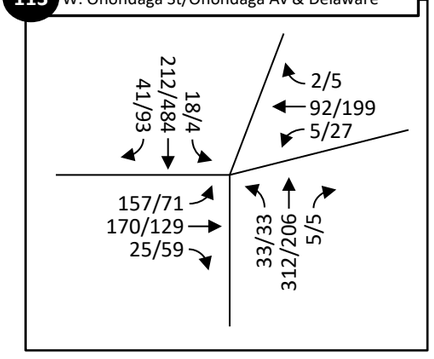
111 W. Onondaga St & Seymour St, Shonnard St,



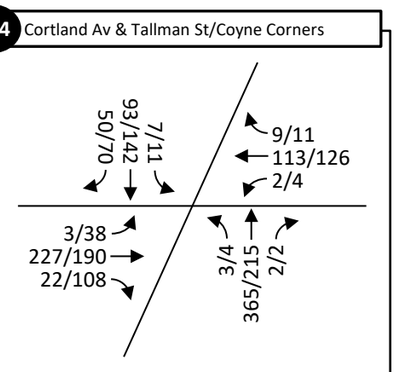
112 Slocum Av/South Av & W. Onondaga St



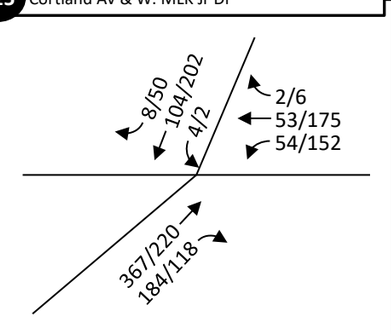
113 W. Onondaga St/Onondaga Av & Delaware



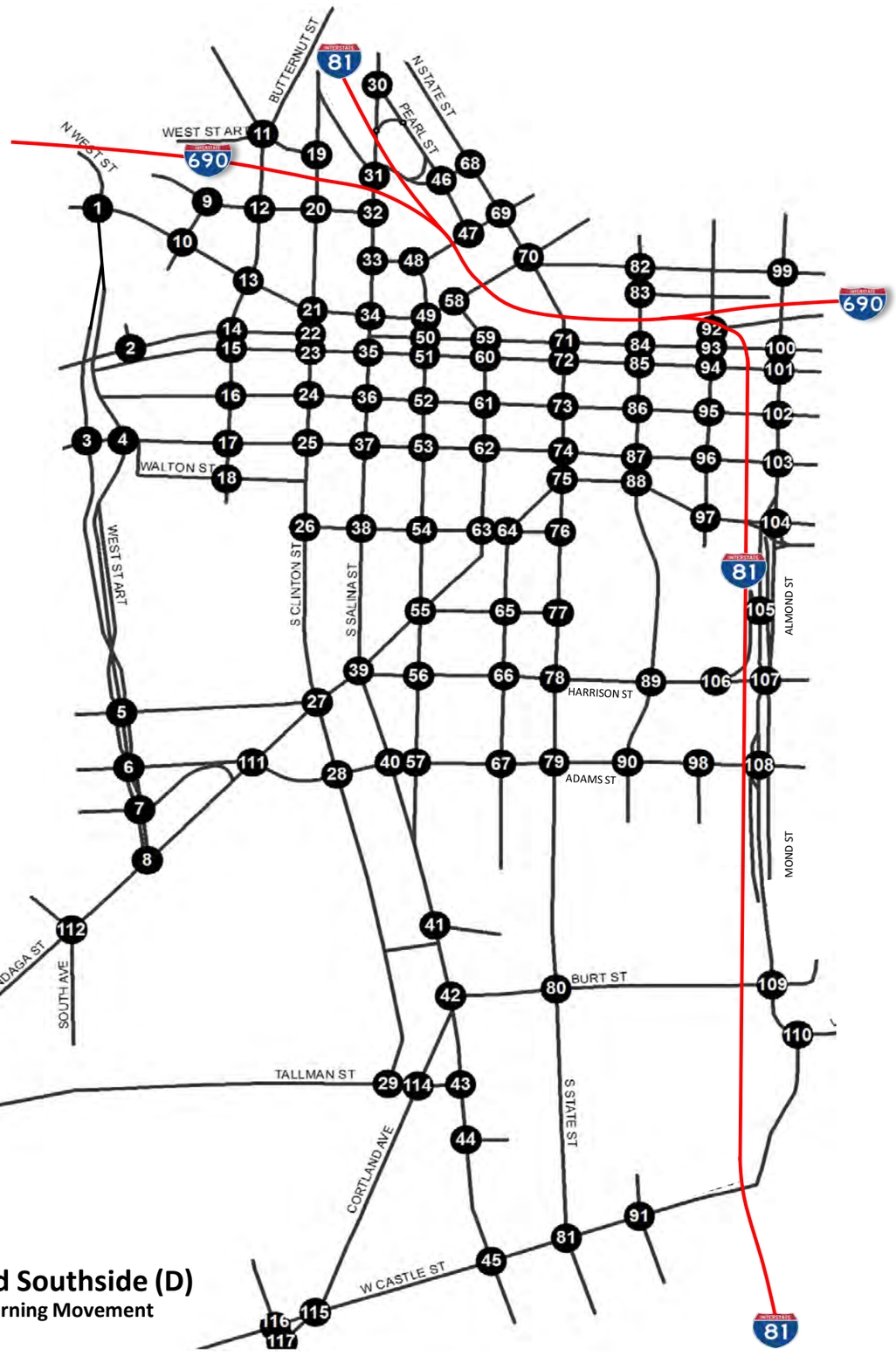
114 Cortland Av & Tallman St/Coyne Corners

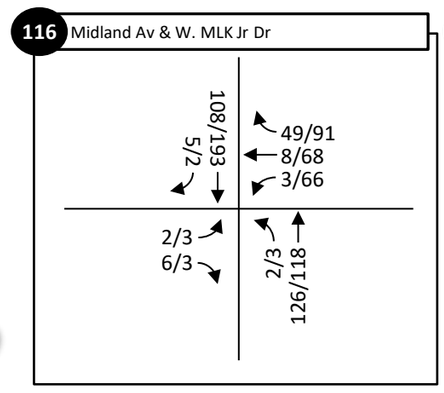


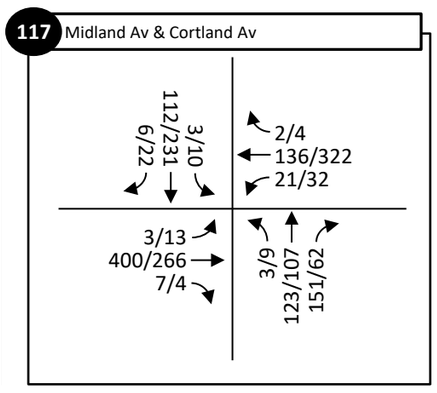
115 Cortland Av & W. MLK Jr Dr



Existing 2013



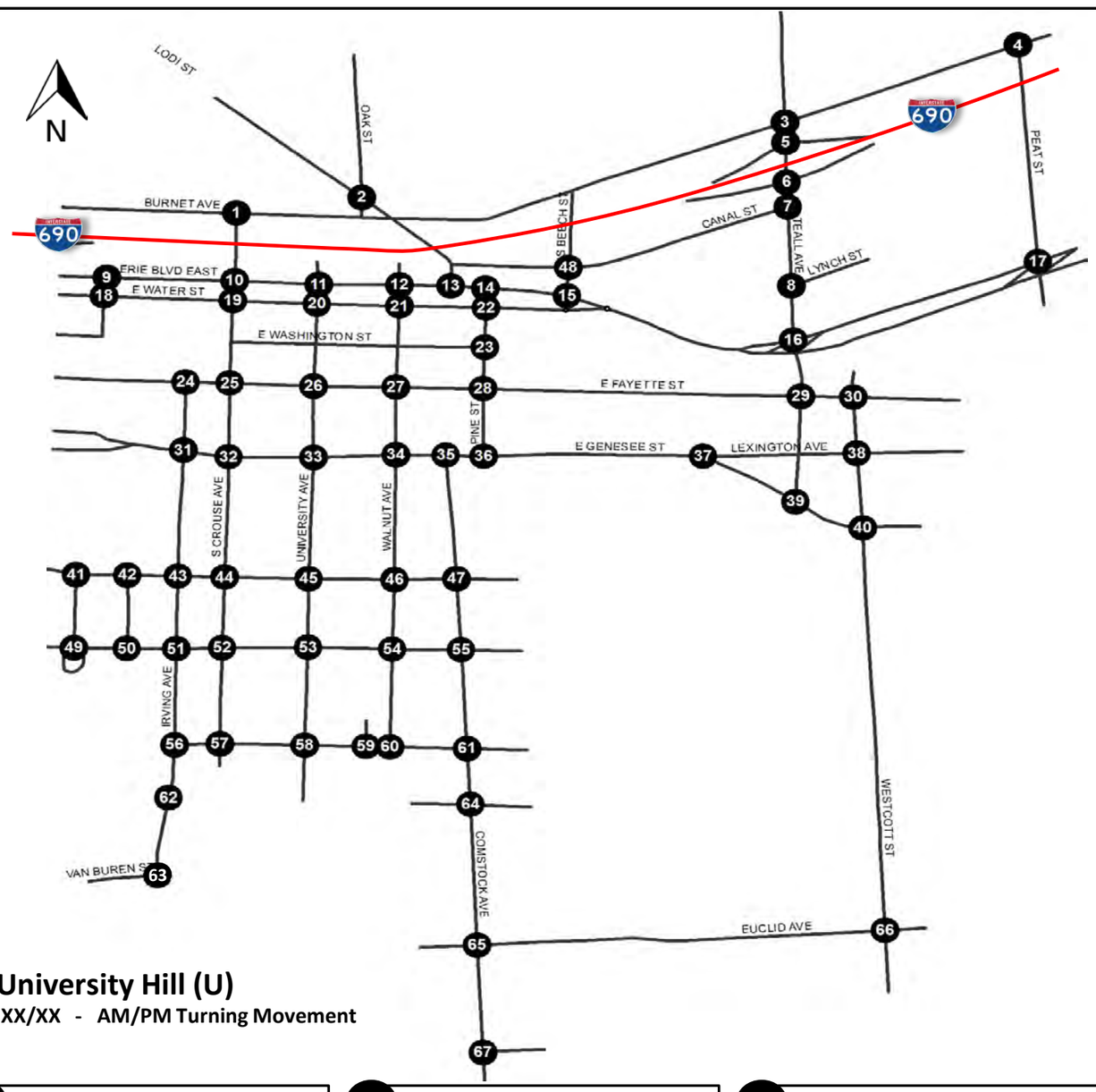




Downtown and Southside (D)

XX/XX - AM/PM Turning Movement

Existing 2013



University Hill (U)

XX/XX - AM/PM Turning Movement

1 N. Crouse Av & Burnet Av

7/19 133/145 8/29 →		← 19/15 ← 68/45 ← 100/81
6/9 15/80 → 6/6		2/5 108/123 → 111/117

2 Lodi St & Oak St

15/37 197/254 23/3 →		← 4/95 ← 329/25 ← 2/4
		6/2 216/308 → 81/157

3 Teall Av & Burnet Av

17/20 528/653 26/13 →		← 41/67 ← 197/176 ← 100/112
13/18 130/232 → 123/318		158/129 483/620 → 118/226

4 Westmoreland Av & Burnet Av

		← 297/275 ← 107/152
219/381 → 47/97		41/80 72/192

5 Teall Av & I-690 West Ramps

293/398 458/684 →		← 235/297 ← 311/162
		262/296 525/678 →

6 Teall Av & I-690 East Ramps

178/210 426/350 →		
479/438 571/342		308/536 93/261 →

7 Teall Av & Canal St

6/2 641/585 354/106 →		← 26/87 ← 4/4 ← 2/10
6/23 5/5 → 22/43		9/20 375/687 → 2/3

8 Teall Av & Lynch St

75/113 537/454 12/41 →		← 10/33 ← 5/4 ← 4/1
6/46 4/18 →		3/16 385/659 → 2/4

9 Forman Av & Erie Blvd E.

		← 259/392 ← 30/43
348/339 → 12/2		3/4 2/3

10 N./S. Crouse Av & Erie Blvd E.

22/39 211/167 7/26 →		← 75/23 ← 269/349 ← 19/13
61/43 286/270 → 2/28		13/60 83/175 → 14/47

11 University Av & Erie Blvd E.

3/4 190/122 9/2 →		← 5/5 ← 351/353 ← 10/4
52/20 229/335 → 41/5		3/30 22/36 → 3/13

12 Walnut Av & Erie Blvd E.

5/2 2/4 →		← 3/7 ← 190/270
34/12 198/340 →		174/82 45/158 → 2/2

13 Lodi St & Erie Blvd E.

155/210 42/48 →		← 298/465 ← 148/229
199/343 →		

14 Pine St & Erie Blvd E.

		← 428/400 ← 9/11
336/543 → 18/11		19/294 7/9

15 Beech St & Erie Blvd E.

6/44 169/74 33/22 →		← 19/34 ← 381/354 ← 41/14
39/95 255/443 → 50/14		23/35 40/101 → 6/87

16 Teall Av & Erie Blvd E.

104/121 231/248 203/103 →		← 186/246 ← 226/279 ← 18/42
90/191 162/349 → 14/35		11/20 111/241 → 14/69

17 Westmoreland Av & Erie Blvd E.

13/66 61/119 80/64 →		← 57/61 ← 340/459 ← 13/102
32/144 207/349 → 41/46		11/45 24/68 → 24/28

18 Forman Av & E. Water St

9/14 32/31 3/1 →		← 4/3 ← 65/90 ← 3/4
4/3 49/32 → 13/4		1/0 2/5 → 7/15

19 S. Crouse Av & E. Water St

2/3 229/205 3/4 →		← 2/2 ← 69/90 ← 2/4
4/1 64/61 → 2/1		1/5 109/280 → 2/5

20 University Av & E. Water St

2/2 239/120 3/2 →		← 2/3 ← 72/90 ← 2/2
5/2 67/67 → 3/1		4/2 26/77 → 2/2

21 Walnut Av & E. Water St

		← 2/0 ← 75/90
2/4 69/71 →		4/2 217/241 → 5/3

22 Pine St & E. Water St

12/7 7/6 8/9 →		← 6/22 ← 60/53 ← 32/20
5/12 46/47 → 19/14		9/28 15/268 → 33/25

23 Pine St & E. Washington St

21/11 17/18 20/11 →		← 5/24 ← 2/3 ← 8/13
2/27 3/3 → 8/13		4/4 50/270 → 14/4

24 Irving Av & E. Fayette St

4/6 2/4 3/13 →		← 5/6 ← 128/187 ← 243/79
3/8 111/120 → 134/33		12/69 3/2 → 43/142

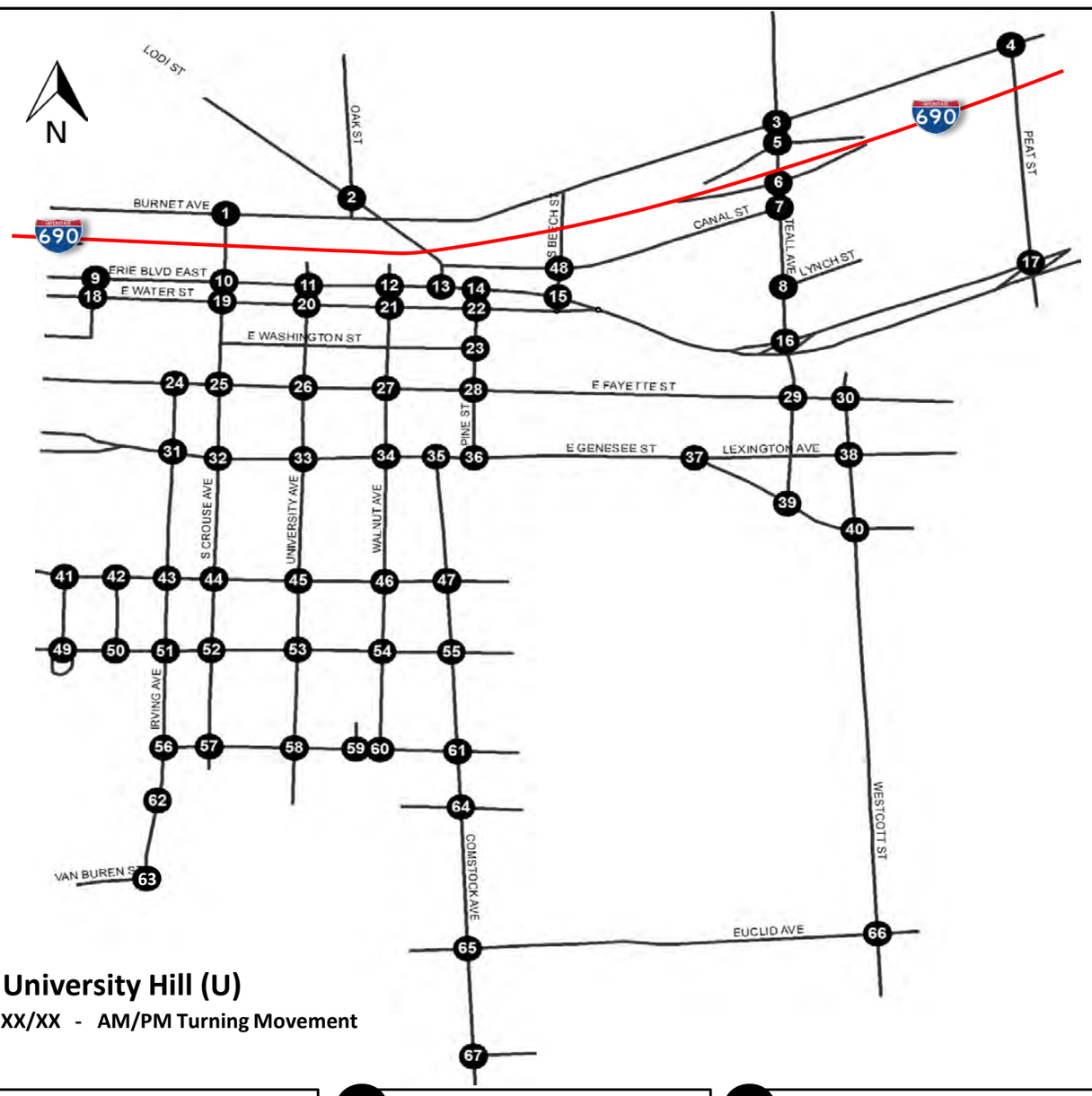
25 S. Crouse Av & E. Fayette St

2/2 43/96 188/109 →		← 2/2 ← 185/159 ← 4/2
30/112 95/147 → 30/4		4/3 79/171 → 4/15

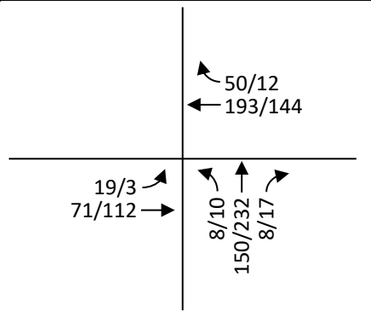
26 University Av & E. Fayette St

8/3 223/112 11/9 →		← 5/4 ← 165/135 ← 34/14
2/3 78/106 → 20/54		12/17 25/74 → 5/5

Existing 2013



27 Walnut Av & E. Fayette St



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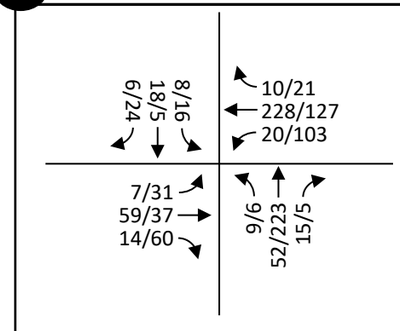
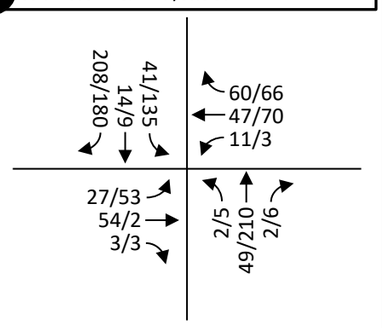
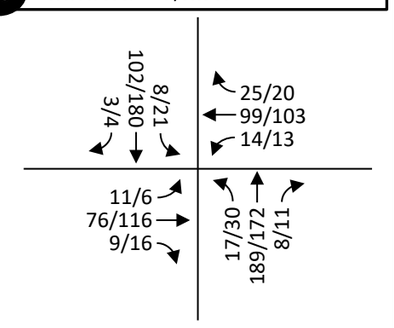


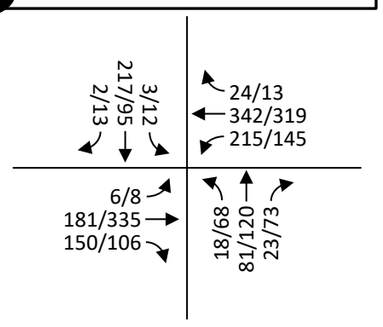
29 Columbus Av & E. Fayette St



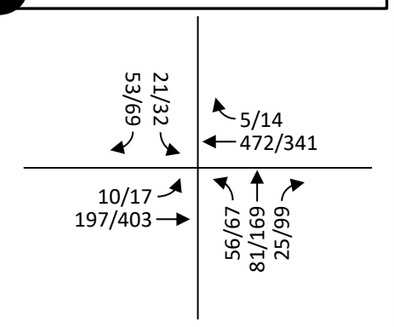
30 Westcott St & E. Fayette St



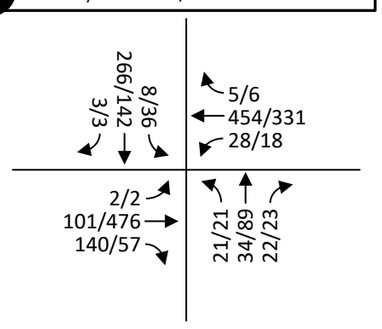
31 Irving Av & NY 92/E. Genesee St



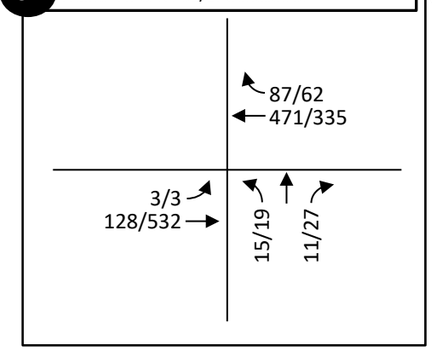
32 S. Crouse Av & NY 92/E. Genesee St



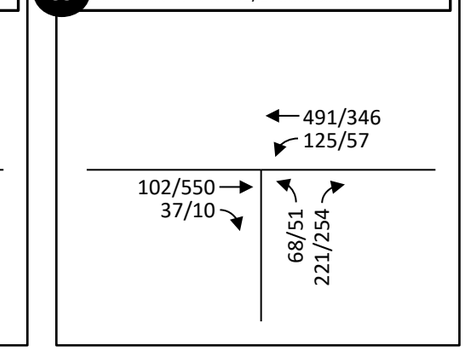
33 University Av & NY 92/E. Genesee St



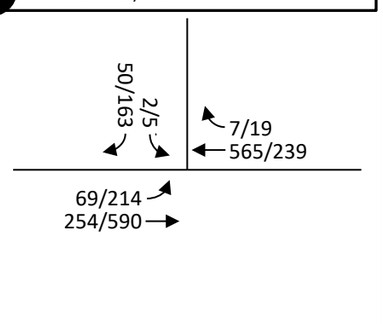
34 Walnut Av & NY 92/E. Genesee St



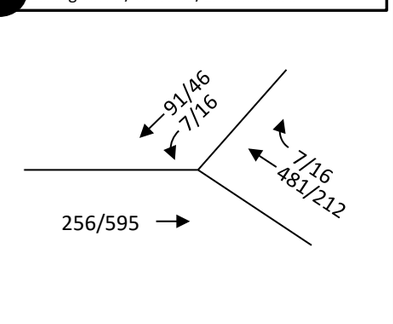
35 Comstock Av & NY 92/E. Genesee St



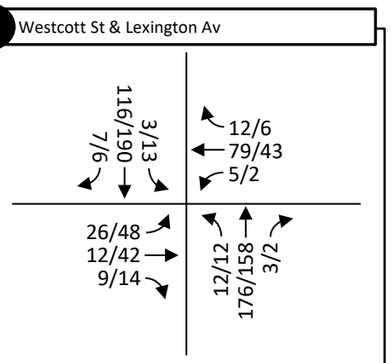
36 Pine St & NY 92/E. Genesee St



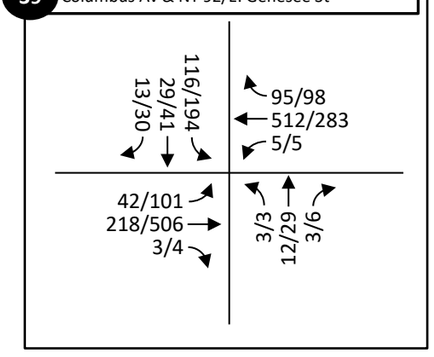
37 Lexington Av/ & NY 92/E. Genesee St



38 Westcott St & Lexington Av



39 Columbus Av & NY 92/E. Genesee St



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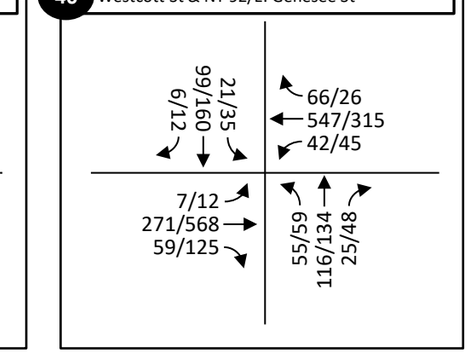
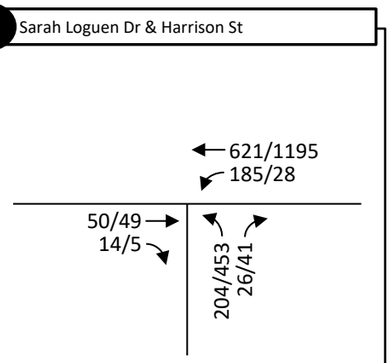
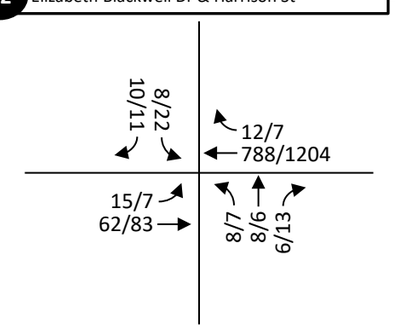


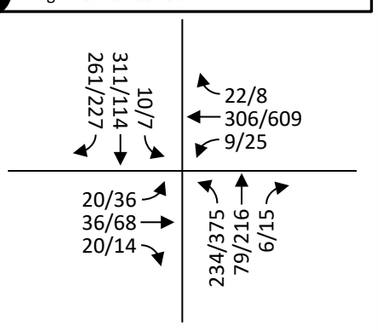
41 Sarah Loguen Dr & Harrison St



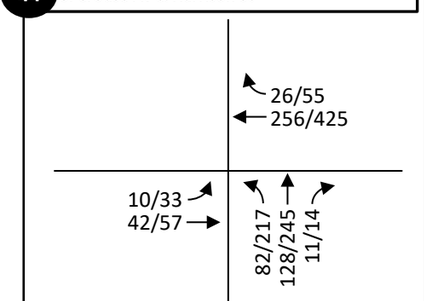
42 Elizabeth Blackwell Dr & Harrison St



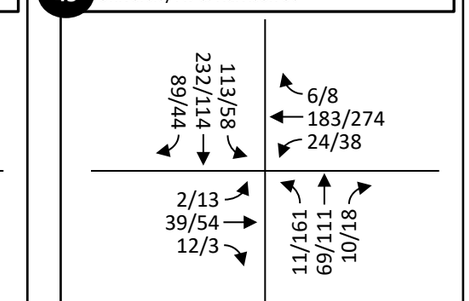
43 Irving Av & Harrison St



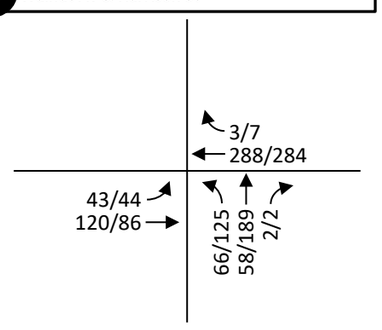
44 S. Crouse Av & Harrison St



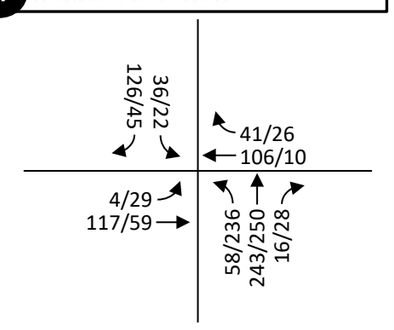
45 University Av & Harrison St



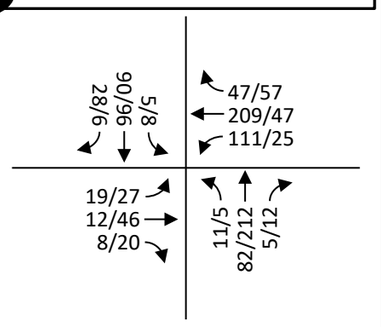
46 Walnut Av & Harrison St



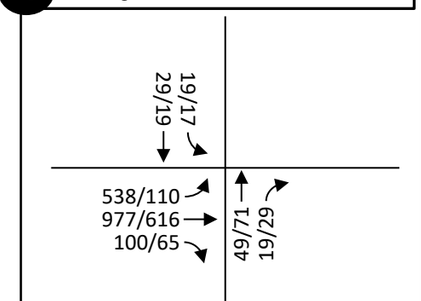
47 Comstock Av & Harrison St



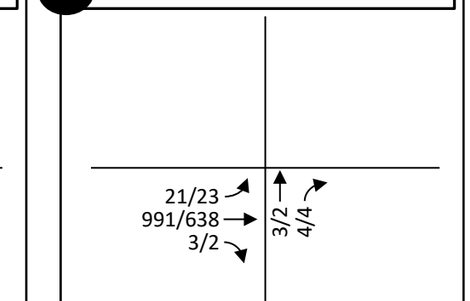
48 Beech St & Canal St



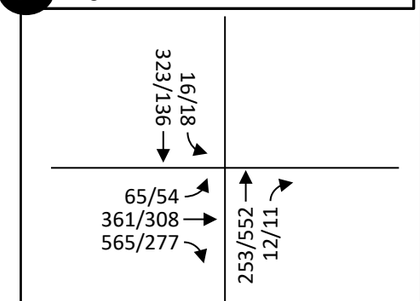
49 Sarah Loguen Dr & E. Adams St



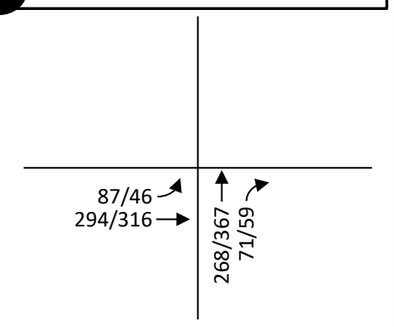
50 Elizabeth Blackwell Dr & E. Adam St



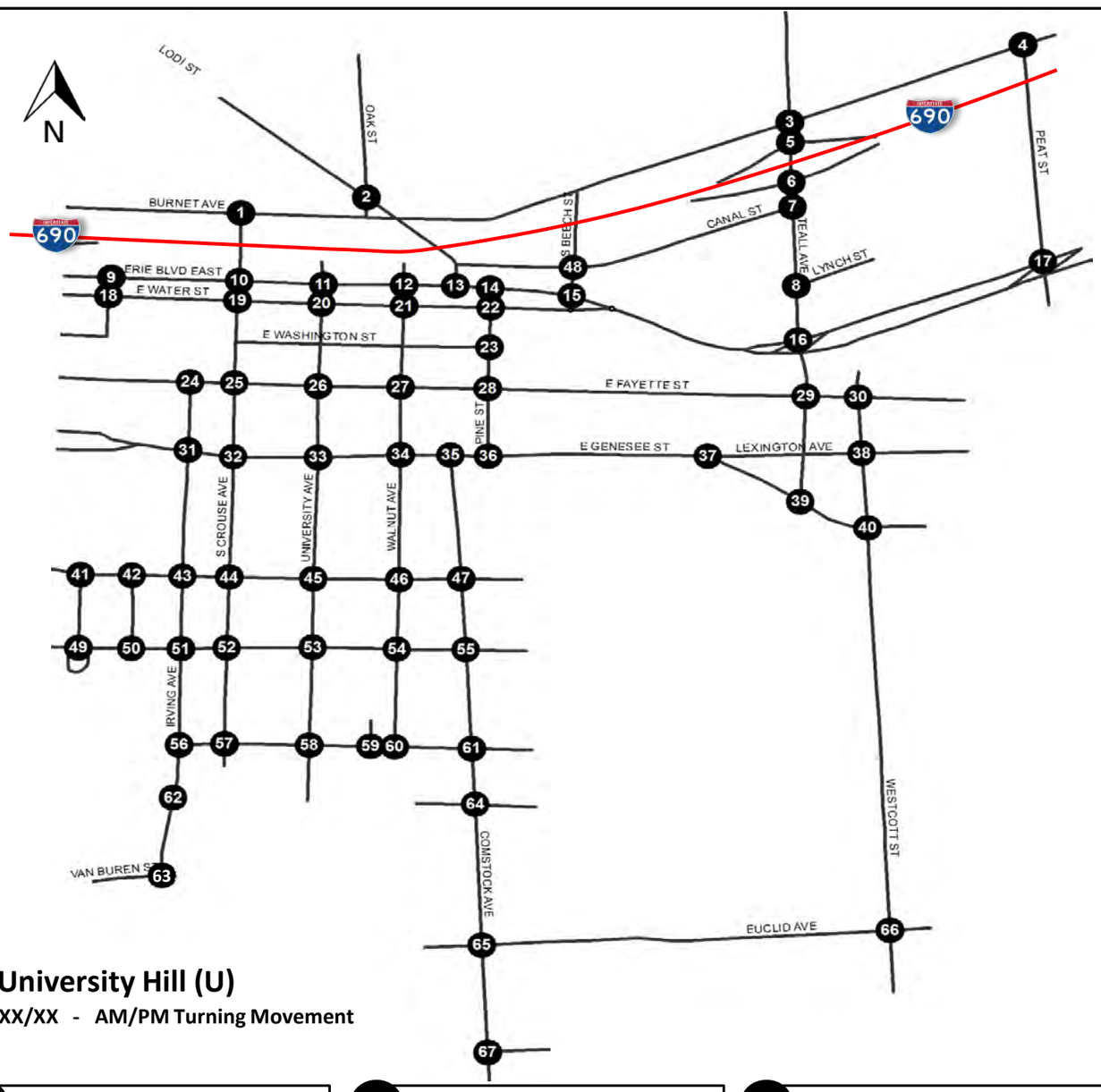
51 Irving Av & E. Adams St



52 S. Crouse Av & E. Adams St



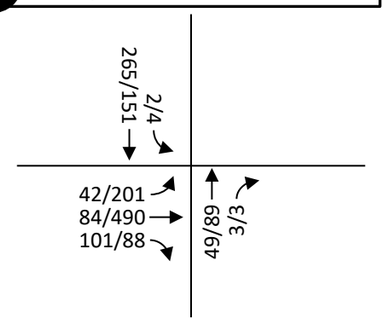
Existing 2013



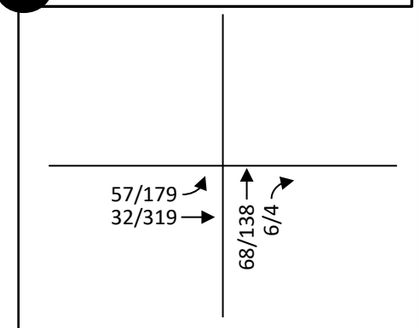
University Hill (U)

XX/XX - AM/PM Turning Movement

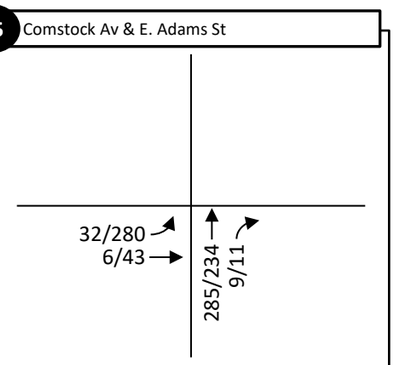
53 University Av & E. Adams St



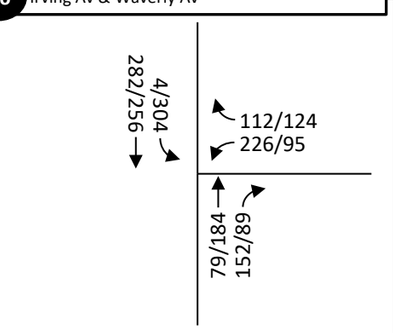
54 Walnut Av & E. Adams St



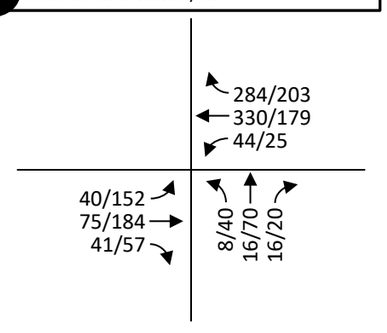
55 Comstock Av & E. Adams St



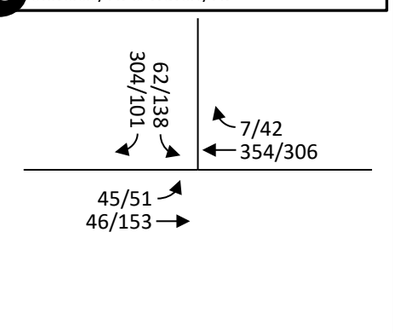
56 Irving Av & Waverly Av



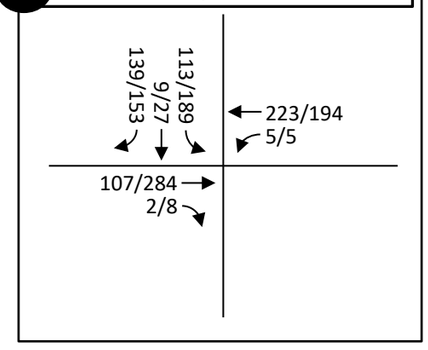
57 S. Crouse Av & Waverly Av



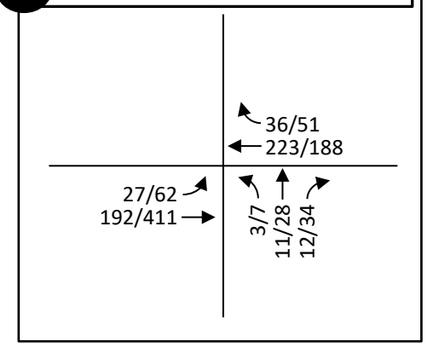
58 University Av & Waverly Av



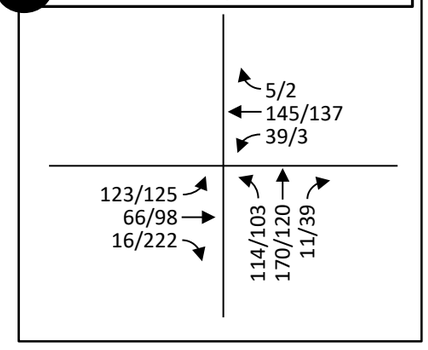
59 Walnut Pl & Waverly Av



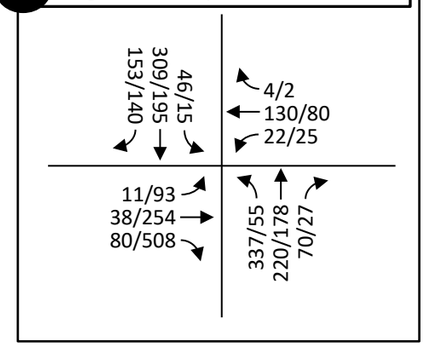
60 Walnut Av & Waverly Av



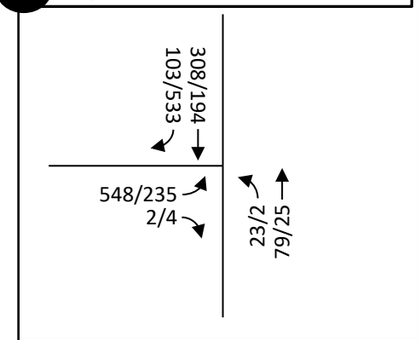
61 Comstock Av & Waverly Av



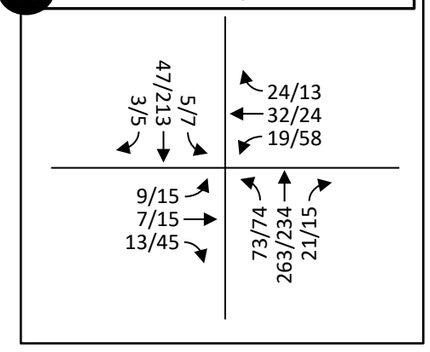
62 Irving Av & University Pl



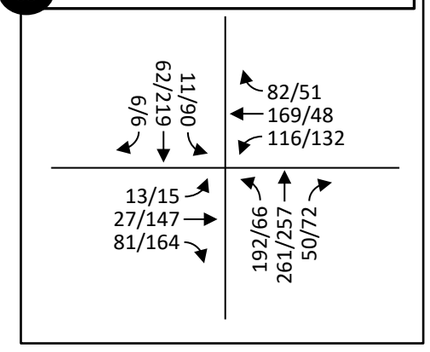
63 Irving Av & Van Buren St



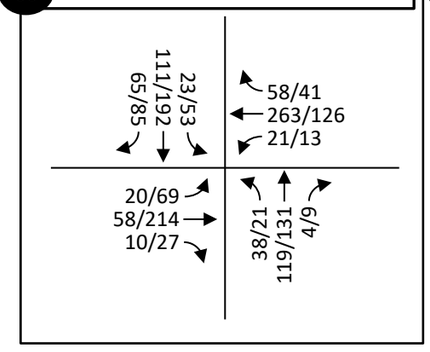
64 Comstock Av & University Pl



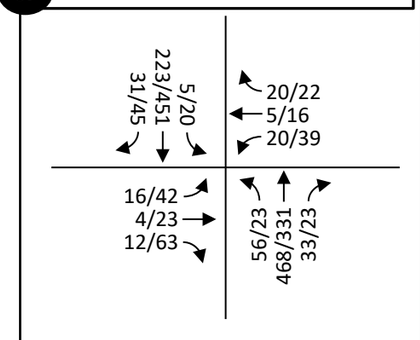
65 Comstock Av & Euclid Av



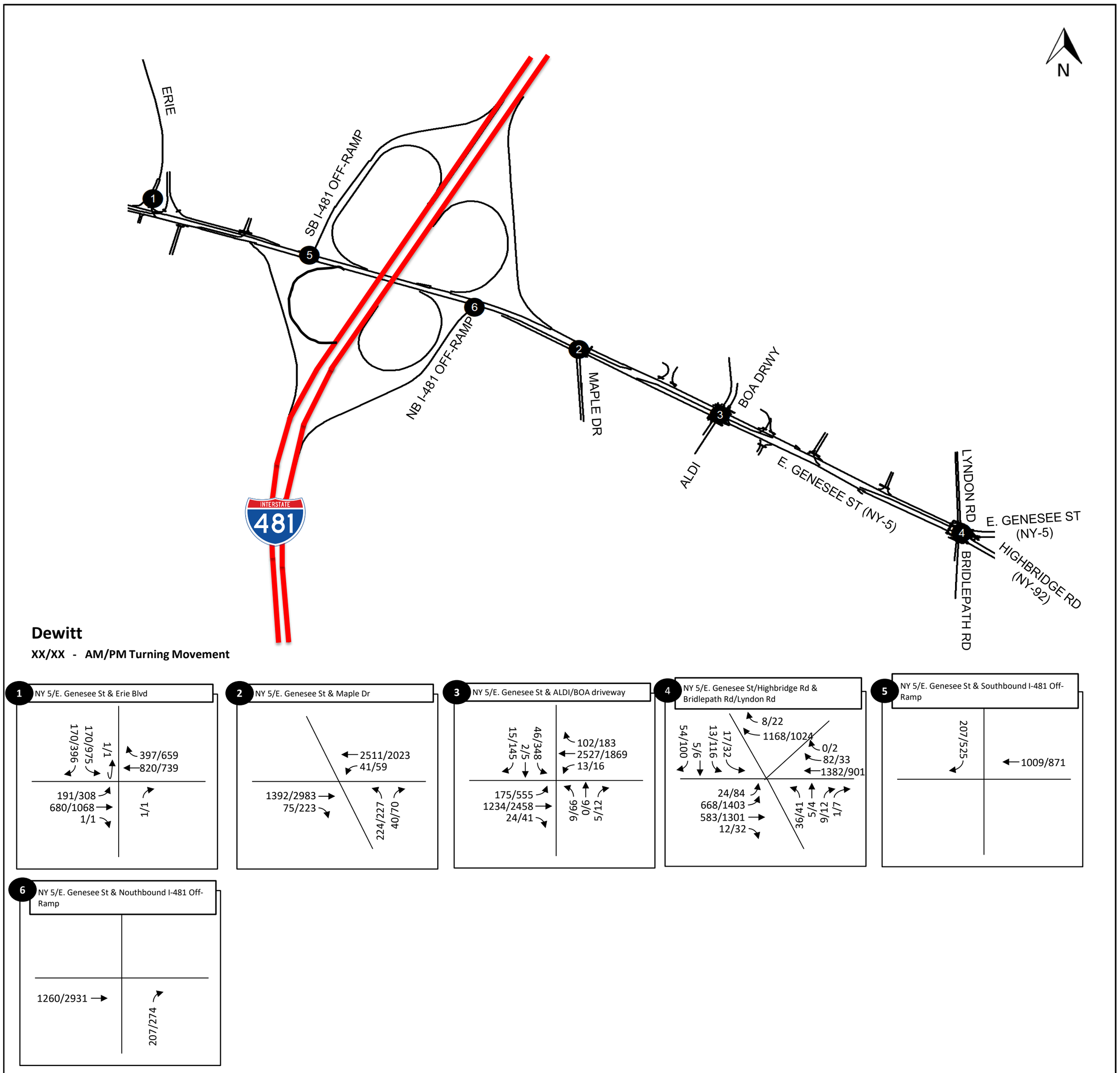
66 Westcott St & Euclid Av



67 Comstock Av & Stratford St



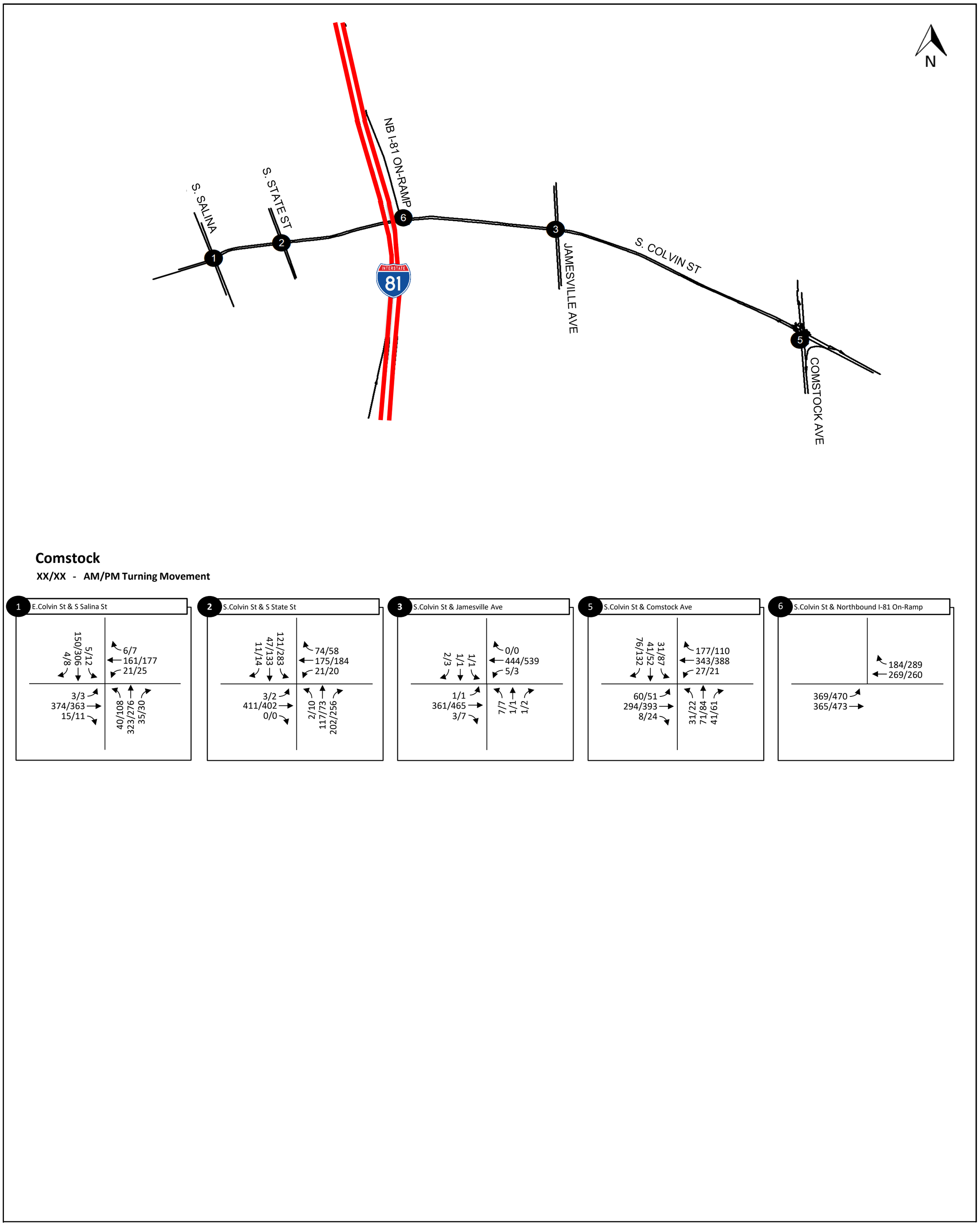
Existing 2013



Dewitt

XX/XX - AM/PM Turning Movement

Existing 2013



Comstock

XX/XX - AM/PM Turning Movement

1 E.Colvin St & S Salina St

4/8	150/306 → 5/12	← 6/7
		← 161/177
		← 21/25
3/3		40/108 →
374/363 →		323/276 →
15/11		35/30 →

2 S.Colvin St & S State St

11/14	47/133 → 121/283	← 74/58
		← 175/184
		← 21/20
3/2		2/10 →
411/402 →		117/73 →
0/0		202/256 →

3 S.Colvin St & Jamesville Ave

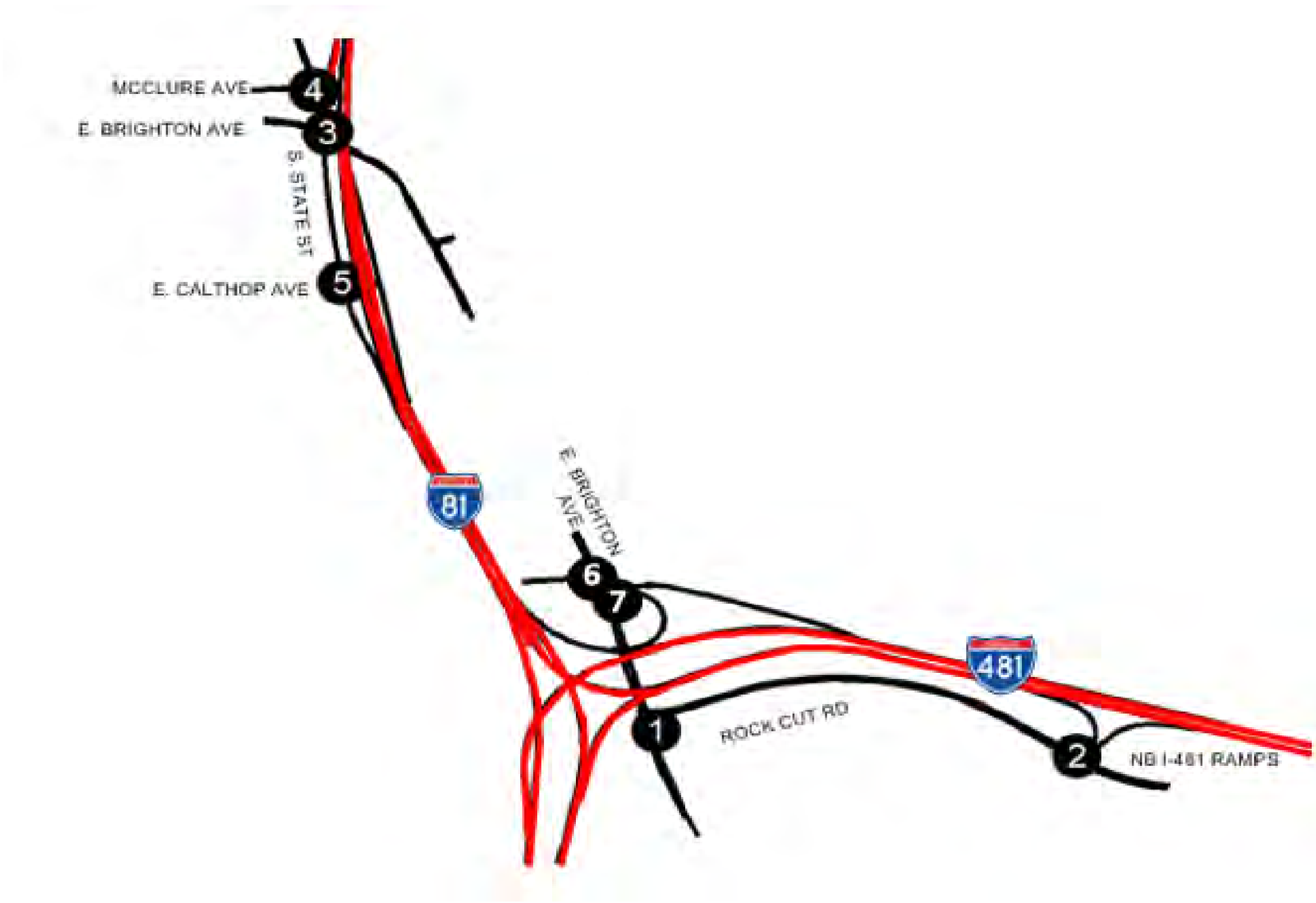
2/3	1/1 → 1/1	← 0/0
		← 444/539
		← 5/3
1/1		7/7 →
361/465 →		1/1 →
3/7		1/2 →

5 S.Colvin St & Comstock Ave

76/132	41/52 → 31/87	← 177/110
		← 343/388
		← 27/21
60/51		31/22 →
294/393 →		71/84 →
8/24		41/61 →

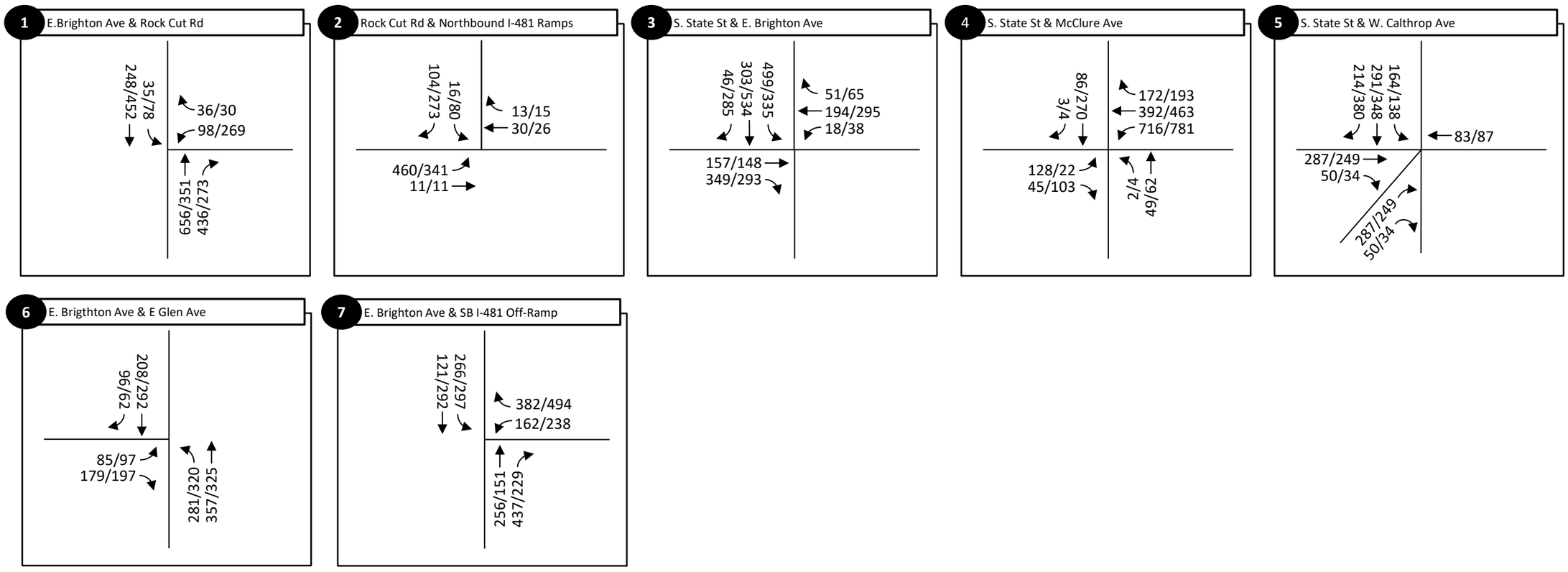
6 S.Colvin St & Northbound I-81 On-Ramp

	← 184/289
	← 269/260
369/470 →	
365/473 →	



Valley

XX/XX - AM/PM Turning Movement



5-2-3: 2013 Existing Freeway Level of Service

2013 Existing Freeway LOS Analysis

Segment	Type	AM		PM	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Northbound I-81					
between Interchange 16 (US 11) on-ramp and Exit 16A (I-481 Northbound)	BFS	9.6	A	12.4	B
at Exit 16A (I-481 Northbound)	Diverge	8.9	A	10.1	B
between Interchange 16A (I-481 Northbound) off and on-ramps	BFS	4.4	A	8.4	A
between Interchange 16A (I-481 Northbound) on-ramp and Exit 17 (S. Salina St, Brighton Av)	Weave	6.6	A	8.0	A
at Interchange 17 (S. Salina St) on-ramp	Merge	13.1	B	14.1	B
between Interchange 17 (S. Salina St, Brighton Av) off and on-ramps	BFS	13.3	B	14.5	B
between Interchange 17 (S. Salina St) and Interchange 17 (E. Colvin St) on-ramps	BFS	13.2	B	14.3	B
at Interchange 17 (E. Colvin St) on-ramp	Merge	13.9	B	15.8	B
between Interchange 17 (E. Colvin St) on-ramp and Exit 18 (Adams St)	BFS	16.9	B	19.4	C
at Exit 18 (Adams St, Harrison St)	Diverge	16.9	B	22.6	C
between Interchange 18 (Adams St, Harrison St) off and on-ramps	BFS	19.2	C	23.6	C
between Interchange 18 (Harrison St) on-ramp and Eastbound I-690 off-ramp	Weave	15.0	B	34.7	D
between Westbound I-690 off and on-ramps	BFS	12.4	B	33.2	D
at Westbound I-690 off-ramp	Diverge	9.2	A	21.7	C
at Westbound I-690 on-ramp	Merge	9.8	A	26.7	C
at Interchange 19 (N. Salina St, Pearl St) on-ramp	Merge	12.4	B	32.8	D
between Interchange 19 (Pearl St) and Interchange 20 (Butternut St) on-ramps	BFS	12.4	B	33.0	D
at Interchange 20 (Butternut St) on-ramp	Merge	13.0	B	31.0	D
at Exit 22 (Court St)	Diverge	12.9	B	31.4	D
between Interchange 22 (Court St) off and on-ramps	BFS	13.0	B	34.0	D
between Interchange 22 (Court St) on-ramp and Exit 23 (Hiawatha Blvd)	Weave	8.4	A	22.4	C
between Interchange 23 (Park St, Hiawatha Blvd) off and on-ramps	BFS	9.0	A	23.0	C
at Interchange 23 (Hiawatha Blvd) on-ramp	Merge	13.3	B	27.8	C
between Interchange 23 (Hiawatha Blvd) on-ramp and Exit 25 (7th North St)	BFS	9.3	A	20.9	C
at Exit 25 (7th North St)	Diverge	9.9	A	19.7	B
between Interchange 25 (7th North St) off and on-ramps	BFS	8.9	A	22.8	C
between Interchange 25 (7th North St) on-ramp and Exit 25A (I-90)	Weave	7.7	A	21.2	C
between Interchange 25A (I-90) off and on-ramps	BFS	8.6	A	24.0	C
between Interchange 25A (I-90) on-ramp and Exit 26 (US 11)	BFS	9.8	A	21.8	C
at Interchange 25A (I-90) on-ramp	Merge	9.8	A	21.8	C
at Exit 26 (US 11)	Diverge	8.3	A	17.2	B
between Exit 26 (US 11) and Exits 27-28 (Airport Blvd)	BFS	8.1	A	20.0	C
at Exits 27-28 (Airport Blvd)	Diverge	8.1	A	20.0	B
between Interchange 27 (Airport Blvd) off and on-ramps	BFS	5.3	A	15.2	B
at Interchange 27 (Airport Blvd) on-ramp	Merge	7.7	A	18.4	B
between Interchange 27 (Airport Blvd) on-ramp and Taft Rd on-ramp	BFS	7.7	A	19.2	C

2013 Existing Freeway LOS Analysis

Segment	Type	AM		PM	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
at Interchange 28 (Taft Rd) on-ramp	Merge	10.1	B	20.2	C
between Interchange 28 (Taft Rd) on-ramp and Exit 29S (I-481 South)	BFS	9.8	A	22.4	C
at Exit 29S (I-481 South)	Diverge	9.0	A	18.2	B
between Exit 29S (I-481 SB) and Southbound NY-481 on-ramp	BFS	9.0	A	21.0	C
between Interchange 29N (NY-481) on and off-ramps	Weave	7.3	A	17.0	B
between Exit 29N (NY-481 Northbound) and Northbound I-481 on-ramp	BFS	6.6	A	12.8	B
at Interchange 29S (I-481) on-ramp	Merge	8.1	A	15.3	B
between Interchange 29N (I-481) on-ramp and Exit 30 (NY-31)	BFS	8.2	A	16.6	B
Southbound I-81					
between Interchange 30 (NY-31) on-ramp and Exit 29N (NY-481)	BFS	19.2	C	10.8	A
at Exit 29N (NY-481)	Diverge	18.9	B	7.6	A
between Exit 29N (NY-481 Northbound) and Northbound I-481 on-ramp	BFS	18.5	C	10.0	A
between Interchange 29S (I-481) on and off-ramps	Weave	15.5	B	8.4	A
between Exit 29S (I-481 SB) and Southbound NY-481 on-ramp	BFS	15.8	B	9.1	A
at Interchange 29N (NY-481) on-ramp	Merge	23.8	C	14.3	B
between Interchange 29S (I-481) on-ramp and Exit 28 (Taft Rd)	BFS	25.3	C	14.7	B
at Exit 28 (Taft Rd)	Diverge	19.4	B	14.4	B
between Exit 28 (Taft Rd) and Exits 27-26 (Airport Blvd)	BFS	22.6	C	12.7	B
at Exits 27-26 (US 11)	Diverge	19.5	B	11.4	B
between Interchange 27 (Airport Blvd) off and on-ramps	BFS	19.2	C	10.3	A
at Interchange 27 (Airport Rd) on-ramp	Merge	19.5	B	14.1	B
between Interchange 27 (Airport Rd) and Interchange 26 (US 11) on-ramps	BFS	22.3	C	14.4	B
at Interchange 26 (US 11) on-ramp	Merge	16.8	B	15.3	B
between Interchange 26 (US 11) on-ramp and Exit 25A (I-90)	BFS	19.7	C	15.8	B
at Exit 25A (I-90)	Diverge	19.7	B	15.8	B
between Interchange 25A (I-90) off and on-ramps	BFS	23.8	C	17.8	B
between Interchange 25A (I-90) on-ramp and Exit 25 (7th North St)	Weave	19.6	B	14.7	B
between Interchange 25 (7th North St) off and on-ramps	BFS	21.6	C	16.1	B
between Interchange 25 (7th North St) on-ramp and Exits 23A and 23B (Hiawatha Blvd) and Exit 22 (Bear St)	Weave	19.5	B	14.9	B
between Exit 23A and Old Liverpool Rd on-ramp	BFS	34.4	D	15.5	B
at Old Liverpool Rd on-ramp	Merge	36.9	E	16.1	B
at Onondaga Lake Pkwy (NY370) on-ramp	Merge	36.3	E	18.5	B
between Onondaga Lake Pkwy on-ramp and Interchange 22 (Bear St) on-ramp	BFS	48.7	F	21.7	C
at Interchange 22 (Bear St) on-ramp	Merge	33.9	D	21.7	C
at Exit 21 (Spencer/Catawba St)	Diverge	53.7	F	26.3	C
between Interchange 21 (Spencer/Catawba St) off and on-ramps	BFS	50.3	F	23.5	C
between Interchange 21 (Spencer/Catawba St) on-ramp and Exit 20 (Franklin St)	Weave	46.7	F	19.0	B

2013 Existing Freeway LOS Analysis

Segment	Type	AM		PM	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
at Exit 19 (Clinton St, Salina St)	Diverge	67.1	F	22.3	C
at Eastbound I-690	Diverge	78.3	F	29.1	D
between Eastbound I-690 off and on-ramps	BFS	73.3	F	19.9	C
at Eastbound I-690 on-ramp	Merge	73.3	F	19.9	B
at Exit 18 (Harrison St, Adams St)	Diverge	42.5	E	30.7	D
at Westbound I-690 on-ramp	Merge	15.2	B	19.7	B
between Westbound I-690 and Interchange 18 (Adams St) on-ramps	BFS	17.2	B	22.6	C
between Exit 18 (Harrison St, Adams St) and Westbound I-690 on-ramp	BFS	22.7	C	28.8	D
at Interchange 18 (Harrison St, Adams St) on-ramp	Merge	13.6	B	22.0	C
between Interchange 18 (Adams St) and Exit 17 (S. State St)	BFS	13.8	B	21.9	C
at Exit 17 (S. State St, S. Salina St, Brighton Av)	Diverge	13.6	B	19.7	B
between Exit 17 (S. State St, S. Salina St, Brighton Av) off and on-ramps	BFS	6.1	A	12.5	B
at Brighton Av on-ramp	Merge	9.0	A	14.1	B
at Exit 16 (I-481) off-ramp	Diverge	6.3	A	11.5	B
between Interchange 16A (I-481) off and on-ramps	BFS	9.8	A	13.9	B
at Interchange 16A (I-481) on-ramp	Merge	10.9	B	13.4	B
between Interchange 16A (I-481) on-ramp and Interchange 16 (US 11) off-ramps	BFS	16.5	B	20.3	C
Northbound I-481					
between I-81 on-ramp and Exit 1 (Brighton Av, Rock Cut Rd)	Weave	7.6	A	10.9	B
between Interchange 1 (Brighton Av, Rock Cut Rd) off and on-ramps	BFS	6.6	A	8.2	A
at Interchange 1 (Brighton Av, Rock Cut Rd) on-ramp	Merge	8.1	A	8.2	A
between Interchange 1 (Brighton Av, Rock Cut Rd) and Exit 2 (Jamesville Rd)	BFS	10.6	A	11.1	B
at Exit 2 (Jamesville Rd)	Diverge	6.9	A	7.3	A
between Interchange 2 (Jamesville Rd) off and on-ramps	BFS	8.7	A	7.4	A
at Interchange 2 (Jamesville Rd) on-ramp	Merge	10.0	A	8.7	A
between Interchange 2 (Jamesville Rd) on-ramp and Exit 3E (Eastbound NY-5)	BFS	13.6	B	11.8	B
at Exit 3E (Eastbound NY-5)	Diverge	9.2	A	8.5	A
between Interchange 3E (Eastbound NY-5) off and on-ramps	BFS	11.9	B	9.6	A
between Interchange 3E (Eastbound NY-5) on-ramp and Exit 3W (Westbound NY-5)	Weave	9.9	A	8.8	A
between Interchange 3W (Westbound NY-5) off and on-ramps	BFS	11.5	B	10.5	A
at Interchange 3W (Westbound NY-5) on-ramp	Merge	14.5	B	11.9	B
between Interchange 3W (Westbound NY-5) on-ramp and Exit 4 (Westbound I-690)	BFS	16.7	B	13.7	B
at Exit 4 (Westbound I-690)	Diverge	12.0	B	10.2	B
between Interchange 4 (I-690) off and on-ramps	BFS	10.3	A	10.6	A
at Interchange 4 (Eastbound I-690) on-ramp	Merge	11.0	B	15.9	B
between Interchange 4 (Eastbound I-690) on-ramp and Exit 5E (Kirkville Rd)	BFS	16.1	B	22.9	C
at Exit 5E (Kirkville Rd)	Diverge	11.2	B	18.1	B

2013 Existing Freeway LOS Analysis

Segment	Type	AM		PM	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
between Interchange 5E (Kirkville Rd) off and on-ramps	BFS	15.1	B	19.2	C
between Interchange 5E (Kirkville Rd) on-ramp and Exit 5W (Kirkville Rd)	Weave	10.7	B	14.4	B
between Interchange 5W (Kirkville Rd) off and on-ramps	BFS	11.2	B	18.5	C
at Interchange 5W (Kirkville Rd) on-ramp	Merge	8.7	A	13.5	B
between Interchange 5W (Kirkville Rd) on-ramp and Exit 6 (I-90)	BFS	12.9	B	20.5	C
at Exit 6 (I-90)	Diverge	11.9	B	23.0	C
between Interchange 6 (I-90) off and on-ramps	BFS	8.8	A	11.1	B
at Interchange 6 (I-90) on-ramp	Merge	7.9	A	9.8	A
at Exit 7 (NY-298 Bridgeport Rd)	Diverge	9.5	A	11.5	B
between Interchange 7 (NY-298 Bridgeport Rd) off and on-ramps	BFS	8.0	A	10.6	A
at Interchange 7 (NY-298 Bridgeport Rd) on-ramp	Merge	5.9	A	10.1	B
between Interchange 7 (NY-298 Bridgeport Rd) on-ramp and Exit 8 (Northern Blvd)	BFS	8.8	A	14.7	B
at Exit 8 (Northern Blvd)	Diverge	6.3	A	10.4	B
between Interchange 8 (Northern Blvd) off and on-ramps	BFS	6.4	A	11.5	B
at Interchange 8 (Northern Blvd) on-ramp	Merge	6.3	A	14.6	B
between Interchange 8 (Northern Blvd) on-ramp and Exit 9N (I-81)	BFS	9.3	A	21.3	C
at Exit 9N (I-81)	Diverge	7.1	A	16.6	B
Southbound I-481					
at Interchange 9N (I-81) on-ramp	Merge	17.5	B	9.3	A
between Interchange 9N (I-81) on-ramp and Exit 8 (Northern Blvd)	BFS	20.1	C	12.0	B
at Exit 8 (Northern Blvd)	Diverge	14.7	B	8.5	A
between Interchange 8 (Northern Blvd) off and on-ramps	BFS	13.7	B	9.3	A
at Interchange 8 (Northern Blvd) on-ramp	Merge	11.6	B	7.5	A
between Interchange 8 (Northern Blvd) on-ramp and Exit 7 (NY-298 Bridgeport Rd)	BFS	17.2	B	11.2	B
at Exit 7 (NY-298 Bridgeport Rd)	Diverge	14.4	B	7.9	A
between Interchange 7 (NY-298 Bridgeport Rd) off and on-ramps	BFS	13.1	B	10.1	A
at Interchange 7 (NY-298 Bridgeport Rd) on-ramp	Merge	11.3	B	10.4	B
between Interchange 7 (NY-298 Bridgeport Rd) and Exit 6 (I-90)	BFS	16.5	B	15.0	B
at Exit 6 (I-90)	Diverge	12.4	B	11.7	B
between Interchange 6 (I-90) off and on-ramps	BFS	14.3	B	11.9	B
at Interchange 6 (I-90) on-ramp	Merge	14.7	B	12.4	B
between Interchange 6 (I-90) on-ramp and Exit 5W (Kirkville Rd)	BFS	20.3	C	17.0	B
at Exit 5W (Kirkville Rd)	Diverge	14.7	B	11.2	B
between Interchange 5W (Kirkville Rd) off and on-ramps	BFS	17.5	B	15.8	B
between Interchange 5W (Kirkville Rd) on-ramp and Exit 5E (Kirkville Rd)	Weave	13.9	B	11.4	B
between Interchange 5E (Kirkville Rd) off and on-ramps	BFS	18.6	C	14.8	B
at Interchange 5E (Kirkville Rd) on-ramp	Merge	15.0	B	13.9	B
between Interchange 5E (Kirkville Rd) on-ramp and Exit 4 (Westbound I-690)	BFS	22.1	C	19.8	C

2013 Existing Freeway LOS Analysis

Segment	Type	AM		PM	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
at Exit 4 (Westbound I-690)	Diverge	23.4	C	18.5	B
between Interchange 4 (I-690) off and on-ramps	BFS	9.8	A	11.9	B
at Interchange 4 (Eastbound I-690) on-ramp	Merge	8.4	A	15.3	B
between Interchange 4 (Eastbound I-690) on-ramp and Exit 3W (Westbound NY-5)	BFS	10.5	A	20.0	C
at Exit 3W (Westbound NY-5)	Diverge	9.7	A	20.1	C
between Interchange 3W (Westbound NY-5) off and on-ramps	BFS	9.3	A	16.3	B
between Interchange 3W (Westbound NY-5) on-ramp and Exit 3E (Eastbound NY-5)	Weave	8.3	A	22.0	C
between Interchange 3E (Eastbound NY-5) off and on-ramps	BFS	5.9	A	8.2	A
at Interchange 3E (Eastbound NY-5) on-ramp	Merge	6.5	A	10.1	B
between Interchange 3E (Eastbound NY-5) on-ramp and Exit 2 (Jamesville Rd)	BFS	6.6	A	10.4	A
at Exit 2 (Jamesville Rd)	Diverge	9.8	A	15.8	B
between Interchange 2 (Jamesville Rd) off and on-ramps	BFS	6.9	A	10.1	A
at Interchange 2 (Jamesville Rd) on-ramp	Merge	7.7	A	8.2	A
between Interchange 2 (Jamesville Rd) on-ramp and Exit 1 (Brighton Av)	BFS	11.2	B	12.2	B
at Exit 1 (Brighton Av)	Diverge	9.5	A	11.1	B
at Northbound I-81 and Southbound I-81 ramps	Diverge	9.5	A	8.8	A
between Northbound I-81 off-ramp and E. Brighton Av on-ramp	BFS	9.5	A	8.8	A
at E. Brighton Av on-ramp	Merge	9.9	A	7.6	A
Eastbound I-690					
between Interchange 7 (NY-297) and Interchange 8 (State Fair Blvd) on-ramps	BFS	26.4	D	13.0	B
at Interchange 8 (State Fair Blvd) on-ramp	Merge	19.4	B	12.7	B
at Exit 8 (Hiawatha Blvd)	Diverge	22.0	C	13.5	B
between Exit 8 (Hiawatha Blvd) and Exit 9 (Bear St)	BFS	24.1	C	11.0	B
at Exit 9 (Bear St)	Diverge	19.6	B	10.2	B
between Exit 9 (Bear St) and Interchange 10 (N. Geddes St) on-ramp	BFS	21.3	C	9.6	A
between Interchange 10 (N. Geddes St) on-ramp and Exit 11 (West St)	Weave	21.1	C	11.7	B
between Interchange 11 West St off and on-ramps	BFS	30.4	D	21.1	C
at Interchange 11 (West St) on-ramp	Merge	32.5	D	20.9	C
at South I-81 off-ramp	Diverge	38.3	E	31.8	D
between South I-81 off and on-ramps	BFS	22.3	C	21.5	C
at Southbound I-81 on-ramp	Merge	19.8	B	22.0	C
at N. McBride St on-ramp	Merge	16.4	B	22.4	C
at Northbound I-81 on-ramp	Merge	26.0	C	28.2	D
between Northbound I-81 on-ramp and Exit 14 (Teall Av)	BFS	28.9	D	32.0	D
at Exit 14 (Teall Av)	Diverge	31.5	D	25.7	C
between Interchange 14 (Teall Av) off and on-ramps	BFS	20.5	C	27.2	D
at Interchange 14 (Teall Av) on-ramp	Merge	20.2	C	25.1	C
at Exit 15 (Midler Av)	Diverge	22.1	C	27.4	C

2013 Existing Freeway LOS Analysis

Segment	Type	AM		PM	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
between Interchange 15 (Midler Av) off and on-ramps	BFS	15.9	B	25.0	C
at Interchange 15 (Midler Av) on-ramp	Merge	15.0	B	22.1	C
between Interchange 15 (Midler Av) on-ramp and Exits 16S-N (Thompson Rd)	BFS	17.1	B	27.5	D
at Exits 16S-N (Thompson Rd) and Exit 17 (Bridge St)	Diverge	13.1	B	19.9	B
between Interchange 16S-N (Thompson Rd) off and on-ramps	BFS	7.3	A	16.0	B
at Interchange 16S-N (Thompson Rd) on-ramp	Merge	7.9	A	17.5	B
between Interchange 16S-N (Thompson Rd) and Interchange 17 (Bridge St) on-ramps	BFS	8.3	A	19.3	C
at Interchange 17 (Bridge St) on-ramp	Merge	9.3	A	17.3	B
at I-481 off-ramps	Diverge	9.6	A	23.0	C
Westbound I-690					
at I-481 on-ramps	Merge	18.0	B	14.0	B
at Exit 17 (Bridge St)	Diverge	13.5	B	11.6	B
at Exits 16N-S (Thompson Rd)	Diverge	13.9	B	11.3	B
between Interchange 16N-S (Thompson Rd) off and on-ramps	BFS	16.5	B	13.4	B
at Interchange 16N-S (Thompson Rd) on-ramp	Merge	15.7	B	18.3	B
at Exit 15 (Midler Av)	Diverge	15.4	B	20.5	C
between Interchange 15 (Midler Av) off and on-ramps	BFS	18.9	C	21.5	C
at Interchange 15 (Midler Av) on-ramp	Merge	18.6	B	23.1	C
at Exit 14 (Teall Av) off-ramp	Diverge	17.8	B	21.5	C
between Interchange 14 (Teall Av) off and on-ramps	BFS	17.6	B	22.9	C
at Interchange 14 (Teall Av) on-ramp	Merge	18.9	B	25.9	C
between Interchange 14 (Teall Av) on-ramp and South I-81 off-ramp	BFS	22.3	C	29.9	D
at South I-81 off-ramp	Diverge	20.9	C	27.8	C
at Exit 13 (Townsend St)	Diverge	19.1	B	22.0	C
between Exit 13 (Townsend St) and Northbound I-81 off and on-ramp	BFS	11.7	B	21.9	C
at Northbound I-81 off-ramp	Diverge	11.6	B	22.3	C
between Northbound I-81 off and on-ramps	BFS	10.9	A	21.1	C
at Northbound I-81 on-ramp	Merge	28.3	D	23.8	C
at Exit 11 (West St) off-ramp	Diverge	18.8	B	30.9	D
between Interchange 11 (West St) off and on-ramps	BFS	13.7	B	24.6	C
between Exit 10 (N. Geddes St) and Interchange 9 (Bear St) on-ramp	BFS	7.7	A	18.9	C
between Interchange 11 (West) on-ramp and Exit 10 (N. Geddes St)	Weave	9.4	A	17.4	B
at Interchange 9 (Bear St) on-ramp	Merge	11.6	B	24.1	C
between Interchange 9 (Bear St) and Interchange 8 (State Fair Blvd) on-ramps	BFS	11.0	A	25.0	C
at Interchange 8 (Hiawatha Blvd) on-ramp	Merge	14.8	B	23.4	C
between Interchange 8 (State Fair Blvd) on-ramp and Exit 7 (NY-297, Fairgrounds)	BFS	15.3	B	28.3	D

5-2-4: 2013 Existing Intersection Level of Service

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Comstock				
C-1				
S.Colvin St & S Salina St				
NB	17.3	B	18.9	B
SB	7.8	A	8.8	A
SWB	15.4	B	16.9	B
EB	17.5	B	18.5	B
ALL	15.8	B	16.0	B
C-2				
S.Colvin St & S State St				
NB	18.8	B	17.3	B
SB	30.1	C	13.6	B
EB	8.3	A	20.0	B
WB	7.9	A	21.0	C
ALL	14.4	B	17.6	B
C-3				
S.Colvin St & Jamesville Ave				
NB	7.8	A	8.1	A
SB	9.0	A	9.2	A
EB	0.2	A	0.2	A
WB	0.4	A	0.5	A
ALL	0.4	A	0.4	A
C-5				
S.Colvin St & Comstock Ave				
NB	8.7	A	8.1	A
NWB	4.3	A	5.3	A
SB	10.2	B	11.6	B
SEB	5.2	A	6.5	A
ALL	5.8	A	7.2	A
C-6				
S.Colvin St & Northbound I-81 On-Ramp				
NB	0.1	A	0.1	A
EB	3.7	A	7.1	A
WB	0.3	A	0.4	A
ALL	0.9	A	1.9	A
Dewitt				
DW-1				
NY 5/E. Genesee St & Erie Blvd				
NB	0.0	A	0.0	A
NWB	3.0	A	2.0	A
SB	9.9	A	16.6	B
EB	8.6	A	14.1	B
WB	13.0	B	21.2	C
ALL	9.1	A	14.2	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
DW-2				
NY 5/E. Genesee St & Maple Dr				
NB	23.7	C	27.8	C
NWB	17.6	B	15.7	B
SEB	18.8	B	20.4	C
ALL	18.5	B	19.1	B
DW-3				
NY 5/E. Genesee St & ALDI/BOA driveway				
NEB	41.6	D	50.7	D
NWB	18.5	B	36.6	D
SEB	12.9	B	22.2	C
SWB	34.0	C	0.0	A
ALL	16.7	B	28.4	C
DW-4				
NY 5/E. Genesee St/Highbridge Rd & Bridlepath Rd/Lyndon Rd				
NB	63.6	E	59.0	E
NWB	69.9	E	40.2	D
SB	62.3	E	123.9	F
SEB	21.4	C	41.4	D
WB	47.5	D	55.6	E
ALL	47.5	D	48.9	D
DW-5				
NY 5/E. Genesee St & Southbound I-481 Off-Ramp				
SWB	11.1	B	61.5	F
WB	1.8	A	1.4	A
ALL	3.7	A	25.0	C
DW-6				
NY 5/E. Genesee St & Northbound I-481 Off-Ramp				
NEB	12.8	B	76.0	F
EB	0.6	A	2.5	A
ALL	2.3	A	8.6	A
Downtown and Southside				
D-1				
N. West St & NY 5/W. Genesee St				
SB	5.6	A	2.0	A
EB	53.0	D	20.7	C
WB	14.6	B	12.2	B
ALL	12.6	B	7.4	A
D-2				
West St Access Ramp & Erie Blvd W.				
EB	1.5	A	1.7	A
WB	0.1	A	0.9	A
ALL	1.3	A	1.3	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-3 **Southbound S. West St & W. Fayette St**				
SB	10.8	B	10.4	B
EB	27.4	C	20.5	C
WB	4.8	A	3.8	A
ALL	13.8	B	11.6	B
D-4 **Northbound S. West St & W. Fayette St**				
NB	11.1	B	16.3	B
EB	16.3	B	11.6	B
WB	13.9	B	21.1	C
ALL	14.1	B	16.3	B
D-5 **S. West St & Gifford St**				
NB	2.7	A	5.2	A
SB	6.1	A	29.8	C
EB	37.1	D	19.2	B
WB	31.4	C	14.5	B
ALL	8.3	A	17.7	B
D-6 **S. West St & Seymour St**				
NB	13.7	B	13.7	B
SB	25.8	C	17.5	B
WB	11.8	B	17.9	B
ALL	21.5	C	16.6	B
D-7 **S. West St & Shonnard St**				
NB	19.4	B	14.3	B
SB	26.7	C	18.3	B
EB	30.4	C	26.1	C
ALL	25.9	C	18.5	B
D-8 **S. West St & W. Onondaga St**				
NEB	3.8	A	3.7	A
SB	25.6	C	28.1	C
SWB	19.7	B	24.5	C
ALL	14.4	B	18.2	B
D-10 **Wallace St & NY 5/W. Genesee St**				
NEB	21.7	C	16.0	B
NWB	11.6	B	6.9	A
SB	20.9	C	13.4	B
SEB	12.4	B	1.4	A
ALL	12.5	B	5.6	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-11 **N. Franklin St & Butternut St**				
NB	6.5	A	7.7	A
NWB	33.3	C	31.1	C
SEB	33.8	C	33.4	C
SWB	16.4	B	8.7	A
ALL	14.6	B	9.4	A
D-12 **N. Franklin St & Herald Pl**				
NB	1.2	A	10.4	B
SB	11.7	B	23.1	C
EB	27.0	C	10.8	B
WB	7.6	A	5.6	A
ALL	14.7	B	11.2	B
D-13 **N. Franklin St & NY 5/W. Genesee St**				
NEB	52.5	D	30.3	C
NWB	44.0	D	26.0	C
SB	17.0	B	13.0	B
SEB	18.1	B	10.2	B
ALL	30.5	C	21.9	C
D-14 **N./S. Franklin St & Erie Blvd W.**				
NB	15.2	B	7.3	A
SB	44.6	D	6.4	A
EB	33.7	C	18.9	B
WB	7.7	A	33.3	C
ALL	34.4	C	12.3	B
D-15 **S. Franklin St & W. Water St**				
NB	8.2	A	4.0	A
SB	0.2	A	0.1	A
EB	9.6	A	25.2	D
WB	8.2	A	7.3	A
ALL	1.7	A	11.6	B
D-16 **S. Franklin St & W. Washington St**				
NB	2.6	A	11.4	B
SB	2.9	A	19.7	B
EB	19.4	B	10.3	B
WB	11.7	B	7.8	A
ALL	9.0	A	11.4	B
D-17 **S. Franklin St & W. Fayette St**				
NB	10.6	B	13.3	B
SB	11.3	B	7.3	A
EB	18.3	B	14.9	B
WB	23.2	C	13.6	B
ALL	18.5	B	13.0	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-18 **S. Franklin St & Walton St**				
NB	7.6	A	8.2	A
SB	6.1	A	6.0	A
EB	0.2	A	0.1	A
WB	0.1	A	0.1	A
ALL	3.1	A	4.0	A
D-19 **N. Clinton St & Websters Landing**				
SB	13.4	B	1.7	A
EB	0.4	A	0.1	A
ALL	13.2	B	1.6	A
D-20 **N. Clinton St & Herald Pl**				
SB	11.1	B	17.7	B
EB	13.1	B	10.5	B
WB	18.3	B	26.4	C
ALL	11.7	B	16.3	B
D-21 **N. Clinton St & NY 5/W. Genesee St**				
SB	71.7	E	42.3	D
SEB	48.4	D	32.1	C
WB	17.5	B	16.5	B
ALL	46.9	D	25.7	C
D-22 **N./S. Clinton St & Erie Blvd W.**				
SB	0.6	A	0.8	A
EB	14.3	B	9.6	A
ALL	4.8	A	2.1	A
D-23 **S. Clinton St & W. Water St**				
SB	2.2	A	1.9	A
ALL	2.2	A	1.9	A
D-24 **S. Clinton St & W. Washington St**				
SB	16.1	B	28.5	C
EB	17.2	B	3.9	A
WB	15.7	B	6.0	A
ALL	16.2	B	15.3	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-25 **S. Clinton St & W. Fayette St**				
SB	4.9	A	5.9	A
EB	24.2	C	10.3	B
WB	23.6	C	1.6	A
ALL	15.0	B	5.7	A
D-26 **S. Clinton St & W. Jefferson St**				
SB	6.8	A	5.5	A
EB	8.2	A	11.2	B
WB	18.9	B	11.9	B
ALL	9.5	A	8.5	A
D-27 **S. Clinton St & W. Onondaga St**				
NEB	16.4	B	19.7	B
SB	21.0	C	10.3	B
SWB	15.2	B	16.9	B
ALL	17.7	B	15.6	B
D-28 **S. Clinton St & W. Adams St**				
SB	48.1	D	45.5	D
EB	3.1	A	1.5	A
WB	1.2	A	4.6	A
ALL	12.9	B	13.2	B
D-29 **S. Clinton St & Tallman St**				
SB	10.4	B	14.3	B
EB	2.2	A	1.7	A
WB	0.1	A	0.1	A
ALL	3.3	A	5.0	A
D-30 **N. Salina St & Pearl St**				
NB	0.5	A	2.7	A
NWB	7.3	A	12.3	B
SB	0.1	A	0.3	A
ALL	0.8	A	2.9	A
D-32 **N. Salina St & Herald Pl**				
NB	1.0	A	19.1	B
SB	27.2	C	12.5	B
EB	21.6	C	19.3	B
ALL	24.2	C	16.9	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-33 **N. Salina St & E./W. Willow St**				
NB	2.0	A	0.8	A
SB	22.7	C	7.7	A
WB	9.2	A	8.0	A
ALL	19.5	B	5.3	A
D-34 **N. Salina St & NY 5/W. Genesee St/James St**				
NB	4.2	A	15.5	B
SB	13.6	B	13.1	B
EB	26.2	C	14.1	B
WB	17.6	B	21.4	C
ALL	18.3	B	17.1	B
D-35 **S. Salina St & E./W. Water St**				
NB	9.9	A	16.2	B
SB	4.9	A	6.1	A
EB	5.8	A	24.4	C
ALL	6.1	A	12.9	B
D-36 **S. Salina St & E./W. Washington St**				
NB	26.2	C	15.9	B
SB	22.4	C	5.1	A
EB	13.8	B	11.1	B
WB	3.7	A	12.6	B
ALL	17.7	B	11.7	B
D-37 **S. Salina St & E./W. Fayette St**				
NB	18.0	B	32.3	C
SB	6.0	A	8.5	A
EB	22.3	C	5.0	A
WB	12.5	B	5.7	A
ALL	14.8	B	15.4	B
D-38 **S. Salina St & E./W. Jefferson St**				
NB	12.5	B	5.7	A
SB	4.9	A	2.8	A
EB	15.1	B	21.2	C
WB	19.8	B	27.7	C
ALL	11.5	B	10.0	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-39 **S. Salina St & Harrison St and Onondaga St**				
NB	25.1	C	25.5	C
NEB	29.2	C	50.4	D
SB	24.0	C	25.9	C
WB	22.8	C	35.6	D
ALL	25.2	C	33.7	C
D-40 **S. Salina St & E./W. Adams St**				
NB	33.9	C	36.6	D
SB	25.9	C	23.0	C
EB	38.7	D	14.3	B
WB	45.8	D	15.4	B
ALL	34.5	C	23.8	C
D-41 **S. Salina St & E./W. Taylor St**				
NB	12.5	B	11.7	B
SB	10.2	B	10.4	B
EB	4.1	A	4.7	A
WB	9.5	A	9.5	A
ALL	11.7	B	10.5	B
D-42 **S. Salina St & Burt St and Cortland Av**				
NB	9.7	A	9.7	A
NEB	10.3	B	9.6	A
SB	8.8	A	9.6	A
WB	4.7	A	4.9	A
ALL	9.6	A	9.3	A
D-43 **S. Salina St & Tallman St/Coyne Corners**				
NB	0.3	A	0.4	A
SB	0.1	A	0.3	A
EB	8.8	A	9.4	A
ALL	3.7	A	2.6	A
D-44 **US 11/S. Salina St & US 11/E. Raynor St**				
NB	8.1	A	8.3	A
SB	7.2	A	8.2	A
WB	7.7	A	8.4	A
ALL	7.7	A	8.3	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-45 **US 11/S. Salina St & E./W. MLK Jr Dr**				
NB	9.7	A	11.7	B
SB	8.9	A	10.5	B
EB	10.5	B	10.5	B
WB	11.4	B	12.0	B
ALL	9.9	A	11.2	B
D-46 **Pearl St & Hickory St**				
NWB	0.2	A	1.5	A
SEB	6.0	A	3.1	A
SWB	8.2	A	16.5	C
ALL	3.7	A	4.6	A
D-47 **Pearl St & E. Willow St**				
NEB	0.4	A	0.4	A
SWB	0.0	A	0.1	A
ALL	0.3	A	0.2	A
D-48 **N. Warren St & E. Willow St**				
NWB	6.3	A	13.9	B
EB	0.1	A	0.1	A
WB	0.1	A	0.2	A
ALL	2.5	A	7.8	A
D-49 **N. Warren St & NY 5/James St**				
NB	19.0	B	11.0	B
SWB	13.7	B	8.1	A
EB	46.9	D	11.5	B
ALL	33.0	C	9.9	A
D-50 **N. Warren St. & E. Erie Blvd**				
NB	10.1	B	10.5	B
EB	32.7	D	17.6	C
ALL	17.3	C	13.0	B
D-51 **S. Warren St & E. Water St**				
NB	2.6	A	17.2	B
EB	10.4	B	15.3	B
WB	6.3	A	5.1	A
ALL	5.7	A	15.8	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-52 **S. Warren St & E. Washington St**				
NB	13.5	B	7.7	A
EB	0.4	A	0.7	A
WB	17.3	B	11.6	B
ALL	9.5	A	7.4	A
D-53 **S. Warren St & E. Fayette St**				
NB	16.5	B	14.7	B
EB	1.0	A	1.6	A
WB	5.6	A	5.5	A
ALL	8.7	A	9.1	A
D-54 **S. Warren St & E. Jefferson St**				
NB	18.8	B	10.0	A
EB	11.9	B	33.6	C
WB	7.0	A	11.4	B
ALL	13.1	B	13.9	B
D-55 **S. Warren St & E. Onondaga St and Madison St**				
NB	19.5	B	21.2	C
NEB	13.4	B	17.1	B
SWB	7.0	A	8.3	A
ALL	17.8	B	17.9	B
D-56 **S. Warren St & Harrison St**				
NB	23.3	C	21.8	C
WB	20.0	B	10.5	B
ALL	21.4	C	14.1	B
D-57 **S. Warren St & E. Adams St**				
NB	26.1	C	18.8	B
SB	0.0	A	0.0	A
EB	5.2	A	9.1	A
WB	3.4	A	11.2	B
ALL	8.1	A	12.6	B
D-58 **Oswego Blvd & James St**				
NEB	12.2	B	12.0	B
NWB	16.6	B	57.6	E
SEB	1.2	A	0.5	A
SWB	97.7	F	47.0	D
ALL	10.3	B	11.7	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-59 **NY 5/Oswego Blvd/ & Montgomery St**				
SEB	8.0	A	6.8	A
EB	10.1	B	9.1	A
WB	8.8	A	10.7	B
ALL	8.2	A	9.5	A
D-60 **Montgomery St & E. Water St**				
SB	15.3	B	8.4	A
EB	28.5	C	17.2	B
WB	8.0	A	19.2	B
ALL	21.6	C	15.6	B
D-61 **Montgomery St & E. Washington St**				
SB	20.2	C	10.1	B
EB	4.7	A	7.5	A
WB	12.5	B	18.0	B
ALL	10.5	B	12.8	B
D-62 **Montgomery St & E. Fayette St**				
SB	13.3	B	17.2	B
EB	3.2	A	9.3	A
WB	11.3	B	7.2	A
ALL	8.4	A	10.9	B
D-63 **Montgomery St & E. Jefferson St**				
SB	14.1	B	10.5	B
EB	23.2	C	7.4	A
WB	4.7	A	13.9	B
ALL	12.1	B	10.3	B
D-64 **Montgomery St and & E. Onondaga St**				
SWB	18.8	B	9.5	A
EB	8.1	A	4.0	A
ALL	16.4	B	7.0	A
D-65 **Montgomery St & Madison St**				
SB	8.0	A	12.1	B
EB	8.1	A	11.2	B
ALL	8.0	A	11.7	B
D-66 **Montgomery St & Harrison St**				
SB	11.8	B	18.3	B
WB	4.5	A	12.8	B
ALL	6.6	A	14.1	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-67 **Montgomery St & E. Adams St**				
NB	8.3	A	6.7	A
SB	25.4	C	28.4	C
EB	5.8	A	9.3	A
WB	15.2	B	9.2	A
ALL	7.9	A	13.7	B
D-68 **US 11/N. State St & Hickory St**				
NEB	7.6	A	6.9	A
NWB	1.0	A	2.5	A
SEB	0.5	A	0.4	A
ALL	1.2	A	2.3	A
D-69 **US 11/N. State St & E. Willow St**				
NEB	16.0	B	7.3	A
NWB	5.2	A	6.3	A
SEB	19.6	B	24.3	C
SWB	21.7	C	22.3	C
ALL	14.5	B	12.8	B
D-70 **US 11/N. State St & James St**				
NEB	10.4	B	7.2	A
NWB	11.7	B	25.0	C
SEB	10.1	B	11.8	B
SWB	21.1	C	16.5	B
ALL	13.4	B	16.7	B
D-71 **US 11/S. State St & NY 5/Erie Blvd E.**				
NB	39.2	D	7.2	A
SEB	30.9	C	19.9	B
EB	14.8	B	25.0	C
WB	23.5	C	18.7	B
ALL	27.0	C	16.9	B
D-72 **US 11/S. State St & E. Water St**				
NB	14.1	B	7.1	A
SB	3.6	A	36.5	D
EB	18.9	B	12.7	B
WB	19.2	B	11.0	B
ALL	8.4	A	15.8	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-73 **US 11/S. State St & E. Washington St**				
NB	12.8	B	22.6	C
SB	17.8	B	11.8	B
EB	18.8	B	21.4	C
WB	16.8	B	19.4	B
ALL	17.0	B	18.8	B
D-74 **US 11/S. State St & E. Fayette St**				
NB	4.1	A	10.3	B
SB	6.0	A	3.1	A
EB	22.9	C	15.8	B
WB	35.6	D	40.7	D
ALL	13.4	B	14.4	B
D-75 **US 11/S. State St & NY 92/E. Genesee St**				
NB	7.9	A	5.5	A
SB	8.1	A	4.8	A
WB	25.4	C	25.7	C
ALL	10.8	B	9.5	A
D-76 **US 11/S. State St & E. Jefferson St**				
NB	17.4	B	4.2	A
SB	16.9	B	28.5	C
EB	10.1	B	12.5	B
ALL	15.8	B	13.6	B
D-77 **US 11/S. State St & Madison St**				
NB	21.8	C	11.3	B
SB	19.2	B	5.4	A
EB	11.4	B	29.6	C
ALL	17.6	B	13.9	B
D-78 **US 11/S. State St & Harrison St**				
NB	13.6	B	21.0	C
SB	15.5	B	23.3	C
WB	24.7	C	4.1	A
ALL	20.4	C	12.5	B
D-79 **US 11/S. State St & E. Adams St**				
NB	22.4	C	20.9	C
SB	33.4	C	32.8	C
EB	2.5	A	8.8	A
ALL	10.5	B	15.7	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-80 **S. State St & Burt St**				
NB	11.6	B	12.3	B
SB	12.4	B	12.7	B
EB	9.9	A	8.4	A
WB	8.3	A	10.3	B
ALL	11.0	B	11.3	B
D-81 **S. State St & E. MLK Jr Dr**				
NB	7.9	A	8.4	A
SB	9.4	A	9.7	A
EB	9.1	A	8.8	A
WB	1.7	A	1.3	A
ALL	7.7	A	6.7	A
D-82 **N. Townsend St & Burnet Av**				
NB	9.1	A	5.1	A
SB	10.7	B	9.5	A
EB	8.8	A	17.1	B
WB	10.5	B	12.8	B
ALL	9.8	A	8.2	A
D-83 **N. Townsend St & Westbound I-690 offramp**				
NB	31.0	C	16.7	B
SB	17.1	B	27.4	C
WB	10.9	B	8.5	A
ALL	12.6	B	14.1	B
D-84 **N./S. Townsend St & NY 5/Erie Blvd E.**				
NB	11.2	B	16.3	B
SB	13.3	B	25.0	C
EB	4.2	A	10.6	B
WB	21.5	C	11.1	B
ALL	13.1	B	16.4	B
D-85 **S. Townsend St & E. Water St**				
NB	3.0	A	18.6	B
SB	3.6	A	6.5	A
EB	26.3	C	30.0	C
WB	26.2	C	20.0	B
ALL	11.2	B	14.5	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-86 **S. Townsend St & E. Washington St**				
NB	5.4	A	6.8	A
SB	9.3	A	3.7	A
EB	12.0	B	26.4	C
WB	16.2	B	22.2	C
ALL	9.8	A	10.0	B
D-87 **S. Townsend St & E. Fayette St**				
NB	10.6	B	13.9	B
SB	11.8	B	5.6	A
EB	12.6	B	14.9	B
WB	7.6	A	11.5	B
ALL	11.3	B	10.9	B
D-88 **S. Townsend St & NY 92/E. Genesee St**				
NB	11.8	B	16.5	B
NWB	7.0	A	11.0	B
SB	8.6	A	8.0	A
EB	8.8	A	17.8	B
ALL	8.9	A	12.9	B
D-89 **S. Townsend St & Harrison St**				
NB	10.5	B	11.9	B
SB	8.3	A	17.9	B
WB	18.1	B	15.5	B
ALL	14.4	B	15.4	B
D-90 **S. Townsend St & E. Adams St**				
NB	30.7	C	36.0	D
SB	35.3	D	41.0	D
EB	23.1	C	40.8	D
ALL	27.1	C	40.3	D
D-91 **Oakwood Av & E. MLK Jr Dr**				
NB	16.8	B	8.6	A
SB	13.7	B	6.6	A
EB	10.0	A	5.9	A
WB	11.5	B	7.7	A
ALL	12.2	B	7.2	A
D-92 **N. McBride St & EB I-690 Onramp**				
NB	0.3	A	0.4	A
SB	1.6	A	3.8	A
ALL	0.8	A	1.6	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-93 **N./S. McBride St & NY 5/Erie Blvd E.**				
NB	10.3	B	8.4	A
NWB	0.6	A	4.9	A
SB	11.5	B	12.8	B
EB	12.2	B	33.0	C
WB	17.3	B	34.5	C
ALL	4.9	A	11.7	B
D-94 **S. McBride St & E. Water St**				
NB	11.9	B	28.1	C
SB	10.0	B	7.9	A
EB	8.7	A	17.3	B
WB	8.4	A	11.5	B
ALL	9.5	A	20.1	C
D-95 **S. McBride St & E. Washington St**				
NB	15.6	B	18.3	B
SB	27.5	C	17.2	B
EB	4.8	A	12.6	B
WB	12.9	B	8.6	A
ALL	15.0	B	14.7	B
D-96 **S. McBride St & E. Fayette St**				
NB	24.1	C	19.3	B
SB	8.7	A	29.8	C
EB	5.6	A	4.4	A
WB	12.9	B	7.0	A
ALL	10.1	B	11.8	B
D-97 **S. McBride St & NY 92/E. Genesee St**				
NB	11.1	B	17.2	B
SB	26.3	C	7.4	A
EB	6.4	A	6.4	A
WB	8.7	A	4.1	A
ALL	11.3	B	7.2	A
D-98 **S. McBride St & E. Adams St**				
NB	0.0	A	0.0	A
EB	6.1	A	23.6	C
ALL	6.1	A	23.6	C

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-99 **Catherine St & Burnet Av**				
NB	22.4	C	14.7	B
SB	14.4	B	13.2	B
EB	7.4	A	4.9	A
WB	13.3	B	10.4	B
ALL	16.5	B	12.5	B
D-100 **Almond St/Catherine St & NY 5/Erie Blvd E.**				
NB	5.5	A	4.8	A
SB	23.8	C	25.4	C
EB	6.0	A	17.6	B
WB	3.2	A	6.2	A
ALL	9.5	A	12.4	B
D-101 **Almond St & E. Water St**				
NB	28.5	C	28.5	C
SB	10.5	B	13.6	B
EB	4.8	A	15.7	B
WB	5.4	A	5.6	A
ALL	13.7	B	19.2	B
D-102 **Almond St & E. Washington St**				
NB	7.3	A	10.2	B
SB	6.4	A	6.0	A
EB	17.9	B	38.2	D
WB	26.4	C	30.6	C
ALL	9.5	A	13.2	B
D-103 **Almond St & E. Fayette St**				
NB	13.1	B	19.3	B
SB	10.7	B	14.1	B
EB	27.4	C	11.5	B
WB	25.9	C	14.3	B
ALL	17.5	B	15.5	B
D-104 **Almond St & NY 92/E. Genesee St**				
NB	18.9	B	20.9	C
SB	22.1	C	0.0	
SWB	13.5	B	8.2	A
EB	16.3	B	15.1	B
WB	20.9	C	14.4	B
ALL	20.0	B	15.1	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-105 **Almond St & I-81 South Off-Ramp**				
SB	32.4	C	10.0	B
SEB	13.3	B	14.4	B
ALL	18.6	B	11.9	B
D-106 **Harrison St & I-81 South Off-Ramp**				
NWB	0.0	A	0.2	A
SWB	0.0	A	0.5	A
WB	2.3	A	1.3	A
ALL	2.3	A	0.6	A
D-107 **Almond St & Harrison St**				
NB	18.9	B	38.1	D
SB	39.0	D	37.1	D
WB	44.9	D	27.6	C
ALL	32.7	C	34.1	C
D-108 **Almond St & E. Adams St**				
NB	36.7	D	77.2	E
SB	53.4	D	29.9	C
EB	62.0	E	43.0	D
ALL	51.3	D	50.5	D
D-109 **Almond St & Burt St**				
NB	12.2	B	12.0	B
SB	19.1	B	12.6	B
EB	15.7	B	20.3	C
WB	0.0	A	18.6	B
ALL	17.0	B	13.5	B
D-110 **Almond St & Van Buren St**				
NB	18.9	B	11.0	B
SB	8.1	A	8.7	A
SEB	4.7	A	2.1	A
WB	1.7	A	3.2	A
ALL	7.3	A	3.9	A
D-111 **W. Onondaga St & Seymour St, Shonnard St,**				
NEB	23.3	C	25.0	C
SWB	16.6	B	22.8	C
EB	17.6	B	14.6	B
WB	20.6	C	18.6	B
ALL	19.4	B	20.7	C

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-112 **Slocum Av/South Av & W. Onondaga St**				
NB	9.5	A	14.1	B
NEB	29.4	C	16.5	B
SEB	12.9	B	19.2	B
SWB	3.9	A	1.9	A
ALL	13.4	B	8.3	A
D-113 **W. Onondaga St/Onondaga Av & Delaware St/Tallman St**				
NB	17.2	B	16.1	B
SEB	26.4	C	23.7	C
SWB	11.8	B	15.1	B
WB	19.7	B	25.5	C
ALL	18.6	B	18.7	B
D-114 **Cortland Av & Tallman St/Coyne Corners**				
NB	10.8	B	9.8	A
SB	7.0	A	8.7	A
EB	7.8	A	7.1	A
WB	7.5	A	7.6	A
ALL	9.0	A	8.3	A
D-115 **Cortland Av & W. MLK Jr Dr**				
NEB	6.7	A	5.9	A
SWB	1.9	A	4.2	A
WB	8.0	A	11.2	B
ALL	6.5	A	7.4	A
D-116 **Midland Av & W. MLK Jr Dr**				
NB	0.0	A	0.1	A
SB	0.4	A	0.9	A
EB	7.3	A	7.8	A
WB	6.5	A	8.8	A
ALL	1.5	A	4.0	A
D-117 **Midland Av & Cortland Av**				
NB	5.7	A	5.0	A
NEB	24.3	C	13.4	B
SB	4.0	A	3.8	A
SWB	9.3	A	14.5	B
ALL	14.3	B	9.9	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Northside				
N-1				
US 11/N. Salina St & Hiawatha Blvd E.				
NB	35.4	D	46.4	D
NEB	16.6	B	51.3	D
NWB	25.4	C	31.6	C
SEB	11.0	B	18.5	B
SWB	15.2	B	27.4	C
ALL	15.4	B	36.4	D
N-2				
US 11/N. Salina St & Wolf St				
NEB	14.7	B	15.8	B
NWB	19.9	B	25.1	C
SEB	20.8	C	22.0	C
SWB	7.3	A	6.6	A
ALL	15.5	B	18.5	B
N-3				
US 11/N. Salina St & NY 298/Court St & Alford St				
NEB	36.4	D	37.3	D
NWB	24.3	C	46.9	D
SEB	37.1	D	39.1	D
SWB	35.9	D	39.0	D
ALL	33.3	C	41.9	D
N-4				
US 11/N. Salina St & Danforth St				
NEB	12.7	B	13.6	B
NWB	11.5	B	19.1	B
SEB	16.8	B	16.6	B
SWB	14.8	B	14.0	B
ALL	14.1	B	17.4	B
N-5				
US 11/N. Salina St & Lodi St & Kickpatrick St				
NWB	23.9	C	24.9	C
SEB	23.2	C	28.5	C
SWB	29.8	C	26.6	C
ALL	23.8	C	26.1	C
N-6				
US 11/N. Salina St & Isabella St				
NEB	7.0	A	10.0	B
NWB	6.2	A	9.3	A
SEB	7.6	A	7.9	A
SWB	16.7	B	16.1	B
ALL	8.0	A	9.5	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-7 **US 11/N. Salina St & Catawba St**				
NEB	14.6	B	14.5	B
NWB	7.9	A	7.7	A
SEB	10.3	B	10.6	B
SWB	15.4	B	16.0	B
ALL	12.3	B	11.2	B
N-8 **US 11/N. Salina St & E. Division St**				
NEB	17.5	B	14.6	B
NWB	6.7	A	9.8	A
SEB	5.3	A	5.8	A
SWB	15.5	B	15.4	B
ALL	9.8	A	9.6	A
N-9 **US 11/N. Salina St & Ash St**				
NB	13.4	B	20.8	C
NEB	6.6	A	6.2	A
SEB	20.2	C	20.8	C
SWB	6.6	A	5.6	A
ALL	17.0	B	18.2	B
N-10 **US 11/N. Salina St & Butternut St**				
NB	12.9	B	18.5	B
NEB	10.6	B	4.9	A
SB	18.3	B	20.6	C
SWB	34.0	C	24.4	C
ALL	23.1	C	18.3	B
N-11 **US 11/N. State St & US 11/N. Salina St**				
NB	13.0	B	28.5	C
NWB	25.6	C	62.4	E
SB	7.3	A	19.7	B
SEB	19.7	B	20.8	C
ALL	18.7	B	34.1	C
N-12 **Sunset Av & Bear St**				
NEB	0.8	A	10.5	B
NWB	7.7	A	15.3	C
SWB	0.4	A	1.4	A
ALL	1.2	A	6.6	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-13 **Sunset Av & NY 298/Court St**				
NB	10.9	B	16.9	C
NWB	8.3	A	10.9	B
SWB	18.1	C	23.2	C
ALL	11.9	B	16.3	C
N-14 **N. State St & Catawba St**				
NWB	6.2	A	9.2	A
SEB	5.0	A	6.1	A
SWB	15.2	B	15.6	B
EB	10.2	B	13.2	B
ALL	9.0	A	11.3	B
N-15 **N. State St & Butternut St**				
NEB	8.2	A	9.4	A
NWB	25.2	C	14.1	B
SEB	39.7	D	18.3	B
SWB	14.1	B	8.8	A
ALL	21.2	C	11.0	B
N-16 **Park St & Farmers Market Pl**				
NEB	8.5	A	2.0	A
NWB	14.8	B	31.4	C
SEB	15.3	B	33.2	C
SWB	0.0	A	29.7	C
ALL	13.8	B	25.1	C
N-17 **Park St & Hiawatha Blvd E.**				
NB	20.9	C	31.6	C
NEB	17.8	B	18.8	B
NWB	29.2	C	69.0	E
SEB	28.0	C	16.4	B
SWB	18.5	B	18.6	B
ALL	24.7	C	25.0	C
N-18 **Park St & Wolf St**				
NEB	11.0	B	12.5	B
NWB	7.4	A	10.3	B
SEB	16.6	C	15.4	C
SWB	9.1	A	10.4	B
ALL	11.7	B	12.2	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-19 **Park St & Court St**				
NEB	19.1	C	22.0	C
NWB	7.7	A	9.9	A
SEB	8.7	A	9.1	A
SWB	11.1	B	13.0	B
ALL	13.0	B	15.0	C
N-20 **Park St & Butternut St**				
NEB	10.8	B	11.5	B
SEB	8.3	A	13.8	B
SWB	11.9	B	10.9	B
WB	7.6	A	14.9	B
ALL	10.3	B	12.2	B
N-21 **Park St & Oak St**				
NB	9.2	A	14.1	B
SB	11.9	B	8.8	A
EB	8.6	A	10.7	B
WB	9.4	A	10.5	B
ALL	10.3	B	11.5	B
N-22 **N. Townsend St & James St**				
NEB	21.8	C	28.3	C
NWB	22.4	C	9.1	A
SEB	15.3	B	16.1	B
SWB	3.1	A	5.5	A
ALL	15.7	B	14.3	B
N-23 **N. McBride St & James St**				
NEB	4.3	A	3.2	A
NWB	22.6	C	24.7	C
SEB	19.2	B	24.2	C
SWB	1.4	A	11.4	B
ALL	4.2	A	10.1	B
N-24 **Catherine St & James St**				
NEB	9.6	A	16.9	B
NWB	20.3	C	20.1	C
SEB	22.7	C	16.3	B
SWB	1.5	A	12.2	B
ALL	8.2	A	15.9	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-25 **Lodi St & James St**				
NEB	29.6	C	6.5	A
NWB	34.9	C	24.6	C
SEB	25.5	C	21.3	C
SWB	7.5	A	7.0	A
ALL	21.4	C	12.2	B
N-26 **Oak St & James St**				
NEB	2.7	A	8.7	A
NWB	20.3	C	16.5	B
SEB	15.3	B	13.9	B
SWB	16.5	B	6.2	A
ALL	11.0	B	9.4	A
N-27 **Dewitt St & James St**				
NEB	7.8	A	4.1	A
NWB	15.2	B	15.2	B
SEB	15.4	B	17.8	B
SWB	3.6	A	19.7	B
ALL	6.4	A	12.6	B
N-28 **Sedgwick Dr & James St**				
NEB	0.5	A	0.4	A
SEB	7.5	A	7.8	A
SWB	1.1	A	0.9	A
ALL	1.4	A	1.2	A
N-29 **Wilson St & James St**				
NEB	2.5	A	13.2	B
NWB	10.6	B	14.0	B
SWB	9.2	A	3.0	A
ALL	6.3	A	8.4	A
N-30 **Teall Av & James St**				
NB	14.7	B	22.6	C
NEB	15.7	B	19.8	B
SB	18.7	B	17.1	B
SWB	26.4	C	26.1	C
ALL	18.9	B	21.3	C

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
University Hill				
U-1				
N. Crouse Av & Burnet Av				
NB	7.4	A	16.2	B
SB	14.7	B	15.1	B
EB	13.8	B	10.0	B
WB	11.5	B	12.4	B
ALL	11.2	B	14.2	B
U-2				
Lodi St & Oak St				
NWB	1.2	A	1.4	A
SB	15.6	C	9.8	A
SEB	0.8	A	0.8	A
ALL	7.1	A	2.4	A
U-4				
Westmoreland Av & Burnet Av				
NB	9.5	A	23.7	C
EB	11.3	B	20.2	C
WB	16.9	C	19.6	C
ALL	14.0	B	20.8	C
U-5				
Teall Av & I-690 West Ramps				
NB	51.4	D	38.0	D
NEB			62.8	E
SB	13.9	B	18.0	B
EB	39.0	D	3.3	A
WB	36.7	D	23.1	C
ALL	33.8	C	23.5	C
U-7				
Teall Av & Canal St				
NB	3.9	A	7.9	A
SB	0.8	A	0.5	A
SWB	10.1	B	14.3	B
EB	6.7	A	10.0	B
ALL	1.9	A	4.9	A
U-8				
Teall Av & Lynch St				
NB	0.2	A	0.4	A
SB	0.6	A	1.4	A
EB	9.6	A	7.9	A
WB	6.3	A	7.7	A
ALL	0.6	A	1.4	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-9 **Forman Av & Erie Blvd E.**				
NB	5.5	A	6.2	A
EB	0.2	A	0.4	A
WB	0.4	A	0.6	A
ALL	0.4	A	0.6	A
U-10 **N./S. Crouse Av & Erie Blvd E.**				
NB	19.7	B	11.9	B
SB	19.9	B	21.7	C
EB	10.0	B	10.9	B
WB	11.3	B	8.0	A
ALL	14.5	B	12.3	B
U-11 **University Av & Erie Blvd E.**				
NB	5.8	A	5.9	A
SB	10.3	B	9.3	A
EB	0.3	A	0.4	A
WB	0.2	A	0.3	A
ALL	3.4	A	2.1	A
U-12 **Walnut Av & Erie Blvd E.**				
NB	13.5	B	10.1	B
SB	0.0	A	0.0	A
EB	7.0	A	8.1	A
WB	8.6	A	8.6	A
ALL	10.5	B	8.8	A
U-13 **Lodi St & Erie Blvd E.**				
SB	21.0	C	20.0	C
EB	3.8	A	13.6	B
WB	4.6	A	7.8	A
ALL	8.7	A	11.9	B
U-14 **Pine St & Erie Blvd E.**				
NB	6.5	A	8.0	A
EB	0.1	A	0.2	A
WB	0.7	A	1.3	A
ALL	0.7	A	2.4	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-15 **Beech St & Erie Blvd E.**				
NB	15.2	B	0.0	A
SB	11.5	B	17.8	B
EB	14.3	B	11.6	B
WB	11.7	B	12.7	B
ALL	12.5	B	12.6	B
U-16 **Teall Av & Erie Blvd E.**				
NB	42.0	D	49.7	D
SB	27.4	C	35.0	C
EB	59.8	E	60.7	E
WB	12.9	B	44.7	D
ALL	28.3	C	47.4	D
U-17 **Westmoreland Av & Erie Blvd E.**				
NB	34.9	C	37.2	D
SB	25.8	C	44.1	D
EB	37.2	D	43.7	D
WB	30.6	C	33.8	C
ALL	31.7	C	38.9	D
U-18 **Forman Av & E. Water St**				
NB	6.3	A	6.4	A
SB	6.1	A	6.0	A
EB	8.3	A	7.5	A
WB	6.4	A	6.5	A
ALL	7.2	A	6.6	A
U-19 **S. Crouse Av & E. Water St**				
NB	9.8	A	11.4	B
SB	8.8	A	8.3	A
EB	7.2	A	7.0	A
WB	5.6	A	5.8	A
ALL	8.2	A	9.1	A
U-20 **University Av & E. Water St**				
NB	8.1	A	10.4	B
SB	6.8	A	6.3	A
EB	7.7	A	7.4	A
WB	5.9	A	6.3	A
ALL	6.9	A	7.3	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-21 **Walnut Av & E. Water St**				
NB	12.2	B	10.9	B
EB	6.9	A	6.7	A
WB	5.7	A	6.1	A
ALL	9.2	A	8.9	A
U-22 **Pine St & E. Water St**				
NB	6.6	A	11.0	B
SB	6.3	A	6.2	A
EB	7.2	A	7.3	A
WB	6.9	A	7.2	A
ALL	7.0	A	9.5	A
U-23 **Pine St & E. Washington St**				
NB	6.7	A	9.8	A
SB	6.9	A	6.7	A
EB	0.0	A	0.6	A
WB	0.1	A	0.7	A
ALL	5.9	A	7.7	A
U-24 **Irving Av & E. Fayette St**				
NB	6.4	A	5.2	A
SB	17.8	B	10.7	B
EB	4.2	A	12.1	B
WB	8.2	A	17.2	B
ALL	6.9	A	11.8	B
U-25 **S. Crouse Av & E. Fayette St**				
NB	43.9	D	3.8	A
SB	9.6	A	10.8	B
EB	4.5	A	21.9	C
WB	5.8	A	17.9	B
ALL	11.4	B	14.1	B
U-26 **University Av & E. Fayette St**				
NB	44.1	D	31.7	C
SB	21.2	C	20.1	C
EB	8.1	A	4.7	A
WB	5.9	A	6.4	A
ALL	14.9	B	13.8	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-27 **Walnut Av & E. Fayette St**				
NB	19.2	B	10.7	B
EB	10.1	B	2.9	A
WB	8.1	A	7.8	A
ALL	12.0	B	8.2	A
U-28 **Pine St & E. Fayette St**				
NB	7.2	A	11.0	B
SB	6.7	A	7.0	A
EB	8.5	A	10.2	B
WB	18.3	C	16.5	C
ALL	13.7	B	12.6	B
U-29 **Columbus Av & E. Fayette St**				
NB	11.7	B	18.5	B
SB	9.4	A	17.1	B
EB	15.2	B	21.3	C
WB	7.8	A	9.3	A
ALL	10.2	B	16.4	B
U-30 **Westcott St & E. Fayette St**				
NB	8.5	A	9.2	A
SB	8.8	A	10.1	B
EB	8.0	A	11.1	B
WB	9.1	A	8.8	A
ALL	8.6	A	9.8	A
U-31 **Irving Av & NY 92/E. Genesee St**				
NB	20.8	C	30.6	C
SB	17.2	B	18.5	B
EB	46.6	D	33.7	C
WB	32.9	C	16.1	B
ALL	32.5	C	25.2	C
U-32 **S. Crouse Av & NY 92/E. Genesee St**				
NB	13.8	B	16.0	B
SB	22.0	C	13.2	B
EB	2.1	A	5.4	A
WB	36.4	D	16.7	B
ALL	23.6	C	12.2	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-33 **University Av & NY 92/E. Genesee St**				
NB	31.5	C	22.3	C
SB	7.9	A	10.8	B
EB	8.6	A	5.1	A
WB	19.6	B	7.2	A
ALL	15.2	B	8.4	A
U-34 **Walnut Av & NY 92/E. Genesee St**				
NB	16.4	B	17.9	B
EB	10.5	B	11.5	B
WB	9.0	A	8.2	A
ALL	10.2	B	11.7	B
U-35 **Comstock Av & NY 92/E. Genesee St**				
NB	5.5	A	10.4	B
EB	0.8	A	2.1	A
WB	1.9	A	0.7	A
ALL	2.7	A	3.7	A
U-36 **Pine St & NY 92/E. Genesee St**				
SB	7.1	A	8.2	A
EB	0.4	A	1.1	A
WB	1.9	A	0.9	A
ALL	1.7	A	2.0	A
U-37 **Lexington Av/ & NY 92/E. Genesee St**				
NWB	2.1	A	0.7	A
EB	2.7	A	12.1	B
WB	7.5	A	9.4	A
ALL	2.8	A	8.1	A
U-38 **Westcott St & Lexington Av**				
NB	10.2	B	11.0	B
SB	7.4	A	8.2	A
EB	7.7	A	9.9	A
WB	7.3	A	7.0	A
ALL	8.6	A	9.3	A
U-39 **Columbus Av & NY 92/E. Genesee St**				
NB	36.0	D	26.2	C
NWB	30.6	C	25.5	C
SB	32.9	C	37.9	D
SEB	25.2	C	41.6	D
ALL	29.6	C	35.4	D

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-40 **Westcott St & NY 92/E. Genesee St**				
NB	17.6	B	17.8	B
SB	16.4	B	16.6	B
EB	7.7	A	10.6	B
WB	21.0	C	8.8	A
ALL	16.7	B	12.1	B
U-41 **Sarah Loguen Dr & Harrison St**				
NB	21.8	C	35.3	D
EB	10.1	B	9.3	A
WB	12.8	B	7.1	A
ALL	14.4	B	14.7	B
U-42 **Elizabeth Blackwell Dr & Harrison St**				
NB	6.8	A	7.0	A
SB	9.0	A	12.2	B
EB	1.4	A	1.5	A
WB	1.2	A	1.3	A
ALL	1.5	A	1.7	A
U-43 **Irving Av & Harrison St**				
NB	15.6	B	25.5	C
SB	41.3	D	15.8	B
EB	18.6	B	21.2	C
WB	27.5	C	15.6	B
ALL	31.2	C	19.5	B
U-44 **S. Crouse Av & Harrison St**				
NB	29.7	C	25.5	C
EB	14.6	B	38.4	D
WB	12.0	B	17.3	B
ALL	19.3	B	22.8	C
U-45 **University Av & Harrison St**				
NB	19.1	B	38.9	D
SB	35.9	D	24.6	C
EB	18.2	B	5.7	A
WB	7.3	A	8.7	A
ALL	25.1	C	21.7	C
U-46 **Walnut Av & Harrison St**				
NB	8.4	A	13.5	B
EB	1.2	A	0.9	A
WB	0.3	A	0.6	A
ALL	2.2	A	5.9	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-47 **Comstock Av & Harrison St**				
NB	8.4	A	6.0	A
SB	3.7	A	4.3	A
EB	0.8	A	0.6	A
WB	0.1	A	0.0	A
ALL	4.4	A	4.7	A
U-48 **Beech St & Canal St**				
NB	6.7	A	8.2	A
SB	8.5	A	6.9	A
EB	6.1	A	0.0	A
WB	16.8	C	8.0	A
ALL	13.0	B	7.8	A
U-49 **Sarah Loguen Dr & E. Adams St**				
NB	19.4	B	18.6	B
SB	11.4	B	27.3	C
EB	12.1	B	8.4	A
ALL	12.4	B	10.2	B
U-50 **Elizabeth Blackwell Dr & E. Adam St**				
NB	0.0	A	0.0	A
EB	1.5	A	1.1	A
ALL	1.5	A	1.1	A
U-51 **Irving Av & E. Adams St**				
NB	24.0	C	26.9	C
SB	12.8	B	18.9	B
EB	6.6	A	14.8	B
ALL	11.0	B	20.4	C
U-52 **S. Crouse Av & E. Adams St**				
NB	17.3	B	18.1	B
EB	1.8	A	10.5	B
ALL	8.9	A	14.6	B
U-53 **University Av & E. Adams St**				
NB	18.6	B	25.0	C
SB	33.0	C	24.2	C
EB	12.3	B	11.4	B
ALL	23.3	C	14.5	B
U-54 **Walnut Av & E. Adams St**				
NB	19.6	B	29.0	C
EB	9.5	A	4.4	A
ALL	13.8	B	9.8	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-55 **Comstock Av & E. Adams St**				
NB	30.9	C	33.6	C
EB	3.9	A	2.1	A
ALL	26.8	C	15.5	B
U-56 **Irving Av & Waverly Av**				
NB	18.5	B	18.4	B
SB	12.9	B	12.7	B
WB	8.4	A	15.5	B
ALL	12.7	B	14.8	B
U-57 **S. Crouse Av & Waverly Av**				
NB	13.6	B	15.4	B
EB	5.2	A	4.1	A
WB	15.3	B	15.6	B
ALL	13.4	B	10.9	B
U-58 **University Av & Waverly Av**				
SB	23.3	C	24.8	C
EB	26.3	C	24.8	C
WB	28.7	C	30.3	C
ALL	26.1	C	27.3	C
U-59 **Walnut Pl & Waverly Av**				
SB	15.0	B	23.1	C
EB	21.6	C	22.7	C
WB	39.0	D	31.4	C
ALL	25.4	C	24.9	C
U-60 **Walnut Av & Waverly Av**				
NB	7.1	A	11.9	B
EB	20.4	C	16.2	B
WB	27.1	C	13.3	B
ALL	23.3	C	14.9	B
U-61 **Comstock Av & Waverly Av**				
NB	18.6	B	32.3	C
EB	19.7	B	25.5	C
WB	26.9	C	29.8	C
ALL	21.2	C	28.3	C
U-62 **Irving Av & University Pl**				
NB	40.4	D	33.9	C
SB	10.3	B	20.3	C
EB	16.6	B	12.9	B
WB	26.1	C	23.0	C
ALL	25.8	C	18.7	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-63				
Irving Av & Van Buren St				
NB	14.0	B	12.1	B
SB	12.6	B	14.3	B
EB	35.5	D	18.0	B
ALL	24.3	C	15.1	B
U-64				
Comstock Av & University Pl				
NB	7.1	A	4.4	A
SB	0.1	A	0.3	A
EB	15.7	B	15.2	B
WB	18.8	B	24.5	C
ALL	8.5	A	6.9	A
U-65				
Comstock Av & Euclid Av				
NB	10.4	B	16.8	B
SB	9.0	A	25.0	C
EB	6.5	A	16.3	B
WB	11.4	B	27.8	C
ALL	10.2	B	20.7	C
U-66				
Westcott St & Euclid Av				
NB	16.2	B	15.6	B
SB	14.1	B	16.8	B
EB	3.2	A	7.5	A
WB	10.6	B	9.9	A
ALL	11.8	B	12.4	B
U-67				
Comstock Av & Stratford St				
NB	9.8	A	8.3	A
SB	7.7	A	10.1	B
EB	0.8	A	1.0	A
WB	8.3	A	8.7	A
ALL	8.8	A	8.3	A
Valley				
V-1				
E.Brighton Av & Rock Cut Rd				
NB	5.7	A	5.3	A
SB	7.3	A	7.7	A
WB	10.6	B	14.0	B
ALL	6.5	A	8.0	A
V-2				
Rock Cut Rd & Northbound I-481 Ramps				
NWB	27.8	C	25.4	C
SEB	18.2	B	18.9	B
SWB	1.4	A	2.2	A
ALL	15.7	B	11.4	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
V-3 **S. State St & E. Brighton Av**				
NWB	9.9	A	19.2	B
SB	18.4	B	5.6	A
EB	8.8	A	17.9	B
ALL	13.9	B	11.1	B
V-4 **S. State St & McClure Av**				
NB	27.7	C	31.4	C
SB	29.6	C	34.2	C
SWB	19.7	B	12.6	B
EB	61.4	E	20.6	C
ALL	25.5	C	17.0	B
V-5 **S. State St & E. Calthop Av**				
SB	7.7	A	4.5	A
EB	19.8	B	23.9	C
WB	23.6	C	19.9	B
ALL	14.3	B	12.6	B
V-6 **E. Glenn Ave & Brighton Ave**				
NWB	1.2	A	1.9	A
SEB	1.6	A	2.1	A
EB	12.2	B	12.7	B
ALL	3.7	A	4.3	A
V-7 **E. Glenn Ave & SB I-481 Ramp**				
NB	12.2	B	13.2	B
SB	15.0	B	16.3	B
WB	21.1	C	27.2	C
ALL	14.7	B	20.3	C
Westside and Lakefront **W-1** **I-81 South On-Ramp/Genant Dr & Bear St**				
NEB	14.2	B	33.8	C
SEB	10.0	B	10.0	A
SWB	16.2	B	31.8	C
ALL	12.8	B	24.4	C
W-2 **Genant Dr & NY 298/W. Court St**				
NB	2.6	A	3.9	A
SB	0.6	A	0.7	A
SEB	9.8	A	10.8	B
ALL	3.4	A	4.0	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-3 **I-81 South Off-Ramp/Genant Dr & Spencer St**				
NEB	0.3	A	0.2	A
SEB	14.9	B	11.4	B
WB	0.3	A	0.3	A
ALL	8.6	A	5.9	A
W-4 **Solar St & Hiawatha Blvd W.**				
NEB	44.7	D	34.4	C
NWB	21.3	C	48.1	D
SEB	23.6	C	24.9	C
SWB	17.6	B	39.5	D
ALL	34.1	C	36.4	D
W-5 **Spencer St & Hiawatha Blvd W.**				
NEB	25.4	C	27.6	C
SWB	17.7	B	53.8	D
EB	28.3	C	26.9	C
WB	25.5	C	34.3	C
ALL	23.3	C	37.9	D
W-6 **I-690 East Off-Ramp & Hiawatha Blvd W.**				
NEB	15.7	B	13.7	B
SEB	13.7	B	23.5	C
SWB	12.6	B	18.3	B
ALL	14.5	B	17.9	B
W-7 **Solar St & Bear St**				
NEB	47.8	D	24.4	C
NWB	51.3	D	28.3	C
SEB	41.3	D	26.4	C
SWB	29.5	C	18.9	B
ALL	38.0	D	23.3	C
W-8 **Van Rensselaer St & Bear St**				
NEB	7.7	A	7.1	A
NWB	5.9	A	7.5	A
SEB	11.9	B	13.1	B
SWB	10.3	B	10.2	B
ALL	8.9	A	9.0	A
W-9 **Spencer St & Bear St/I-690 Ramps**				
NEB	18.4	B	17.3	B
SWB	20.2	C	28.4	C
EB	9.7	A	9.1	A
WB	12.1	B	12.2	B
ALL	15.9	B	19.0	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-10 **N. Geddes St & Van Rensselaer St**				
NEB	11.3	B	17.8	C
NWB	0.0	A	4.0	A
SEB	0.1	A	0.1	A
ALL	6.1	A	9.8	A
W-11 **N. Geddes St & W. Kirkpatrick St**				
NB	18.4	B	7.8	A
SB	6.3	A	17.1	B
SWB	35.1	D	35.5	D
EB	14.6	B	17.0	B
ALL	19.4	B	15.3	B
W-12 **N. Geddes St & I-690 West Off-Ramp**				
NB	18.5	B	18.7	B
SB	18.3	B	18.6	B
WB	9.7	A	9.7	A
ALL	13.9	B	14.2	B
W-13 **N. Geddes St & Edison St**				
NB	1.4	A	3.4	A
SB	1.3	A	1.4	A
EB	7.1	A	7.6	A
ALL	1.4	A	2.6	A
W-14 **N. Geddes St & W. Belden Av**				
NB	13.0	B	15.5	B
SB	15.4	B	16.8	B
EB	17.5	B	16.1	B
WB	13.5	B	14.0	B
ALL	14.4	B	15.8	B
W-15 **N. Geddes St & NY 5/W. Genesee St**				
NB	29.3	C	14.5	B
SB	28.2	C	23.2	C
EB	14.0	B	32.4	C
WB	14.1	B	18.2	B
ALL	21.9	C	21.7	C
W-16 **N. Geddes St & Park Av**				
NB	8.2	A	13.3	B
SB	15.6	B	24.6	C
EB	16.0	B	10.1	B
WB	15.4	B	13.2	B
ALL	11.9	B	16.8	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-17 **N. Geddes St & Wilkinson St**				
NB	1.1	A	0.7	A
SB	1.9	A	0.5	A
EB	7.8	A	9.0	A
WB	9.3	A	10.1	B
ALL	1.7	A	1.0	A
W-18 **N. Geddes St & Richmond Av**				
NB	9.0	A	6.0	A
SB	6.3	A	3.5	A
EB	18.4	B	11.7	B
WB	21.5	C	18.4	B
ALL	8.8	A	5.9	A
W-19 **N./S. Geddes St & Erie Blvd W.**				
NB	16.1	B	41.0	D
SB	5.5	A	29.2	C
EB	26.0	C	20.2	C
WB	14.1	B	15.3	B
ALL	16.8	B	28.2	C
W-20 **S. Geddes St & W. Fayette St**				
NB	14.8	B	17.9	B
SB	16.8	B	7.5	A
EB	17.9	B	17.6	B
WB	21.2	C	74.4	E
ALL	16.9	B	34.6	C
W-21 **S. Geddes St & Marcellus St**				
NB	0.7	A	0.7	A
SB	1.0	A	0.7	A
WB	8.4	A	8.7	A
ALL	0.9	A	1.0	A
W-22 **S. Geddes St & Otisco St**				
NB	13.5	B	7.4	A
SB	13.0	B	6.4	A
WB	13.4	B	17.8	B
ALL	13.3	B	7.2	A
W-23 **S. Geddes St & Gifford St**				
NB	13.7	B	4.1	A
SB	7.6	A	5.2	A
WB	23.2	C	22.0	C
ALL	12.2	B	6.0	A

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-24 **S. Geddes St & Seymour St**				
NB	5.4	A	5.6	A
SB	7.9	A	18.6	B
EB	28.8	C	18.4	B
WB	34.8	C	21.2	C
ALL	9.2	A	14.6	B
W-25 **S. Geddes St & Grand Av/Shonnard St**				
NB	19.7	B	0.3	A
SB	14.2	B	6.6	A
EB	2.5	A	1.6	A
WB	0.0	A	0.0	A
ALL	15.3	B	4.0	A
W-26 **S. Geddes St & Fitch St**				
NB	0.6	A	0.4	A
NWB	6.6	A	6.9	A
SB	1.1	A	1.9	A
EB	6.6	A	6.6	A
ALL	1.0	A	1.5	A
W-27 **Van Rensselaer St & NY 5/W. Genesee St**				
NB	20.4	C	19.5	B
SB	23.4	C	18.1	B
EB	17.7	B	2.6	A
WB	15.0	B	5.1	A
ALL	17.8	B	7.7	A
W-28 **Leavenworth Av & NY 5/W. Genesee St**				
NB	12.2	B	15.5	B
SB	19.1	B	15.8	B
EB	15.2	B	3.8	A
WB	6.6	A	15.1	B
ALL	12.2	B	11.6	B
W-29 **Plum St & NY 5/W. Genesee St**				
NB	4.4	A	19.4	B
SB	8.4	A	17.9	B
EB	21.7	C	5.0	A
WB	16.6	B	15.1	B
ALL	17.8	B	11.9	B
W-30 **Plum St & Erie Blvd W.**				
NWB	5.5	A	20.7	C
SB	3.6	A	19.6	B
EB	22.4	C	14.4	B
WB	13.3	B	8.1	A
ALL	17.1	B	13.5	B

Approach	2013 AM		2013 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-31 **Hiawatha Blvd & Van Rensselaer St**				
NEB	24.3	C	25.2	C
NWB	13.8	B	18.5	B
SEB	23.1	C	0.0	A
SWB	19.7	B	30.7	C
ALL	22.5	C	27.5	C
W-32 **Hiawatha Blvd & Pulaski St**				
NEB	25.2	C	31.1	C
NWB	16.8	B	13.6	B
SEB	21.7	C	18.9	B
SWB	14.7	B	23.9	C
ALL	21.5	C	27.1	C
W-33 **Bear St & Pulaski St**				
NEB	17.5	B	17.4	B
NWB	0.0	A	0.0	A
SEB	14.9	B	19.5	B
SWB	17.3	B	19.7	B
ALL	17.4	B	19.1	B

5-2-5: 2026 and 2056 Community Grid Alternative

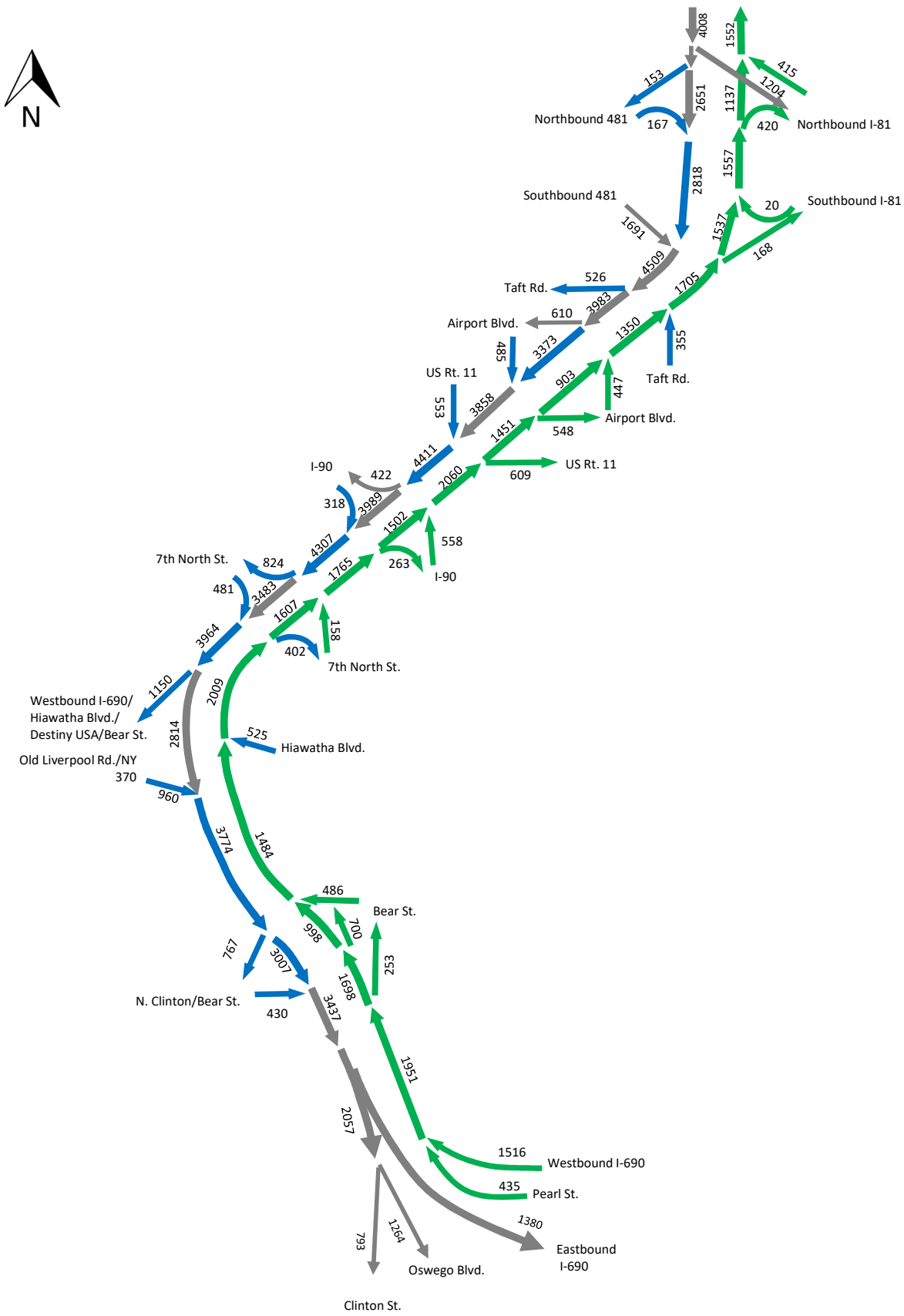
Freeway Traffic Volumes and Level of Service

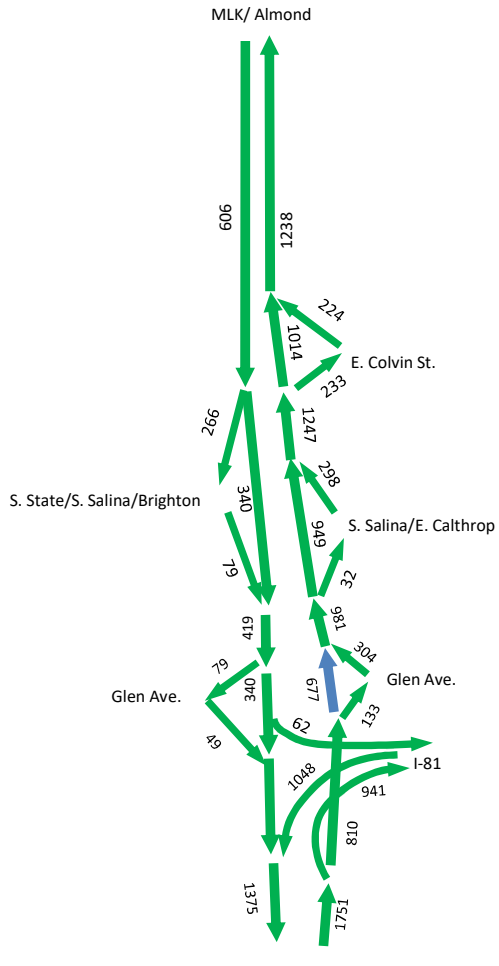
Former I-81

Community Grid Alternative
2026, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F



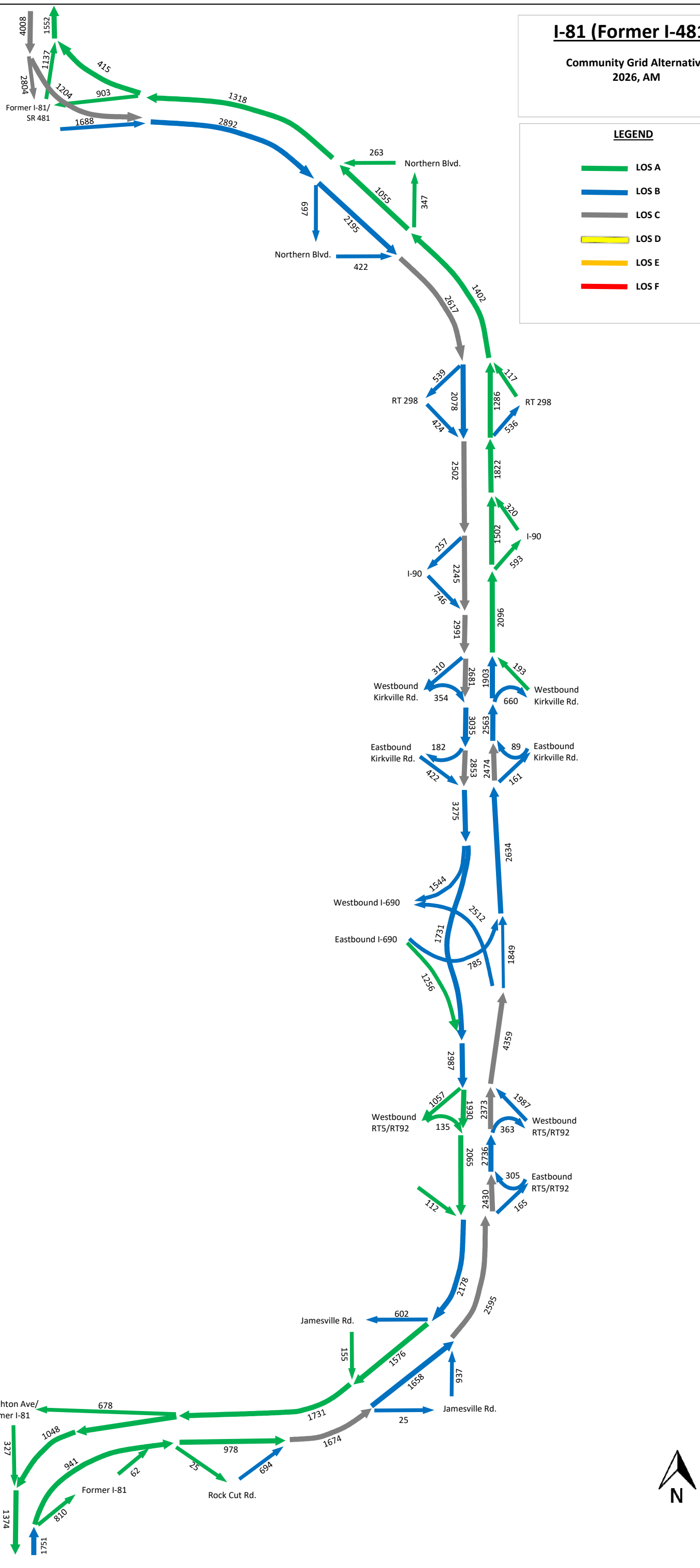


I-81 (Former I-481)

Community Grid Alternative
2026, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

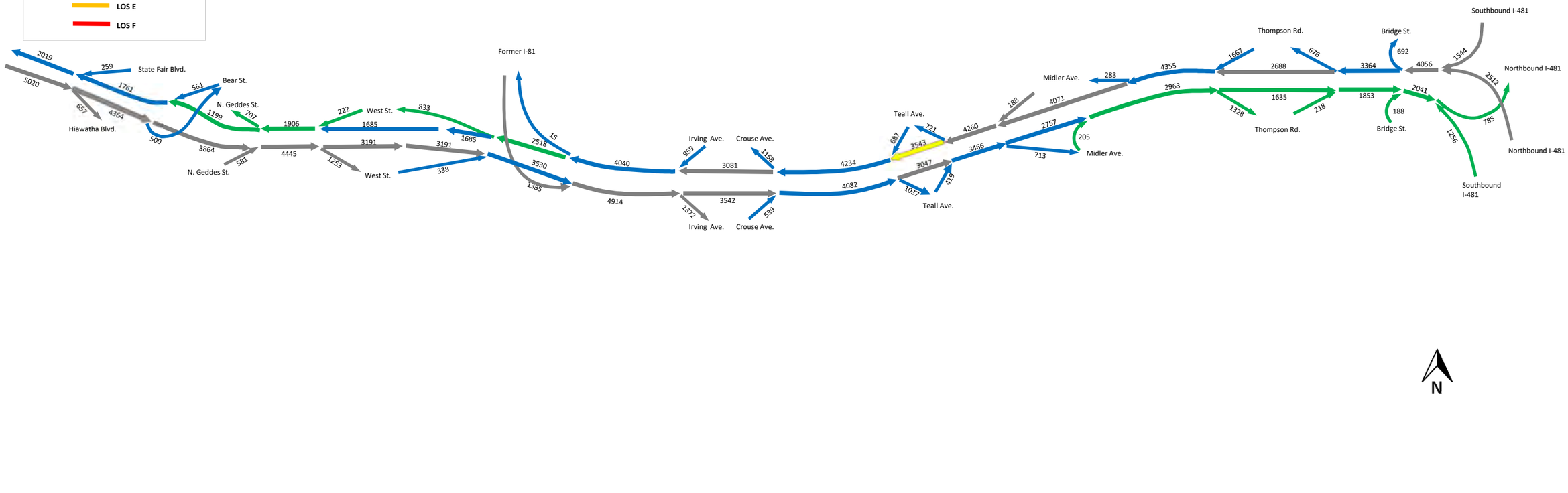


I-690

Community Grid Alternative
2026, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F



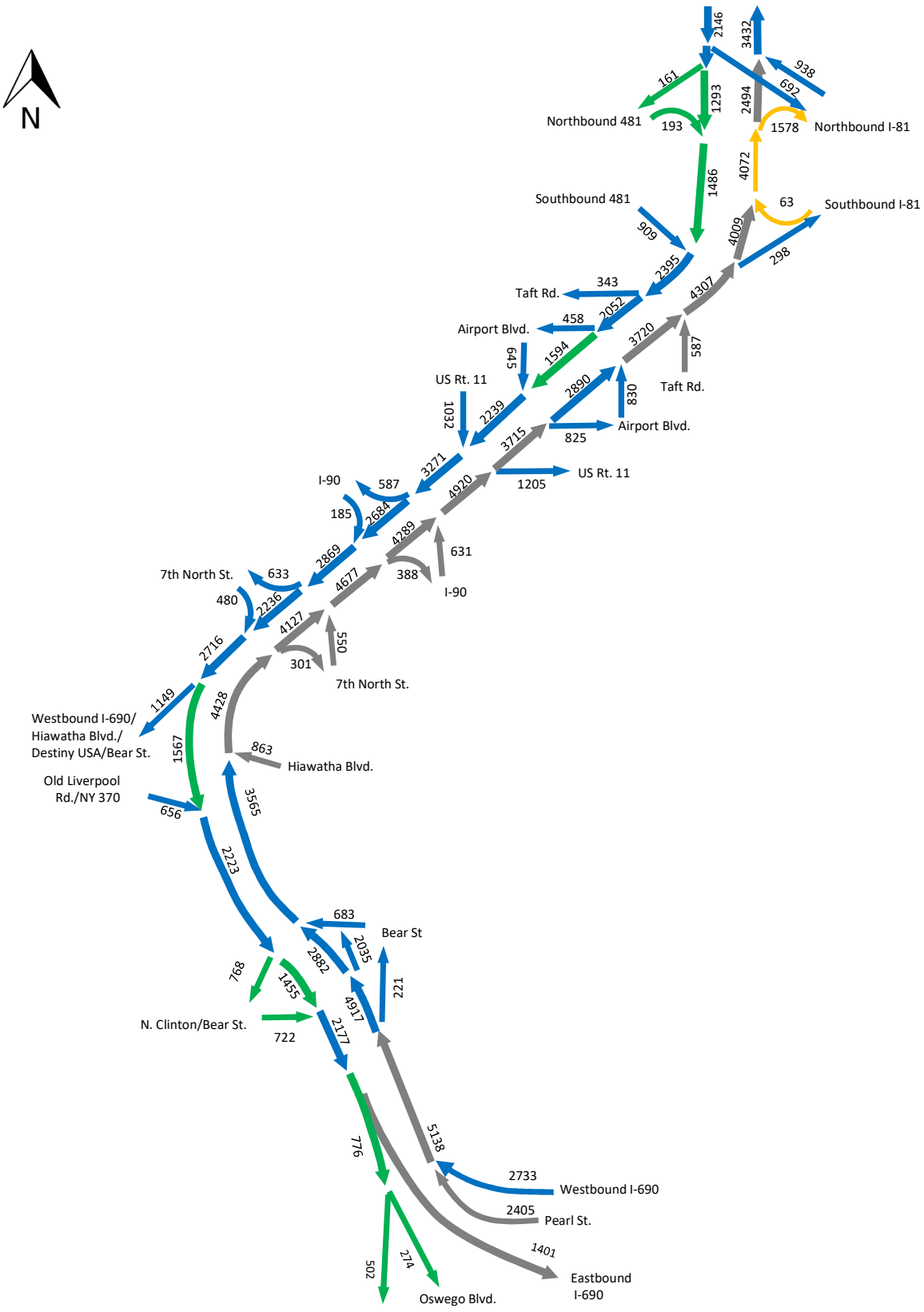
Former I-81

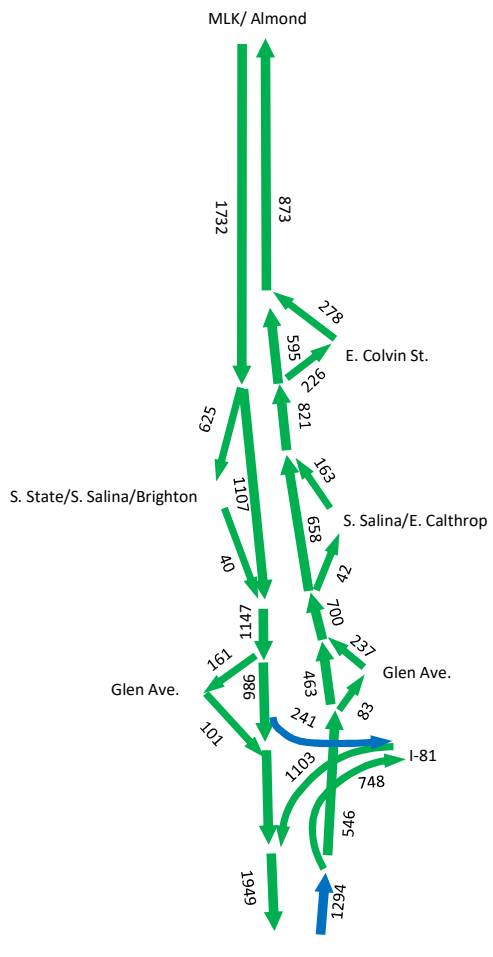
Community Grid Alternative
2026, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

N



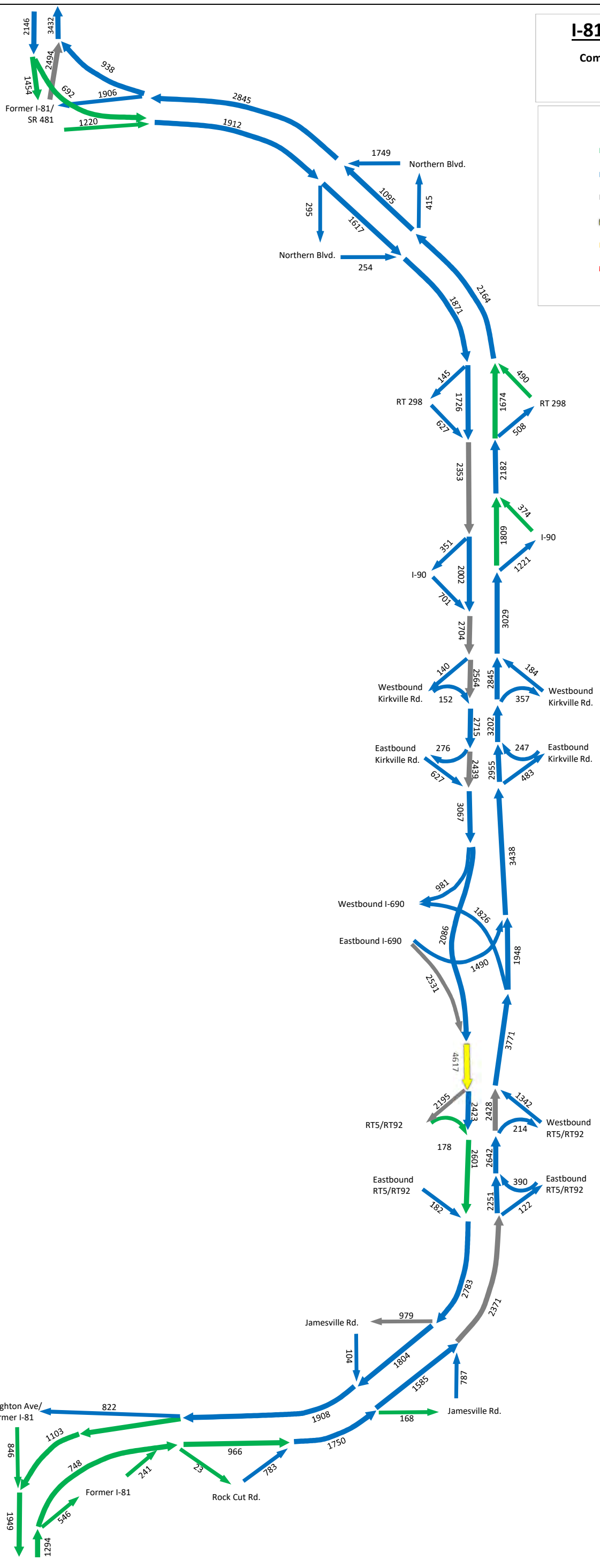


I-81 (Former I-481)

Community Grid Alternative
2026, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

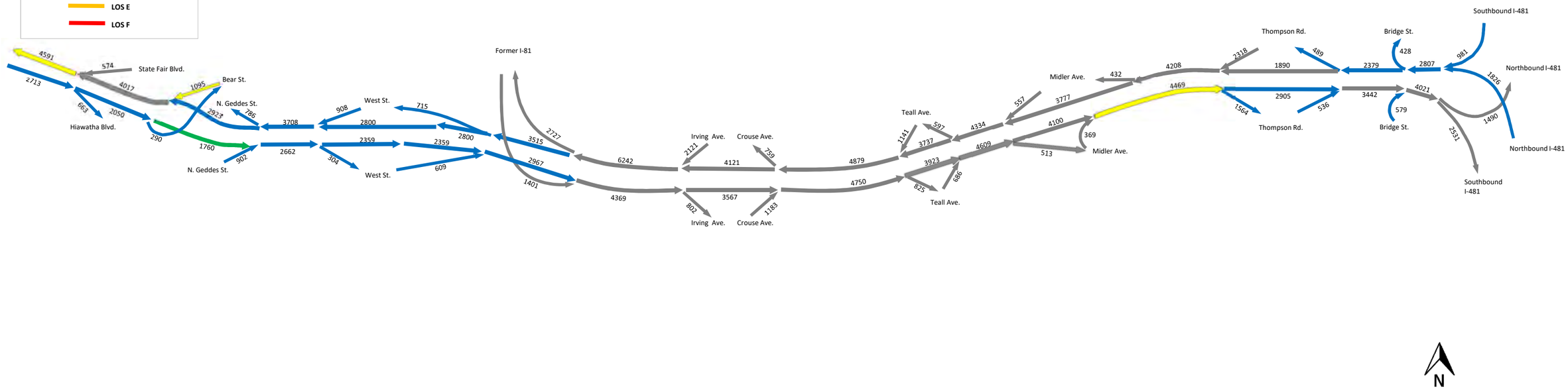


I-690

Community Grid Alternative
2026, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

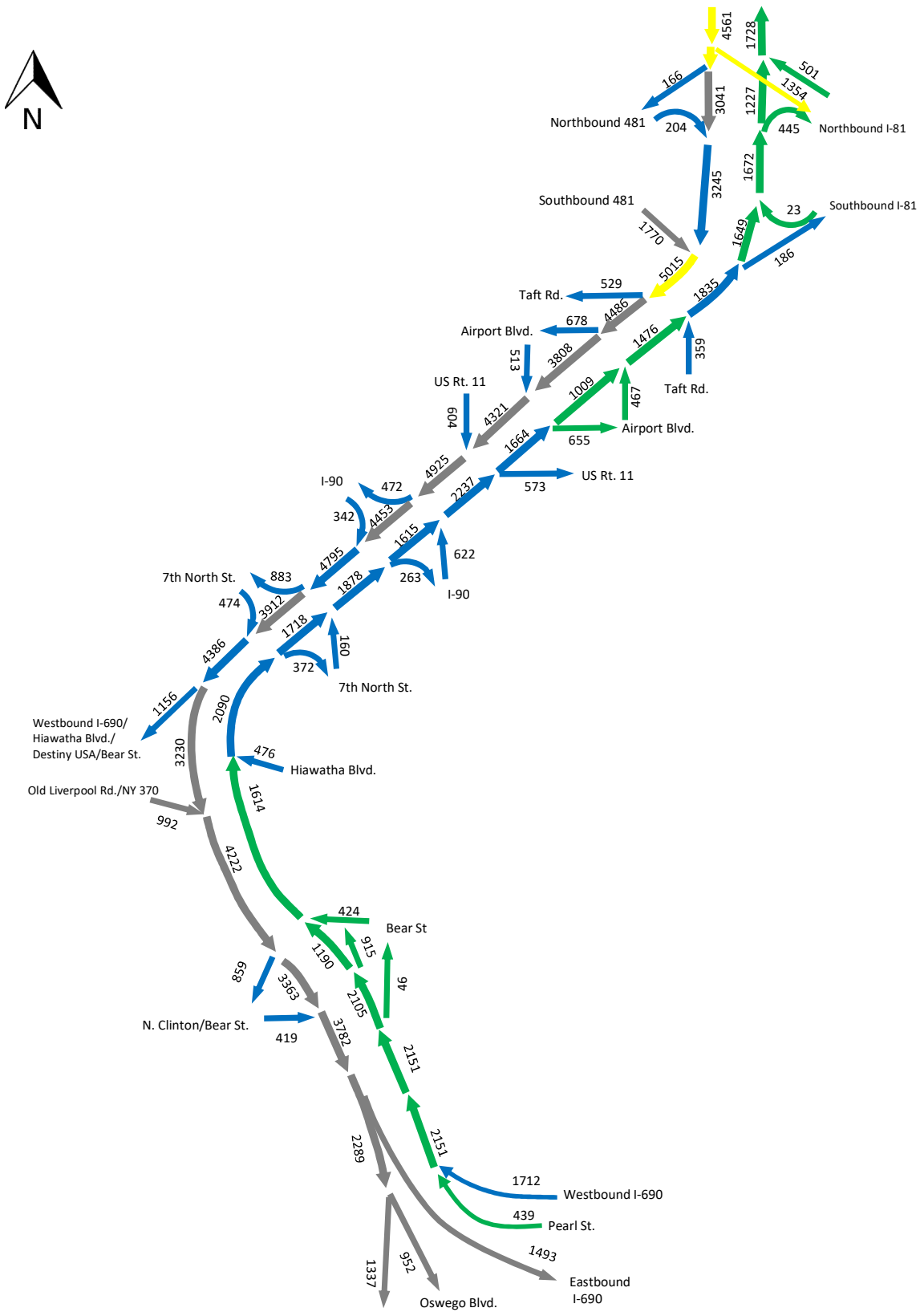


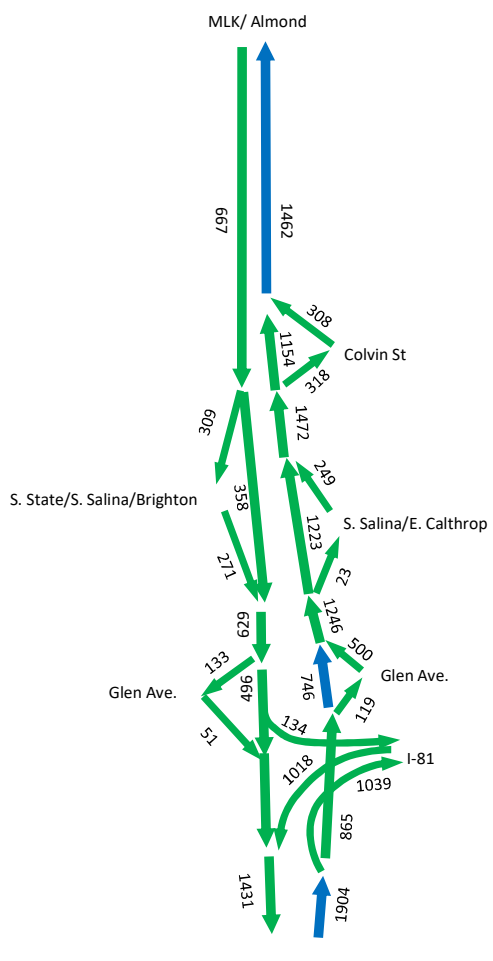
Former I-81

Community Grid Alternative
2056, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F



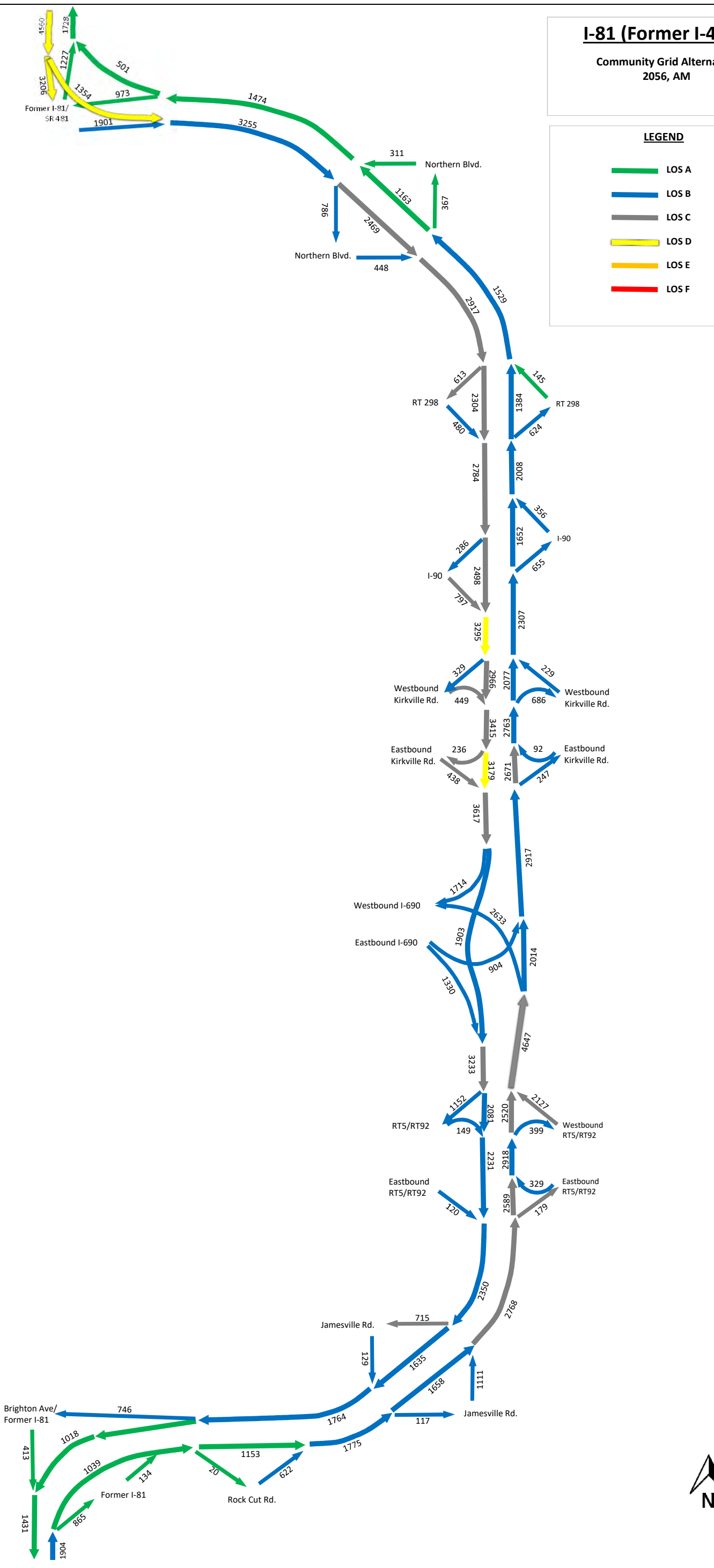


I-81 (Former I-481)

Community Grid Alternative
2056, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

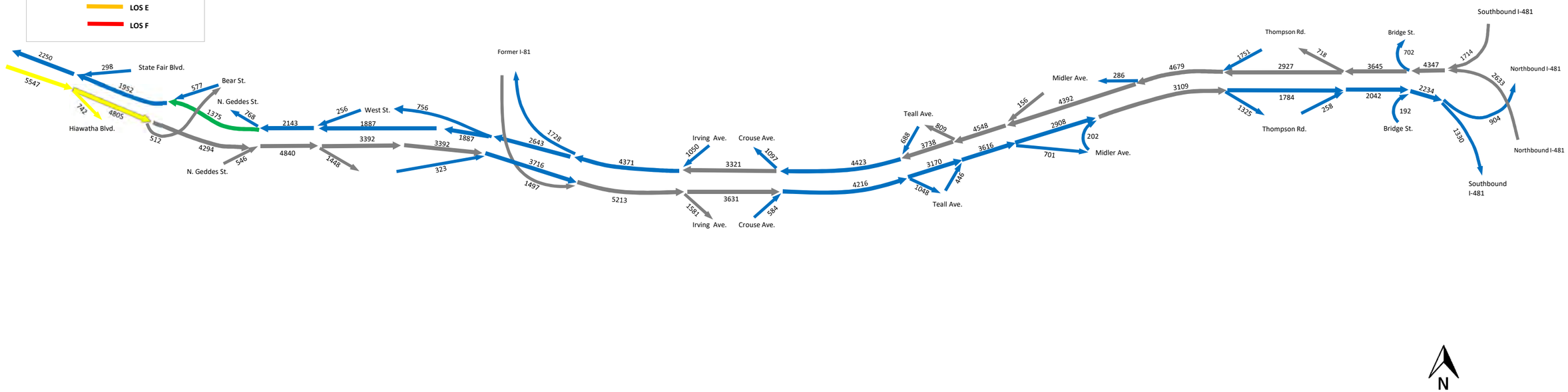


I-690

Community Grid Alternative
2056, AM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

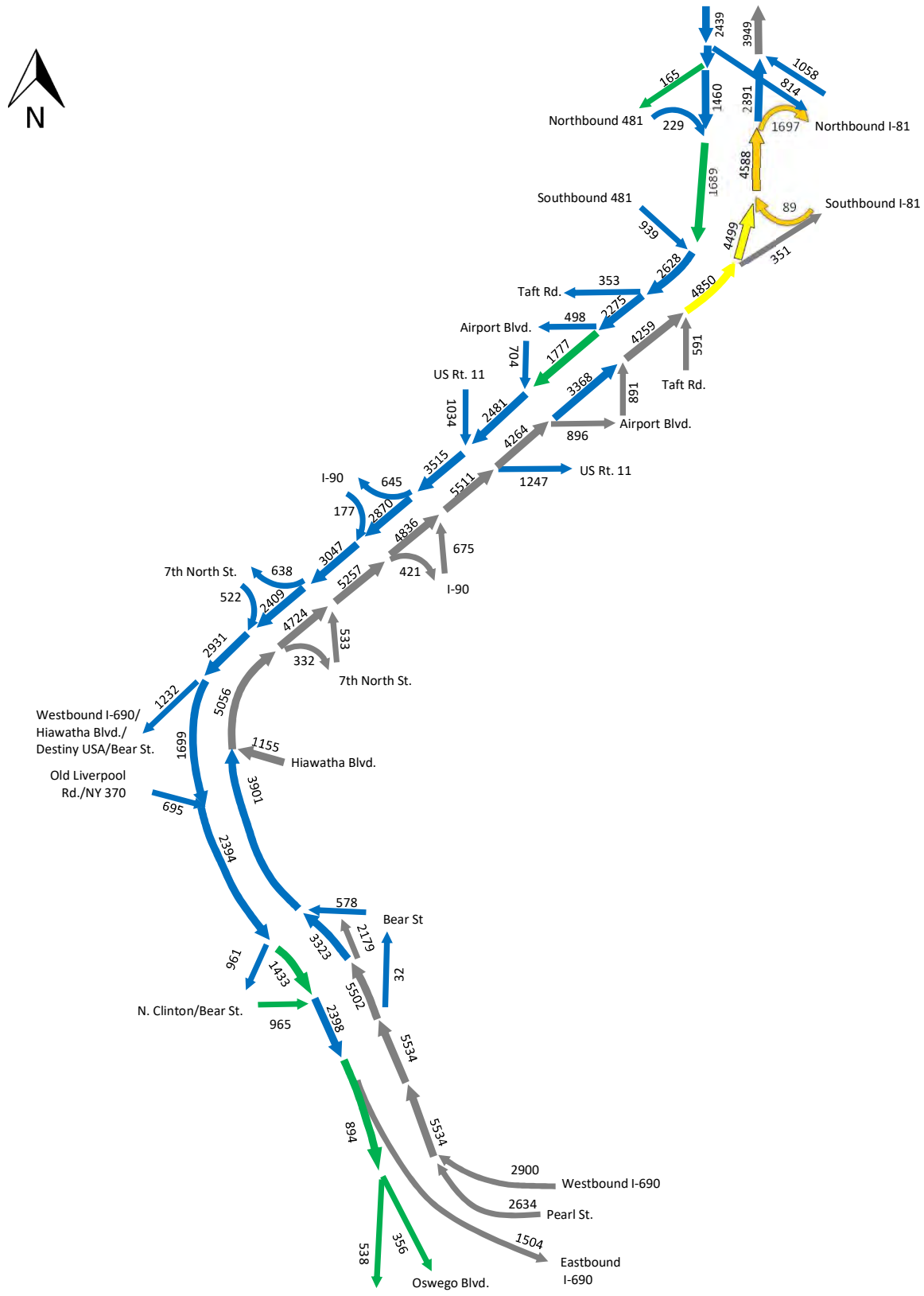


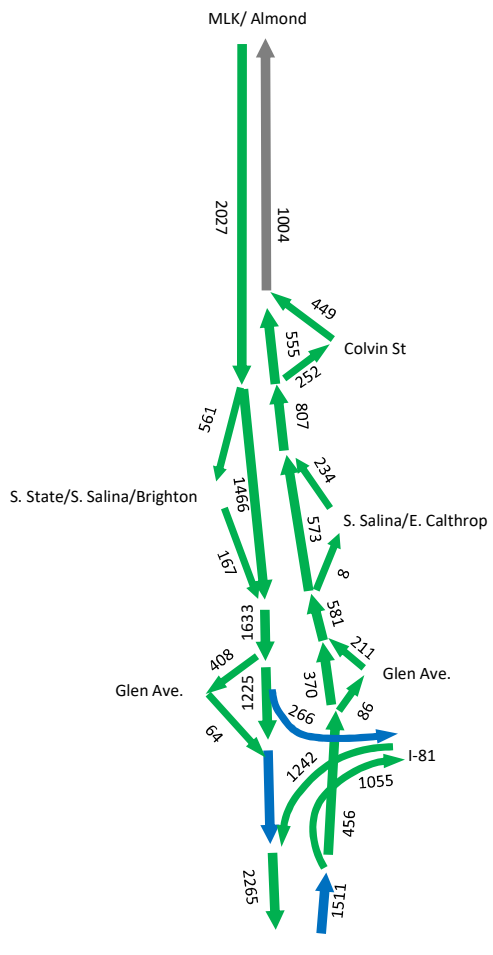
Former I-81

Community Grid Alternative
2056, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F



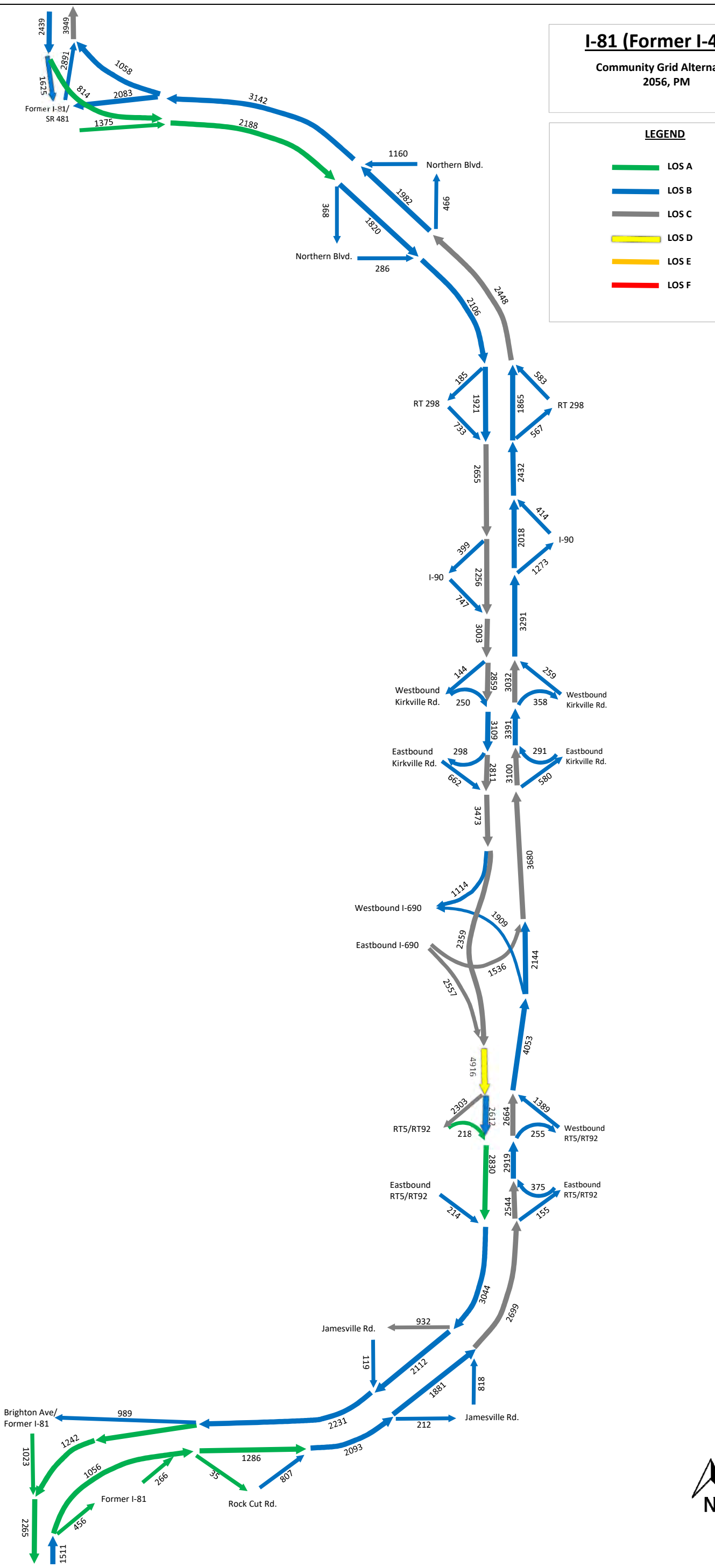


I-81 (Former I-481)

Community Grid Alternative
2056, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

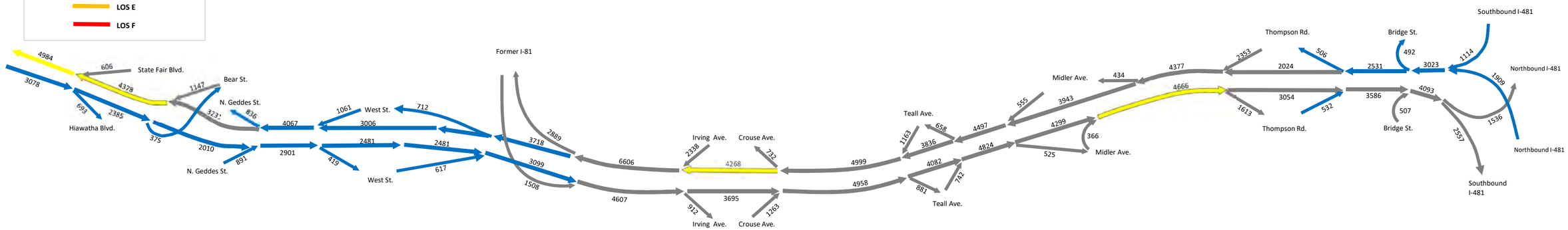


I-690

Community Grid Alternative
2056, PM

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

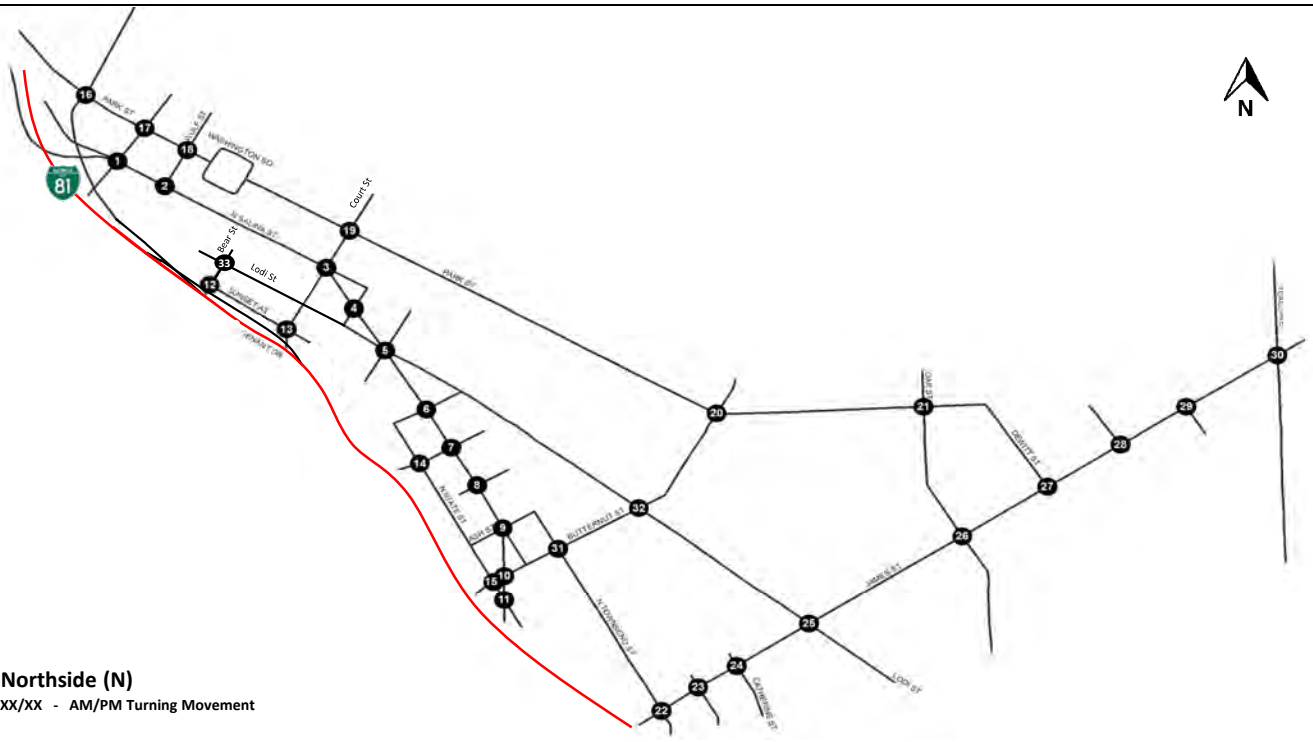


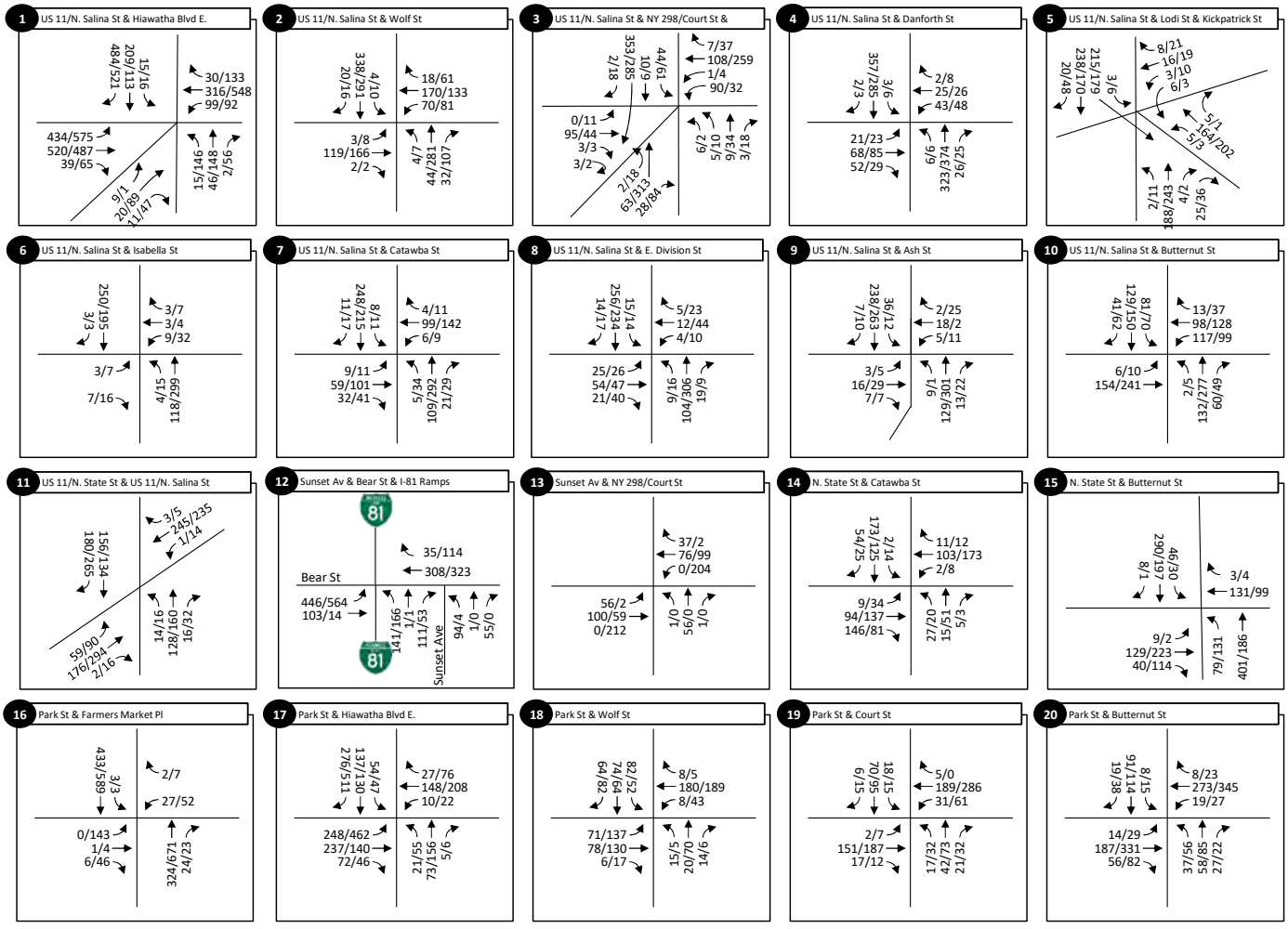
N

5-2-6: 2026 and 2056 Community Grid Alternative

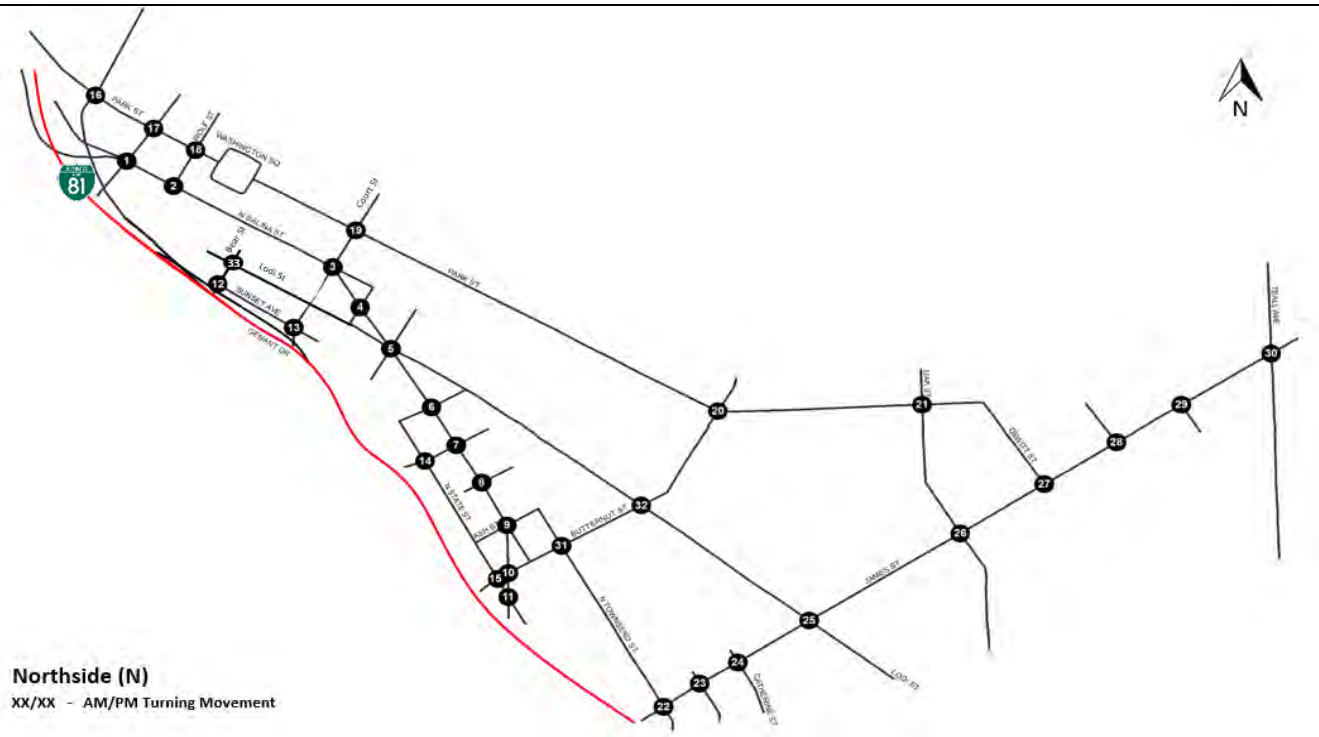
Intersection Traffic Volumes

2026 CG


N
Court St
Bear St
Lodi St
Park St
Sunset Ave
Washington Sq
Park St
Salina St
Butternut St
Division St
Ash St
Onondaga Rd
Loop St
Catherine St
Orrett Ave
Oak St
Northside (N)
XX/XX - AM/PM Turning Movement


1 US 11/N. Salina St & Hiawatha Blvd E.
484/521 209/113 15/16
30/133 316/548 99/92
434/575 520/487 39/65
9/1 20/89 11/47
15/146 46/148 2/56
2 US 11/N. Salina St & Wolf St
338/291 20/16 4/10
18/61 170/133 70/81
3/8 119/166 2/2
4/7 44/281 32/107
3 US 11/N. Salina St & NY 298/Court St &
353/285 2/18 10/9 44/61
7/37 108/259 1/4 90/32
0/11 95/44 3/3 3/2
2/18 63/313 28/84
6/2 5/10 9/34 3/18
4 US 11/N. Salina St & Danforth St
357/285 2/3 3/6
2/8 25/26 43/48
21/23 68/85 52/29
6/6 323/374 26/25
5 US 11/N. Salina St & Lodi St & Kickpatrick St
215/179 238/170 20/48 3/6
8/21 16/19 3/10 6/3
5/1 164/202 5/3
2/11 188/243 4/2 25/36
6 US 11/N. Salina St & Isabella St
250/195 3/3
3/7 3/4 9/32
3/7 7/16
4/15 118/299
7 US 11/N. Salina St & Catawba St
248/215 11/17 8/11
4/11 99/142 6/9
9/11 59/101 32/41
5/34 109/292 21/29
8 US 11/N. Salina St & E. Division St
256/234 14/17 15/14
5/23 12/44 4/10
25/26 54/47 21/40
9/16 104/306 19/9
9 US 11/N. Salina St & Ash St
238/263 7/10 36/12
2/25 18/2 5/11
3/5 16/29 7/7
9/1 129/301 13/22
10 US 11/N. Salina St & Butternut St
129/150 41/62 81/70
13/37 98/128 117/99
6/10 154/241
2/5 132/277 60/49
11 US 11/N. State St & US 11/N. Salina St
156/134 180/265
3/5 245/235 1/14
59/90 176/294 2/16
14/16 128/160 16/32
12 Sunset Av & Bear St & I-81 Ramps
35/114 308/323
Bear St
446/564 103/14
141/166 1/1 111/53
94/4 1/0 55/0
Sunset Ave
13 Sunset Av & NY 298/Court St
37/2 76/99 0/204
56/2 100/59 0/212
1/0 56/0 1/0
14 N. State St & Catawba St
173/125 54/25 2/14
11/12 103/173 2/8
9/34 94/137 146/81
27/20 15/51 5/3
15 N. State St & Butternut St
290/197 46/30 1/8
3/4 131/99
9/2 129/223 40/114
79/131 401/186
16 Park St & Farmers Market Pl
433/589 3/3
2/7 27/52
0/143 1/4 6/46
324/671 24/23
17 Park St & Hiawatha Blvd E.
276/511 137/130 54/47
27/76 148/208 10/22
248/462 237/140 72/46
21/55 73/156 5/6
18 Park St & Wolf St
64/82 74/64 82/52
8/5 180/189 8/43
71/137 78/130 6/17
15/5 20/70 14/6
19 Park St & Court St
70/95 6/15 18/15
5/0 189/286 31/61
2/7 151/187 17/12
17/32 42/73 21/32
20 Park St & Butternut St
91/114 19/38 8/15
8/23 273/345 19/27
14/29 187/331 56/82
37/56 58/85 27/22

2026 CG



21 Park St & Oak St

30/73	127/129	9/20
38/57		24/27
79/215		273/152
22/30		10/16
	43/66	
	60/79	
	14/28	

22 N. Townsend St & James St

2/20	226/239	16/39
14/10		30/40
541/553		486/737
32/21		116/57
	85/117	
	80/205	
	32/79	

23 N. McBride St & James St

20/75	19/47	7/84
53/48		27/23
521/613		605/750
15/10		4/16
	7/8	
	61/58	
	7/19	

24 Catherine St & James St

18/39	123/139	2/21
23/20		17/14
466/681		594/622
45/16		148/67
	24/128	
	79/212	
	42/101	

25 Lodi St & James St

15/23	221/289	33/28
1/14		45/39
494/708		717/644
15/81		11/11
	26/37	
	205/247	
	20/37	

26 Oak St & James St

112/96	208/157	25/39
49/131		23/48
402/594		636/560
95/49		40/20
	25/38	
	66/124	
	15/32	

27 Dewitt St & James St

49/36	46/30	106/137
14/61		102/111
419/596		645/577
46/30		47/31
	46/30	
	51/35	
	46/30	

28 Sedgwick Dr & James St

47/37	74/86	
73/40		102/82
454/697		700/652

29 Wilson St & James St

		791/723
		14/12
513/775	11/12	
16/8	24/18	

30 Teall Av & James St

140/128	331/390	0/0
78/151		9/11
319/520		511/461
139/122		107/173
	155/146	
	304/410	
	115/169	

31 Townsend St & Butternut St

7/15	69/88	11/34
16/6		6/22
175/265		167/172
103/90		72/121
	55/78	
	41/76	
	29/101	

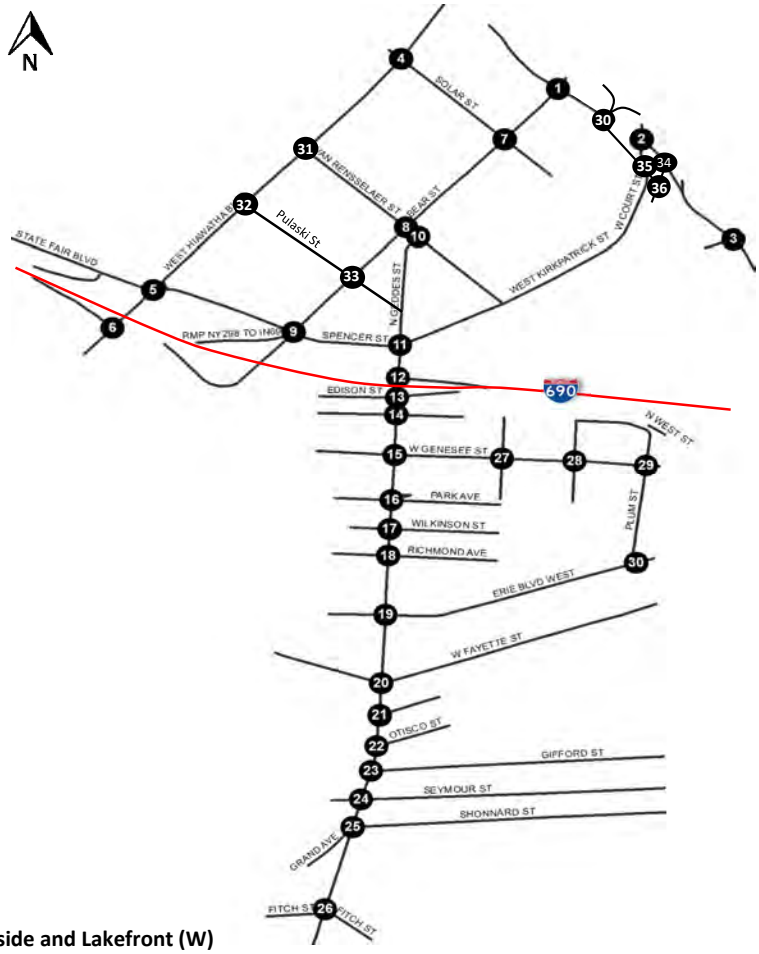
32 Lodi St & Butternut St

19/21	182/148	45/50
35/44		56/64
166/289		199/249
14/67		74/125
	27/44	
	178/253	
	46/103	

33 Lodi St & Bear St

		8/10
		331/424
		3/10
0/2		
268/64		
1/1		

2026 CG



Westside and Lakefront (W)

XX/XX - AM/PM Turning Movement

1 N. Clinton St & Bear St

172/310 → 61/18 → 484/444 ← 59/50
432/516 → 298/144 → 55/44
140/212 →

2 Genant Dr & Court St

79/0 → 6/8 → 15/2 ← 30/75 ← 31/23
0/0 → 0/1 → 73/49
76/216 → 0/1 ←
0/0 →

3 I-81 South Off-Ramp/Genant Dr & Spencer St

2/5 → 177/216 ←
1/0 →
1/0 → 243/244 →

4 Solar St & Hiawatha Blvd W.

176/119 → 8/106 → 57/32 ← 1199/1107 ← 60/77
79/201 → 257/364 → 1761/925 → 71/88 →
15/65 ← 561/169 ← 65/112 ←

5 Spencer St & Hiawatha Blvd W.

18/92 → 21/45 → 123/305 ← 619/991 ← 43/75
18/70 → 78/189 → 1171/1274 → 131/193 →
74/202 ← 58/79 ← 61/58 ←

6 I-690 East Off-Ramp & Hiawatha Blvd W.

711/1285 →
551/586 → 105/77 →
829/1069 ←

7 Solar St & Bear St

35/68 → 155/115 → 53/100 → 152/112 ← 502/837 ← 338/55
0/18 → 489/575 → 66/16 →
36/163 ← 19/216 ← 29/53 ←

8 Van Rensselaer St & Bear St

2/15 → 83/4 → 3/126 ← 195/42 ← 1/15
47/38 → 171/0 → 24/0 →
1/0 ← 0/0 ←

9 Spencer St & Bear St/I-690 Ramps

44/117 → 1252/824 → 19/38 → 16/110 ← 147/217 ← 137/174
52/69 → 97/173 → 44/96 →
2/3 ← 0/244 ← 105/43 ←

11 N. Geddes St & W. Kirkpatrick St

88/78 → 2/9 → 2/0 → 4/4 ← 50/108 ← 208/182
2/3 → 22/26 → 197/225 →
248/384 ← 193/290 ← 32/52 ←

12 N. Geddes St & I-690 West Off-Ramp

492/485 → 153/239 ← 554/547 ←
320/487 ←

13 N. Geddes St & Edison St

26/25 → 913/789 → 107/218 ←
1/1 → 12/14 → 3/6 →
9/11 ← 319/486 ← 461/670 ←

14 N. Geddes St & W. Belden Av

56/19 → 788/759 → 71/17 → 12/123 ← 10/52 ← 5/17
24/62 → 24/14 → 13/9 →
9/7 ← 753/983 ← 28/10 ←

15 N. Geddes St & NY 5/W. Genesee St

202/237 → 532/519 → 71/29 → 30/74 ← 245/603 ← 65/107
212/214 → 432/302 → 51/54 →
55/61 ← 548/713 ← 88/48 ←

16 N. Geddes St & Park Av

28/20 → 606/646 → 14/15 → 15/25 ← 8/20 ← 11/35
28/34 → 28/22 → 44/62 →
63/66 ← 648/763 ← 39/39 ←

17 N. Geddes St & Wilkinson St

2/6 → 650/727 → 10/9 → 16/13 ← 3/4 ← 9/22
3/7 → 3/4 → 3/2 →
4/5 ← 731/848 ← 19/21 ←

18 N. Geddes St & Richmond Av

33/11 → 617/731 → 9/9 → 4/8 ← 12/15 ← 11/18
13/9 → 18/18 → 26/68 →
46/110 ← 736/857 ← 10/31 ←

19 N./S. Geddes St & Erie Blvd W.

11/11 → 595/742 → 47/64 → 100/235 ← 100/162 ← 19/29
24/13 → 401/224 → 45/100 →
39/72 ← 669/749 ← 365/88 ←

20 S. Geddes St & W. Fayette St

85/68 → 555/797 → 18/6 → 27/84 ← 142/411 ← 41/389
193/135 → 61/54 → 249/153 →
14/17 ← 852/690 ← 283/256 ←

21 S. Geddes St & Marcellus St

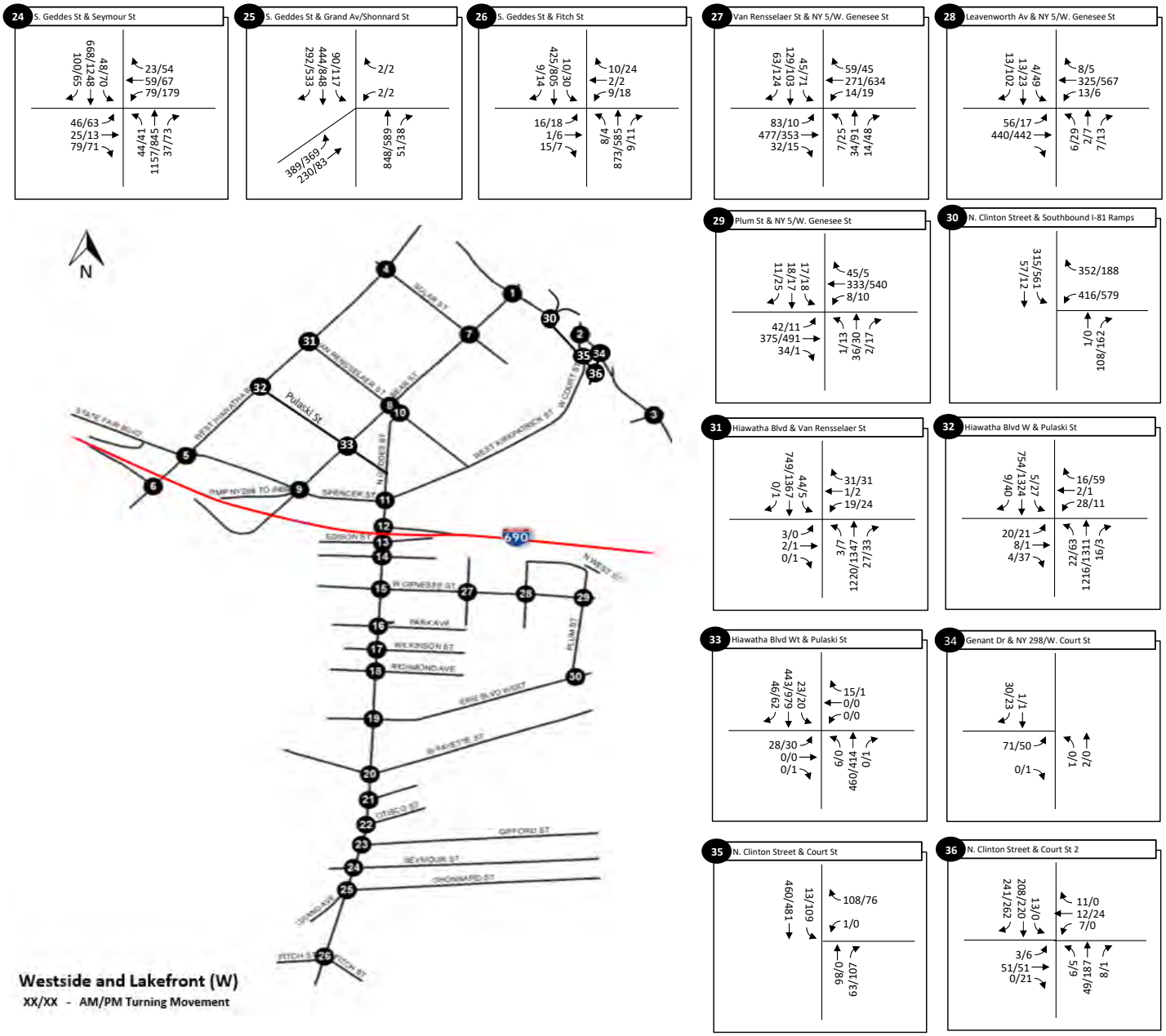
763/1306 → 83/33 → 15/70 ← 1/1 ←
1133/892 ← 20/4 ←

22 S. Geddes St & Otisco St

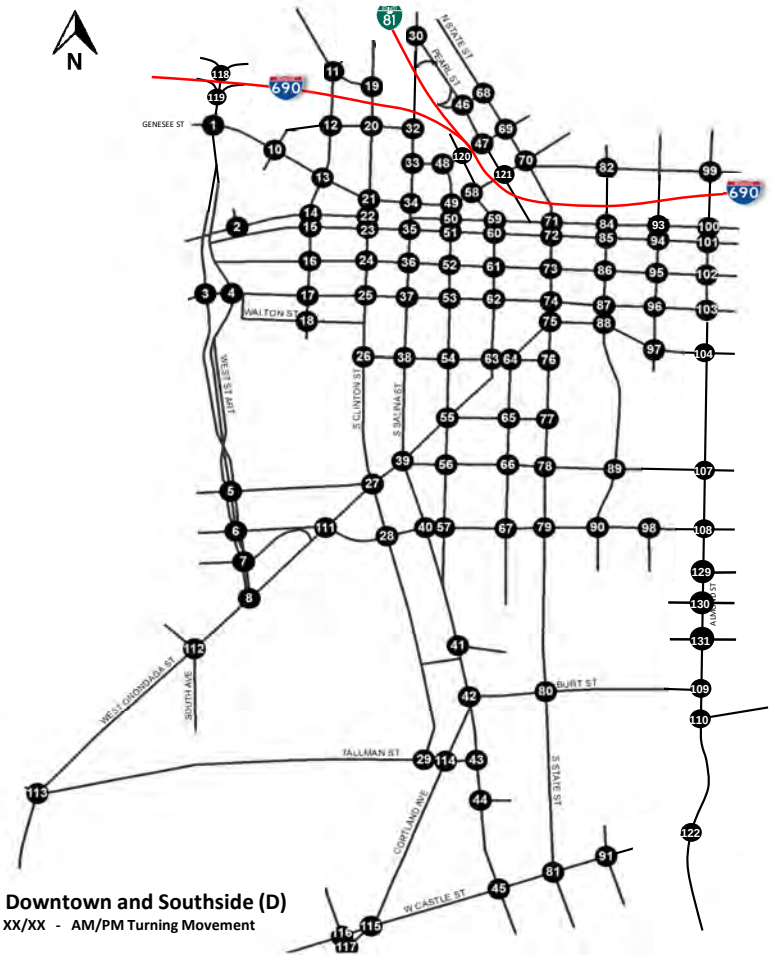
731/1272 → 32/35 → 10/22 ← 11/37 ←
1143/875 ← 31/15 ←

23 S. Geddes St & Gifford St

711/1280 → 31/29 → 28/50 ← 105/103 ←
1146/840 ← 81/124 ←


24 S. Geddes St & Seymour St
668/1248
100/65
48/70
23/54
59/67
79/179
46/63
25/13
79/71
44/41
1157/845
37/73
25 S. Geddes St & Grand Av/Shonnard St
292/533
444/848
90/117
2/2
2/2
389/369
230/83
848/589
51/38
26 S. Geddes St & Fitch St
425/805
9/14
10/30
10/24
2/2
9/18
16/18
1/6
15/7
8/4
873/585
9/11
27 Van Rensselaer St & NY 5/W. Genesee St
129/103
63/124
45/71
59/45
271/634
14/19
83/10
477/353
32/15
7/25
34/91
14/48
28 Leavenworth Av & NY 5/W. Genesee St
13/102
13/23
4/49
8/5
325/567
13/6
56/17
440/442
6/29
2/7
7/13
29 Plum St & NY 5/W. Genesee St
11/25
18/17
17/18
45/5
333/540
8/10
42/11
375/491
34/1
1/13
36/30
2/17
30 N. Clinton Street & Southbound I-81 Ramps
57/12
315/561
352/188
416/579
1/0
108/162
31 Hiawatha Blvd & Van Rensselaer St
0/1
749/1367
44/5
31/31
1/2
19/24
3/0
2/1
0/1
3/7
1220/1347
27/33
32 Hiawatha Blvd W & Pulaski St
9/40
754/1324
5/27
16/59
2/1
28/11
20/21
8/1
4/37
22/63
1216/1311
16/3
33 Hiawatha Blvd Wt & Pulaski St
46/62
443/979
23/20
15/1
0/0
0/0
28/30
0/0
0/1
6/0
460/414
0/1
34 Genant Dr & NY 298/W. Court St
30/23
1/1
71/50
0/1
1/0
2/0
35 N. Clinton Street & Court St
460/481
13/109
108/76
1/0
98/0
63/107
36 N. Clinton Street & Court St 2
241/262
208/220
13/0
11/0
12/24
7/0
3/6
51/51
0/21
5/9
49/187
1/8
N
Pulaski St
W GENESEE ST
PARK AVE
WILKINSON ST
RICHMOND AVE
PLUM ST
GIFFORD ST
SEYMOUR ST
SHONNARD ST
FITCH ST
SPENCER ST
I-690
Westside and Lakefront (W)
XX/XX - AM/PM Turning Movement

2026 CG



Downtown and Southside (D)

XX/XX - AM/PM Turning Movement

1 N. West St & NY 5/W. Genesee St

865/195 1090/771 131/58 — 44/318 75/164 187/239

38/201 296/197 60/128 — 179/334 479/998 74/222

2 West St Access Ramp & Erie Blvd W.

48/39 — 34/105 178/438

142/32 573/238

3 Southbound S. West St & W. Fayette St

288/139 1011/588 152/522 — 82/245 9/18

356/308 11/11

4 Northbound S. West St & W. Fayette St

41/285 85/261

40/81 603/366 — 6/2 508/917 44/46

5 S. West St & Gifford St

980/586 42/28 — 46/171 76/103 29/51

35/24 76/129 — 14/23 472/771

6 S. West St & Seymour St

1009/670 76/96 — 107/342 75/180 12/46

10/24 380/451

7 S. West St & Shonnard St

810/288 209/425 53/51 — 379/428 3/2

88/63 137/99 147/77

8 S. West St & W. Onondaga St

10/43 346/459 — 36/80 223/382

345/349 429/276

9 Wallace St & Herald Pl

Removed Under CG

10 Wallace St & NY 5/W. Genesee St

5/11 23/4 4/25 — 12/5 300/679 52/5

43/29 1144/576 49/9 — 1/16 2/7 3/73

11 Butternut St & N. Franklin St/

0/0 223/229 0/1 — 1/2 1/2 8/2

0/1 20/64 116/52 — 66/145 168/331 2/1

12 N. Franklin St & Herald Pl

2/10 345/273 — 39/122 57/62

26/6 1/1 29/23 — 171/349 187/405

13 N. Franklin St & NY 5/W. Genesee St

16/24 268/218 30/115 — 87/95 315/497 68/88

90/67 575/419 442/139 — 12/56 297/585 114/98

14 N./S. Franklin St & Erie Blvd W.

17/12 684/164 77/269 — 8/7 92/100 132/8

205/163 94/67 274/8 — 43/174 210/569 6/33

15 S. Franklin St & W. Water St

511/470 466/11 — 9/7 20/7 14/18

9/13 — 43/9 214/780

16 S. Franklin St & W. Washington St

35/10 24/180 466/1 — 152/196 39/156 9/15

21/353 52/25 2/12 — 1/14 84/241 510/70

17 S. Franklin St & W. Fayette St

39/106 13/12 32/89 — 51/76 78/245 9/9

73/223 537/202 13/7 — 12/8 7/16 8/11

18 S. Franklin St & Walton St

14/8 14/8 8/12 — 8/14 6/15 10/10

12/8 16/6 16/6 — 6/15 8/14 10/10

19 N. Clinton St & Websters Landing

1255/497 9/5 — 17/62

20 N. Clinton St & Herald Pl

161/35 1045/508 65/17 — 29/42 5/34

182/350 7/66

21 N. Clinton St & NY 5/W. Genesee St

888/527 127/71 — 43/10 — 344/609 190/118

617/456 88/84

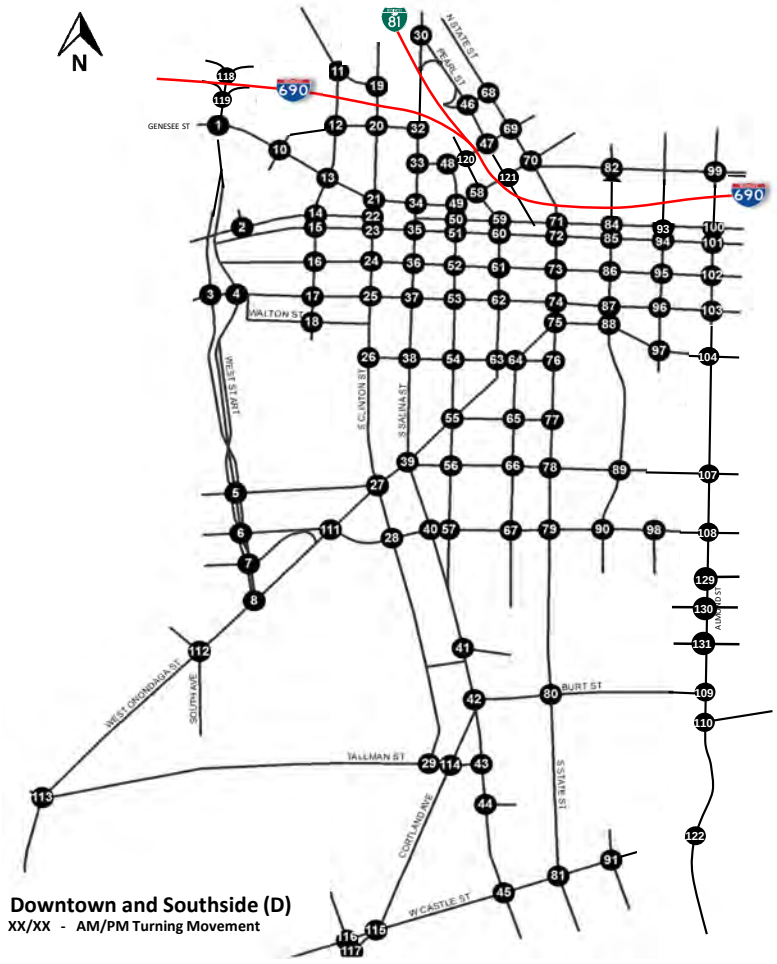
22 N./S. Clinton St & Erie Blvd W.

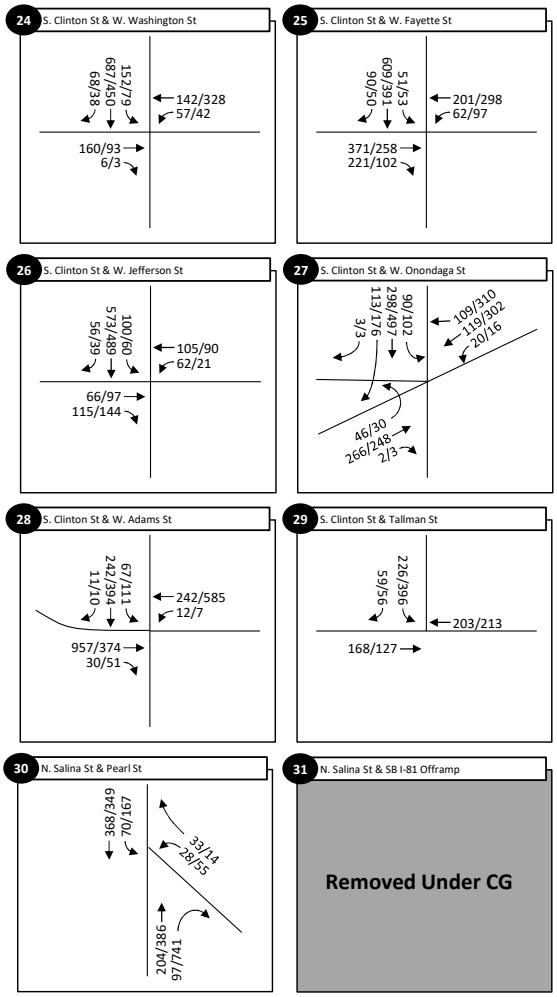
934/614 233/115 — 118/112

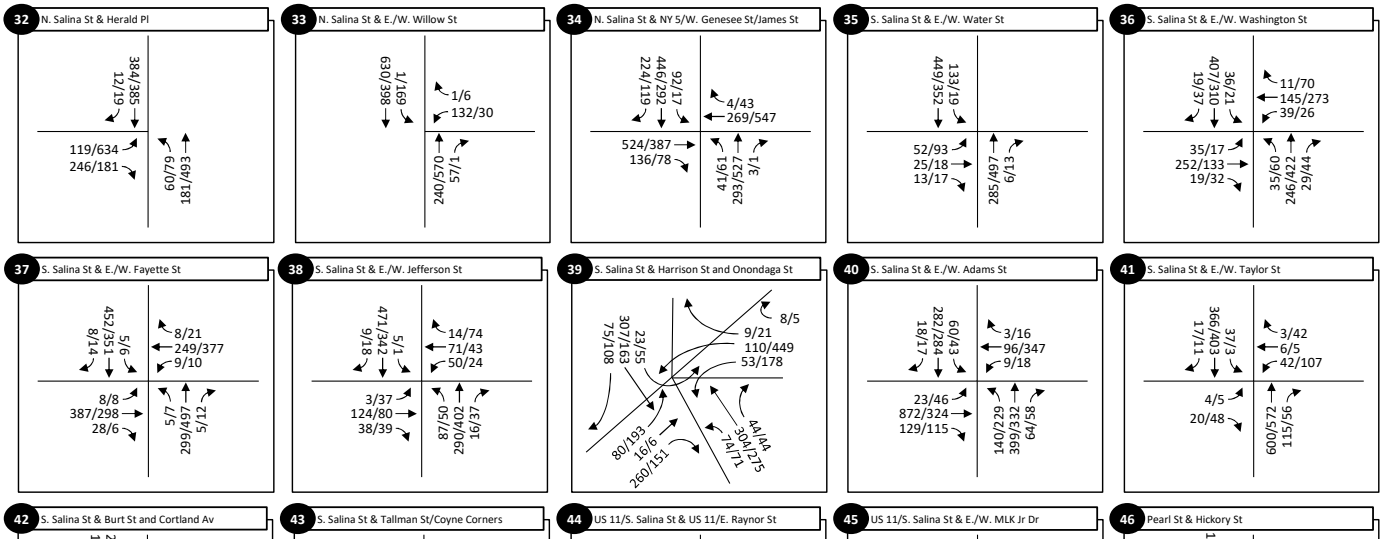
23 S. Clinton St & W. Water St

91/128 907/567 54/32

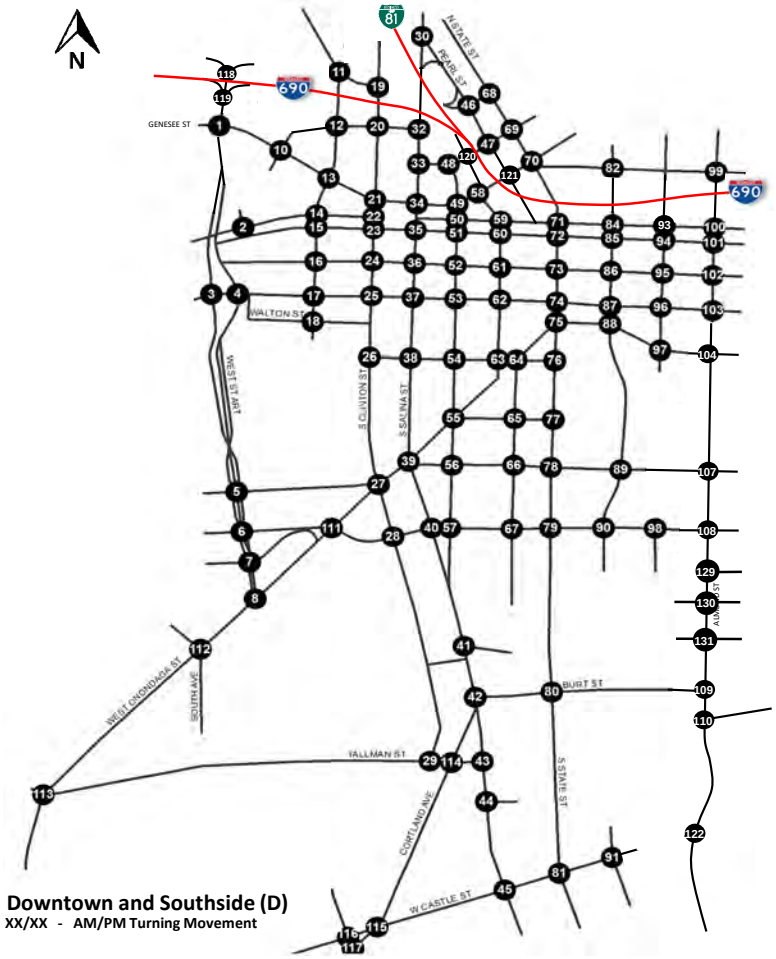
2026 CG


N
690
81
GENESEE ST
WALTON ST
WEST ST ART
S CLINTON ST
S SALINA ST
WEST ONONDAGA ST
SOUTH AVE
TALLMAN ST
BURT ST
CORTLAND AVE
W CASTLE ST
ADAMS ST
Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

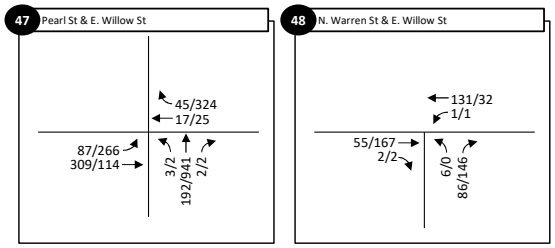

24 S. Clinton St & W. Washington St
68/38
687/450
152/79
142/328
57/42
160/93
6/3
25 S. Clinton St & W. Fayette St
90/50
609/391
51/53
201/298
62/97
371/258
221/102
26 S. Clinton St & W. Jefferson St
56/39
573/489
100/60
105/90
62/21
66/97
115/144
27 S. Clinton St & W. Onondaga St
3/3
113/176
298/497
90/102
109/310
119/302
20/16
46/30
266/248
2/3
28 S. Clinton St & W. Adams St
11/10
242/394
67/111
242/585
12/7
957/374
30/51
29 S. Clinton St & Tallman St
59/56
226/396
203/213
168/127
30 N. Salina St & Pearl St
69/388
70/197
33/14
28/55
204/386
97/741
31 N. Salina St & SB I-81 Offramp
Removed Under CG

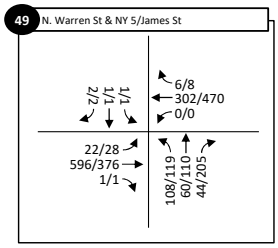

32 N. Salina St & Herald Pl
12/19
384/385
119/634
246/181
60/79
181/493
33 N. Salina St & E./W. Willow St
630/398
1/169
1/6
132/30
240/570
57/1
34 N. Salina St & NY 5/W. Genesee St/James St
224/119
446/292
92/17
4/43
269/547
524/387
136/78
41/61
293/527
3/1
35 S. Salina St & E./W. Water St
449/352
133/19
52/93
25/18
13/17
285/497
6/13
36 S. Salina St & E./W. Washington St
19/37
407/310
36/21
11/70
145/273
39/26
35/17
252/133
19/32
35/60
246/422
29/44
37 S. Salina St & E./W. Fayette St
8/14
452/351
5/6
8/21
249/377
9/10
8/8
387/298
28/6
5/7
299/497
5/12
38 S. Salina St & E./W. Jefferson St
9/18
471/342
5/1
14/74
71/43
50/24
3/37
124/80
38/39
87/50
290/402
16/37
39 S. Salina St & Harrison St and Onondaga St
751/108
307/163
23/55
8/5
9/21
110/449
53/178
80/193
16/6
260/151
74/171
44/44
304/275
40 S. Salina St & E./W. Adams St
282/284
18/17
60/43
3/16
96/347
9/18
23/46
872/324
129/115
140/229
399/332
64/58
41 S. Salina St & E./W. Taylor St
17/11
366/403
37/3
3/42
6/5
42/107
4/5
20/48
600/572
115/56
42 S. Salina St & Burt St and Cortland Av
170/223
200/235
57/99
9/16
1/2
1/2
362/354
1/2
353/263
91/58
3/5
43 S. Salina St & Tallman St/Coyne Corners
5/58
199/187
26/5
279/366
164/111
373/372
44 US 11/S. Salina St & US 11/E. Raynor St
452/536
26/17
38/38
15/66
499/446
67/58
45 US 11/S. Salina St & E./W. MLK Jr Dr
13/61
390/432
64/108
123/79
67/163
22/46
31/14
130/111
12/6
7/53
412/411
12/15
46 Pearl St & Hickory St
176/899
1/9
30/25
46/20
16/12

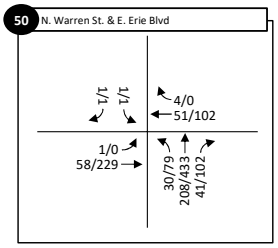
2026 CG

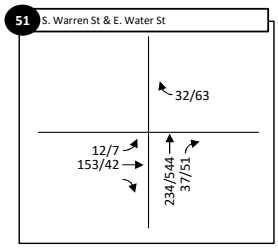


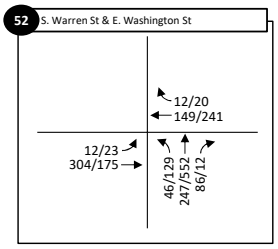
Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

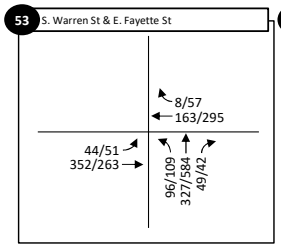


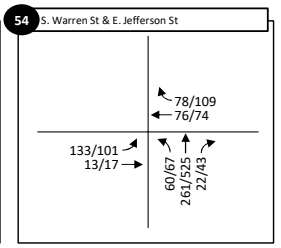


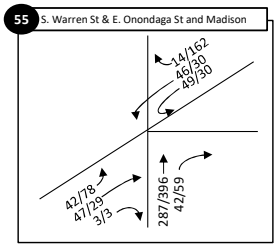


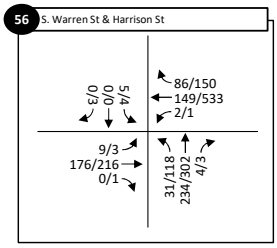


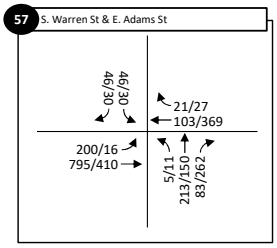


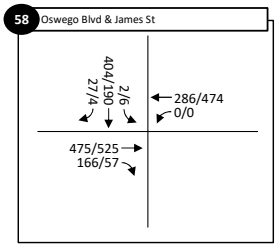


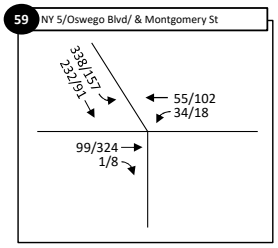


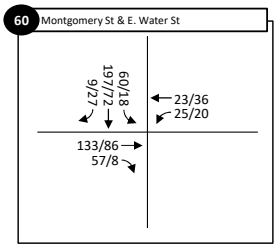


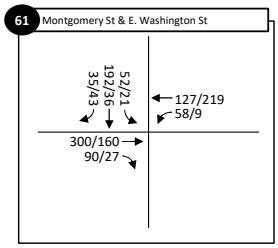


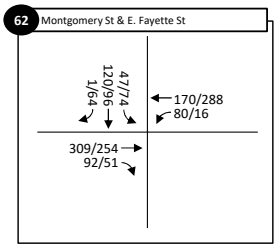


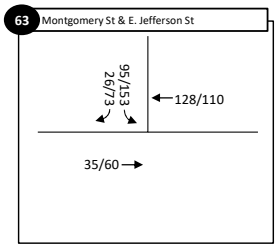


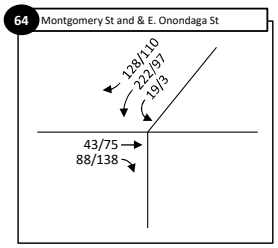


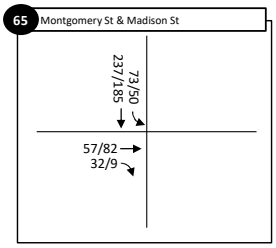


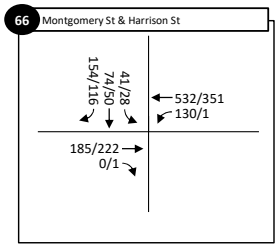


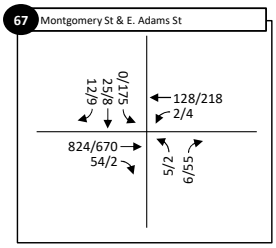


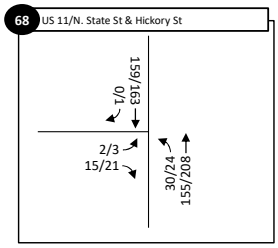


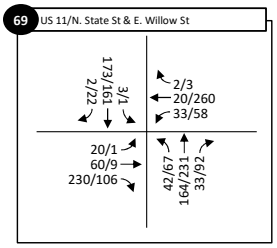




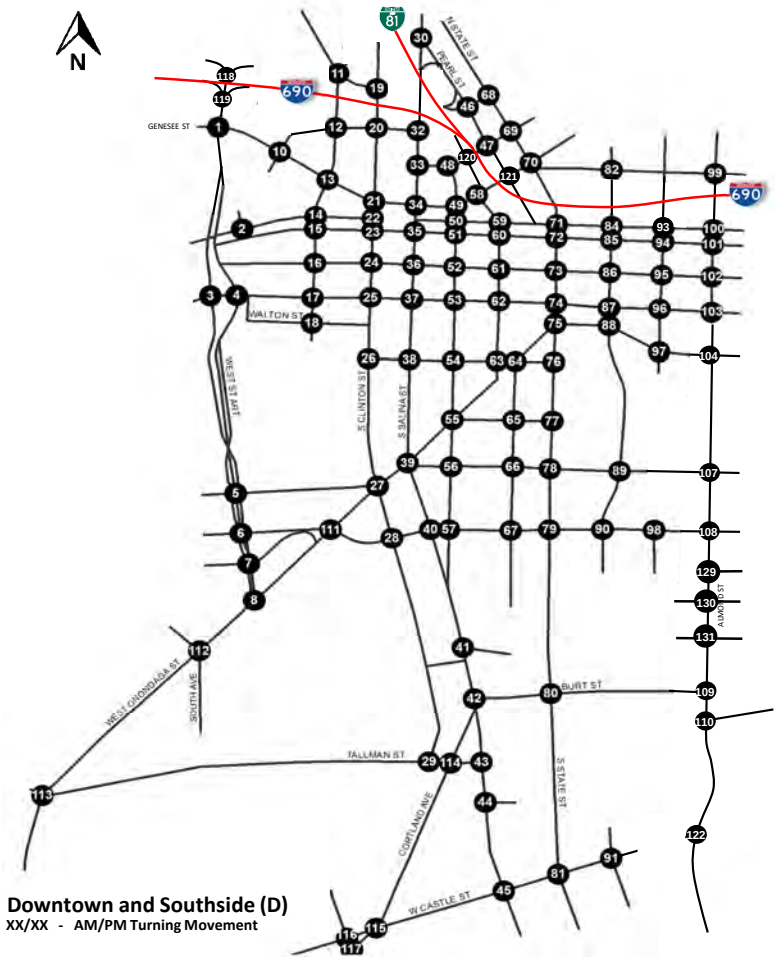






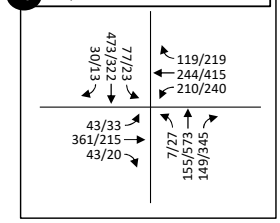


2026 CG

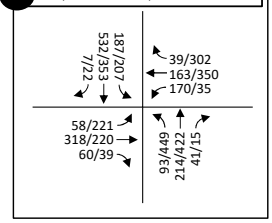


Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

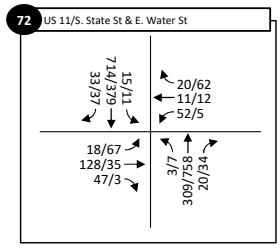
70 US 11/N. State St & James St



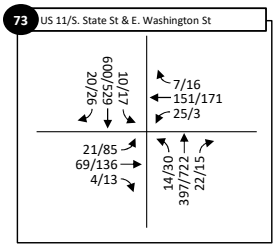
71 US 11/S. State St & NY 5/Erie Blvd E.



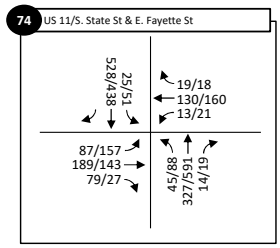
72 US 11/S. State St & E. Water St



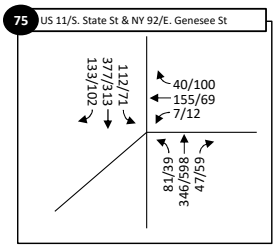
73 US 11/S. State St & E. Washington St



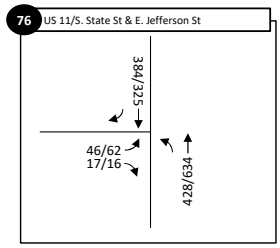
74 US 11/S. State St & E. Fayette St



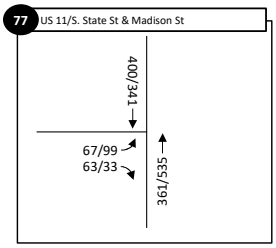
75 US 11/S. State St & NY 92/E. Genesee St



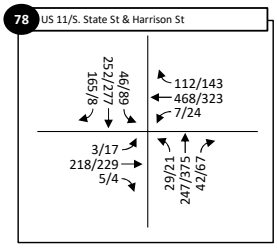
76 US 11/S. State St & E. Jefferson St



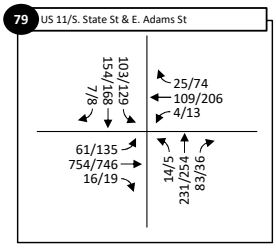
77 US 11/S. State St & Madison St



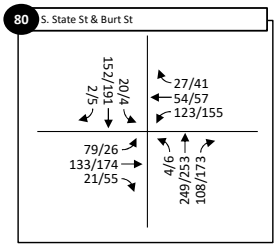
78 US 11/S. State St & Harrison St



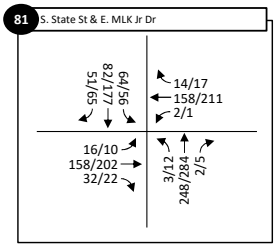
79 US 11/S. State St & E. Adams St



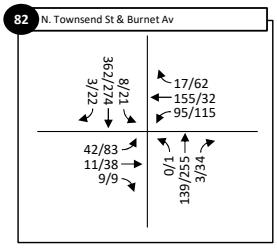
80 S. State St & Burt St



81 S. State St & E. MLK Jr Dr



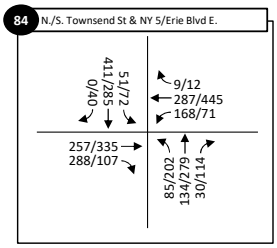
82 N. Townsend St & Burnet Av



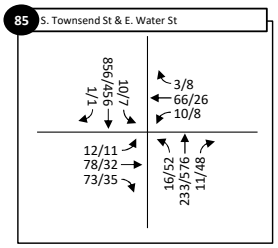
83 N. Townsend St & Westbound I-690 offramp

Removed Under CG

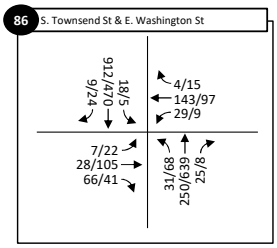
84 N./S. Townsend St & NY 5/Erie Blvd E.



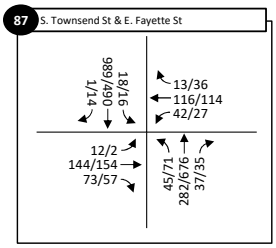
85 S. Townsend St & E. Water St



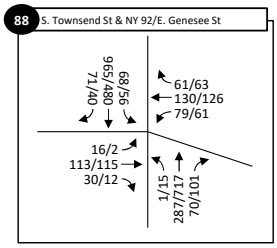
86 S. Townsend St & E. Washington St



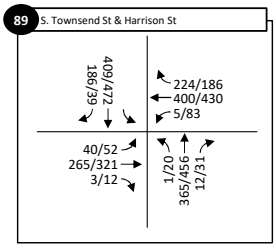
87 S. Townsend St & E. Fayette St



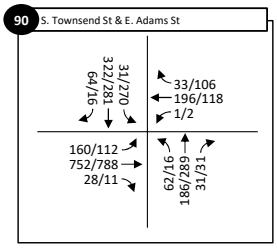
88 S. Townsend St & NY 92/E. Genesee St



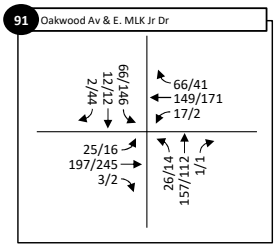
89 S. Townsend St & Harrison St



90 S. Townsend St & E. Adams St



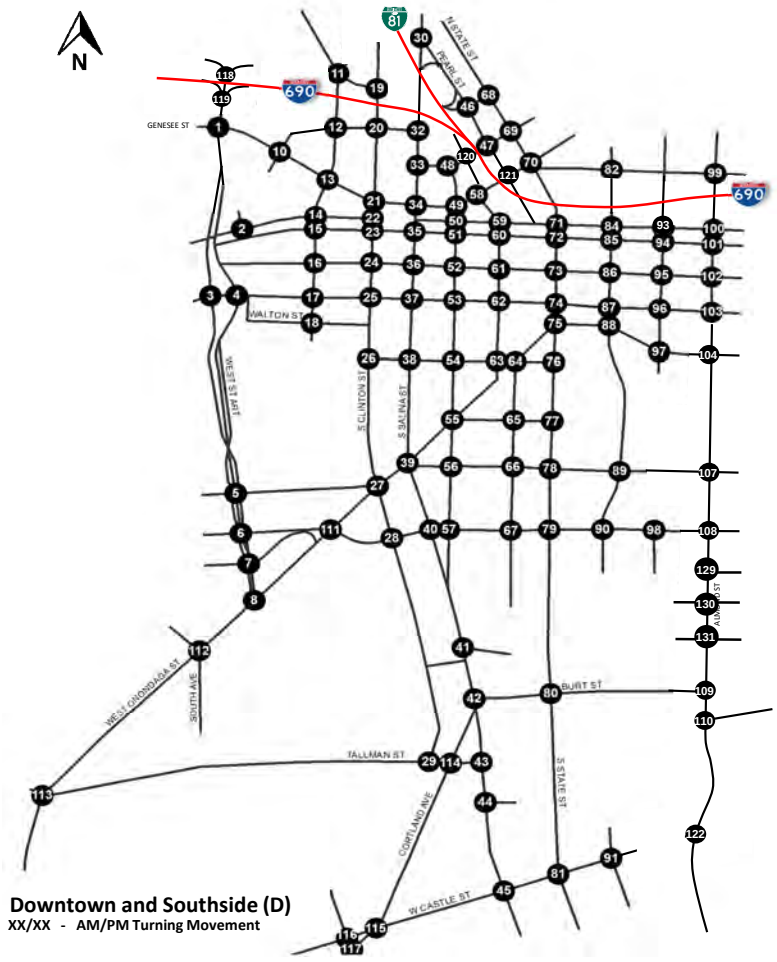
91 Oakwood Av & E. MLK Jr Dr



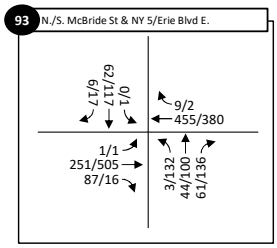
92 N. McBride St & EB I-690 Onramp

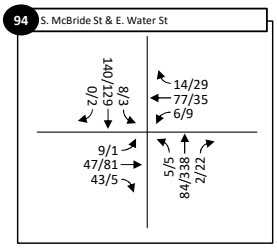
Removed Under CG

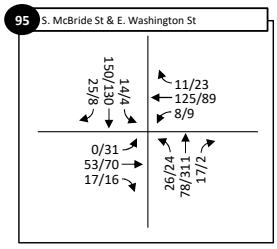
2026 CG

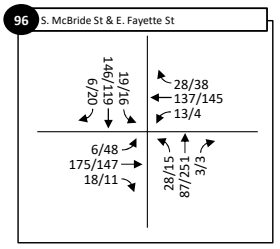


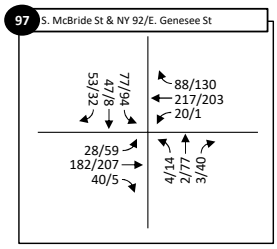
Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

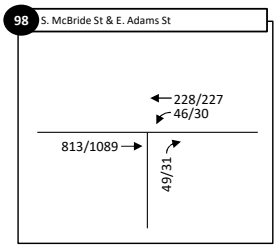


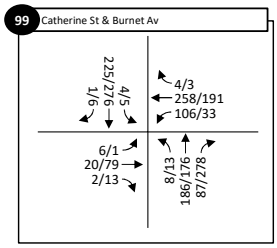


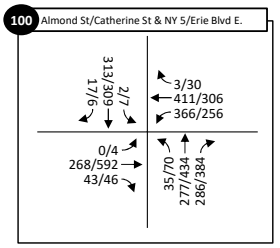


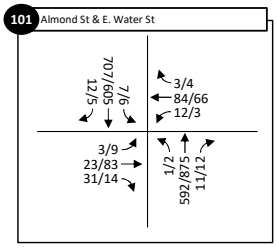


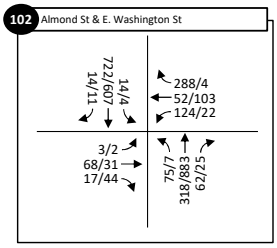


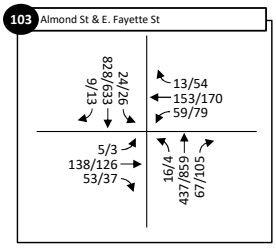


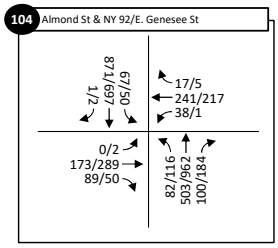


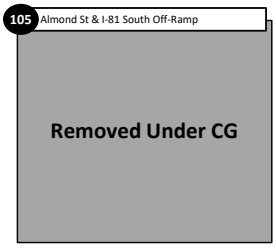


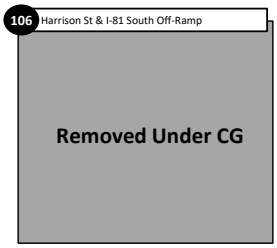


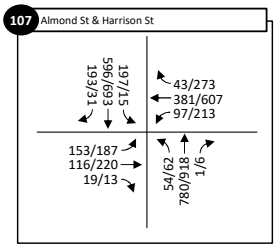


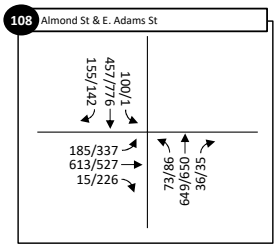


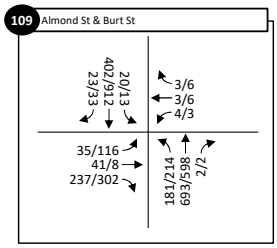


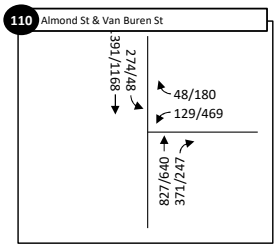


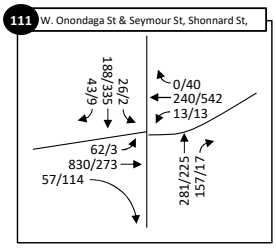


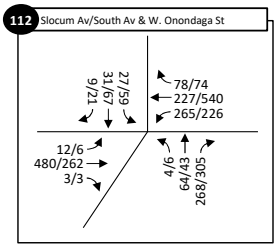


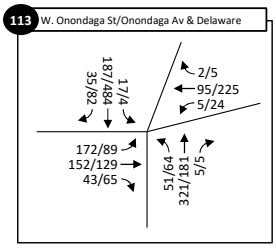


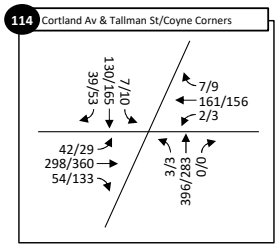


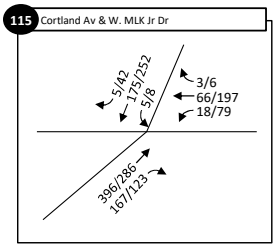




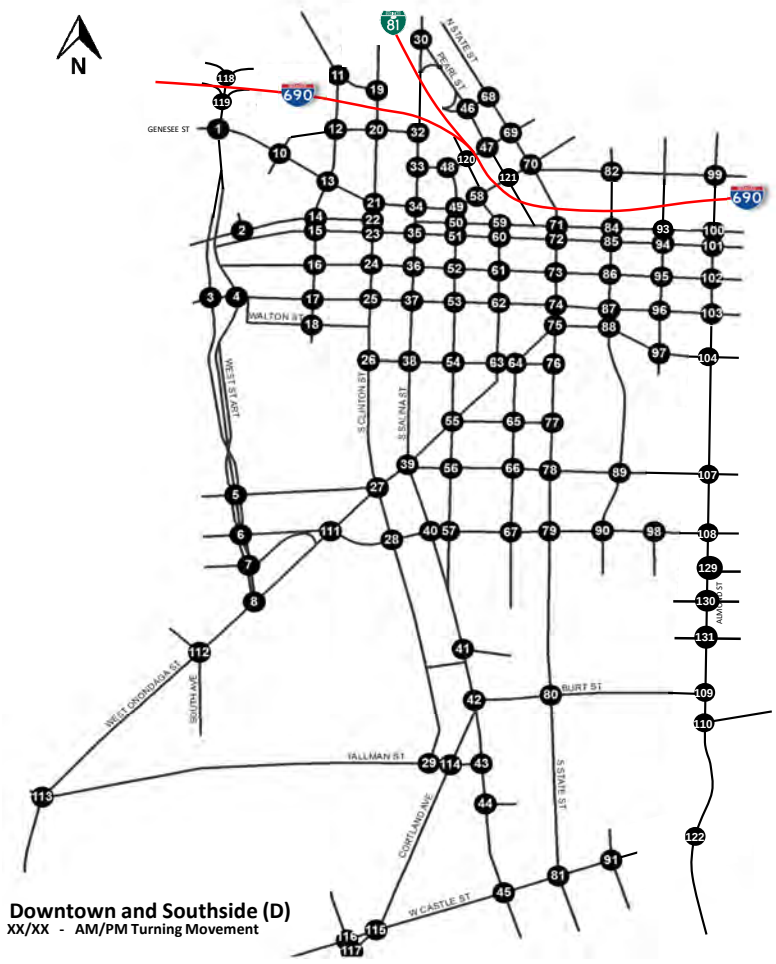




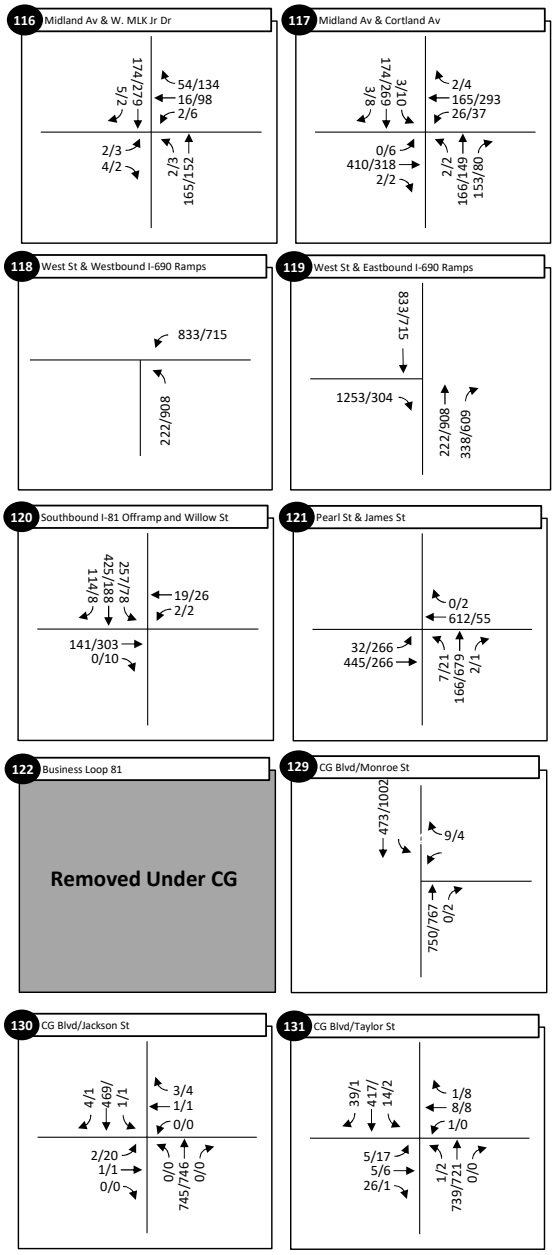




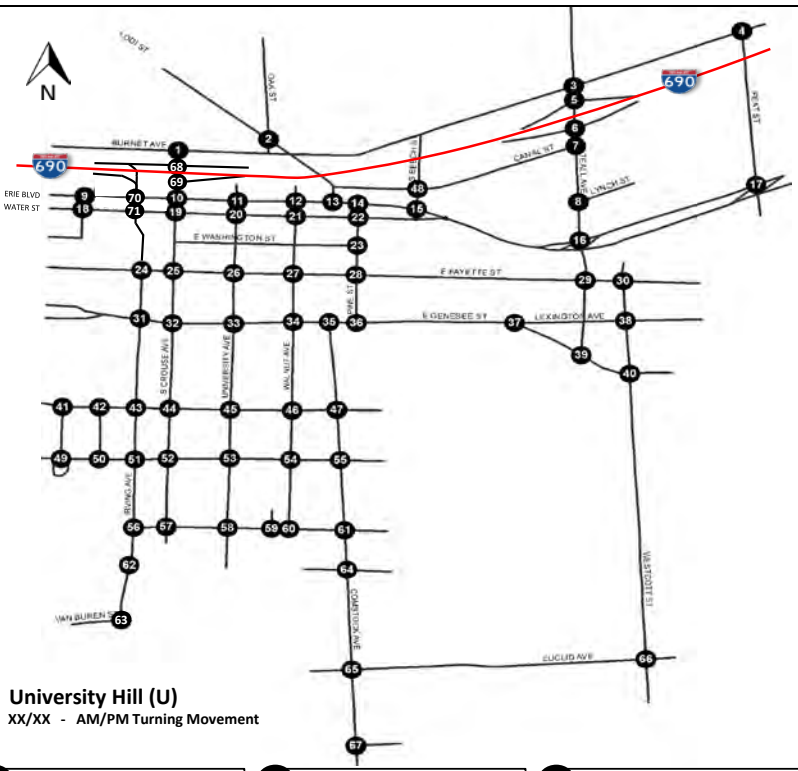
2026 CG



Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

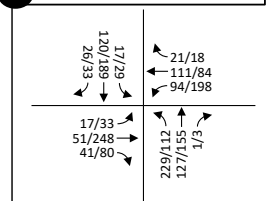


2026 CG

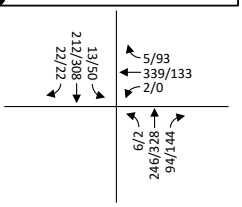


University Hill (U)
XX/XX - AM/PM Turning Movement

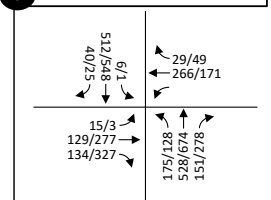
1 N. Crouse Av & Burnet Av



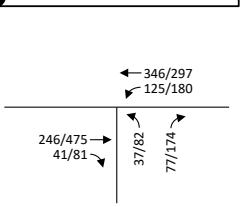
2 Lodi St & Oak St



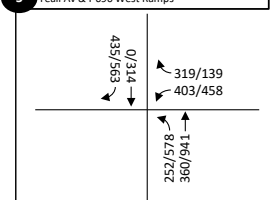
3 Teall Av & Burnet Av



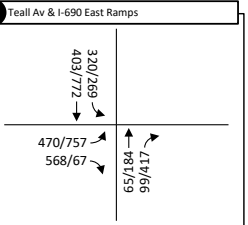
4 Westmoreland Av & Burnet Av



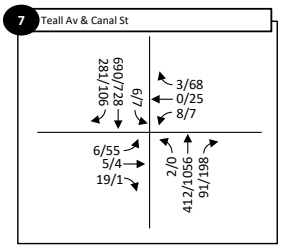
5 Teall Av & I-690 West Ramps



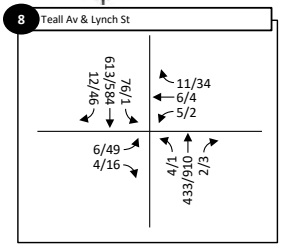
6 Teall Av & I-690 East Ramps



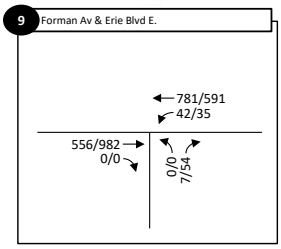
7 Teall Av & Canal St



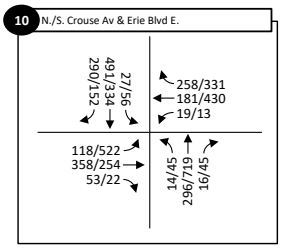
8 Teall Av & Lynch St



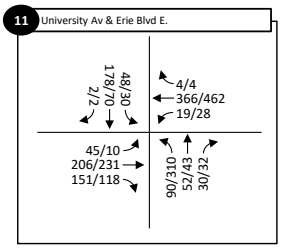
9 Forman Av & Erie Blvd E.



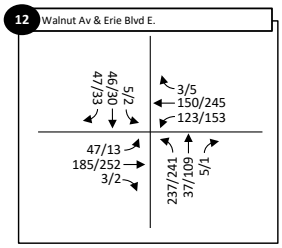
10 N./S. Crouse Av & Erie Blvd E.



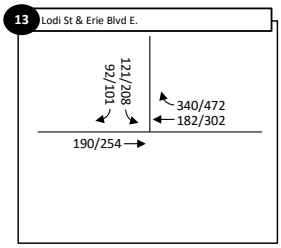
11 University Av & Erie Blvd E.



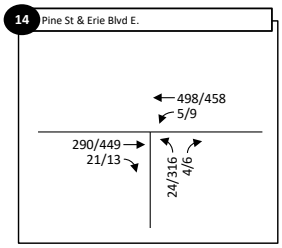
12 Walnut Av & Erie Blvd E.



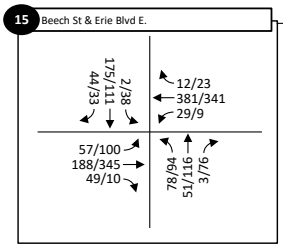
13 Lodi St & Erie Blvd E.



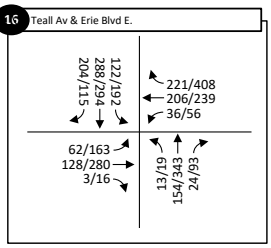
14 Pine St & Erie Blvd E.



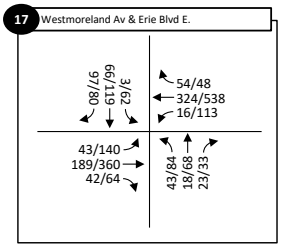
15 Beech St & Erie Blvd E.



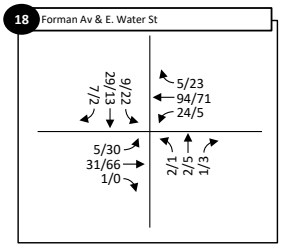
16 Teall Av & Erie Blvd E.



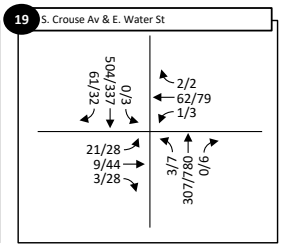
17 Westmoreland Av & Erie Blvd E.



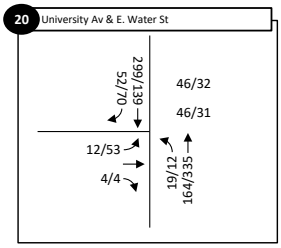
18 Forman Av & E. Water St



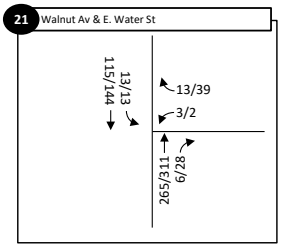
19 S. Crouse Av & E. Water St



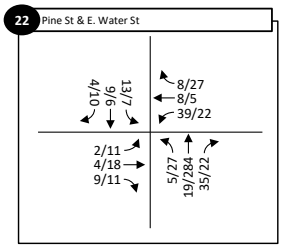
20 University Av & E. Water St



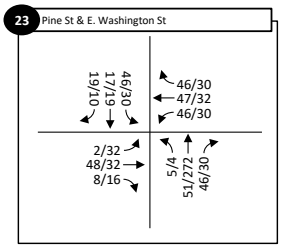
21 Walnut Av & E. Water St



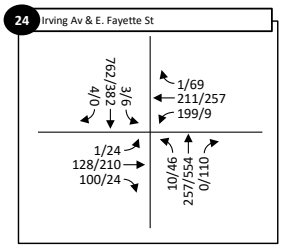
22 Pine St & E. Water St



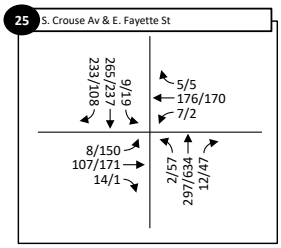
23 Pine St & E. Washington St



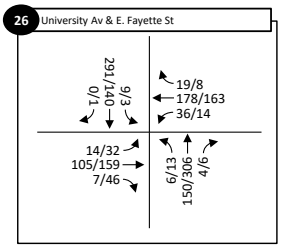
24 Irving Av & E. Fayette St



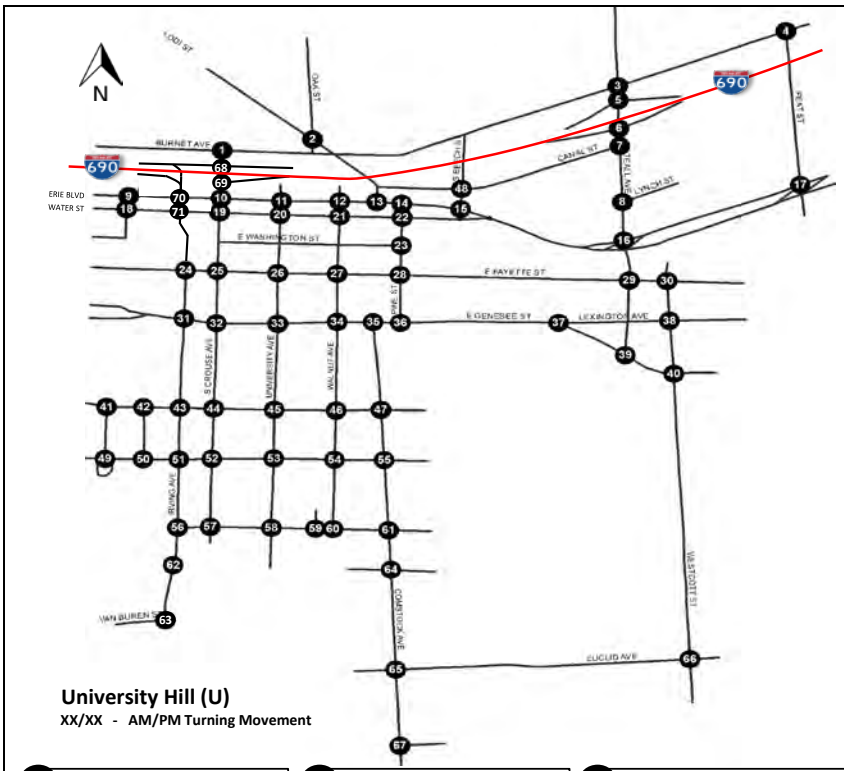
25 S. Crouse Av & E. Fayette St



26 University Av & E. Fayette St



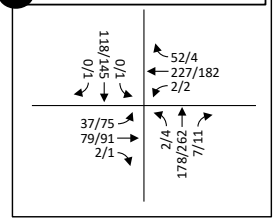
2026 CG



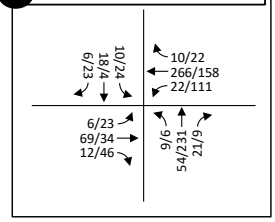
University Hill (U)

XX/XX - AM/PM Turning Movement

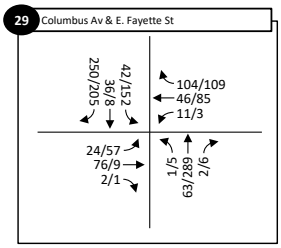
27 Walnut Av & E. Fayette St



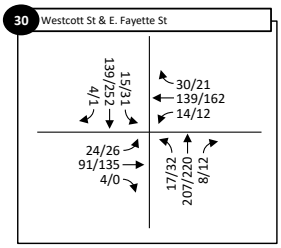
28 Pine St & E. Fayette St



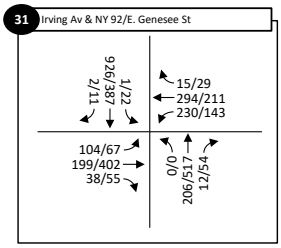
29 Columbus Av & E. Fayette St



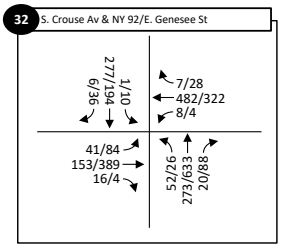
30 Westcott St & E. Fayette St



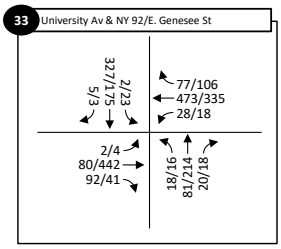
31 Irving Av & NY 92/E. Genesee St



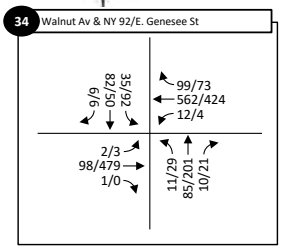
32 S. Crouse Av & NY 92/E. Genesee St



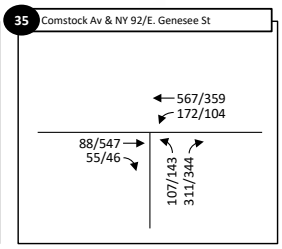
33 University Av & NY 92/E. Genesee St



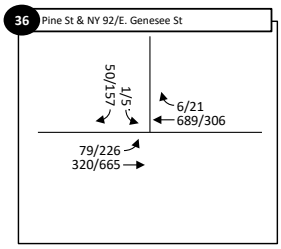
34 Walnut Av & NY 92/E. Genesee St



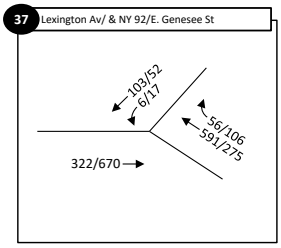
35 Comstock Av & NY 92/E. Genesee St



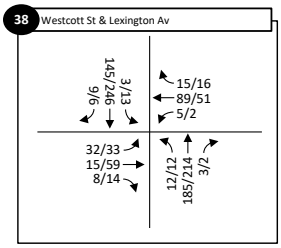
36 Pine St & NY 92/E. Genesee St



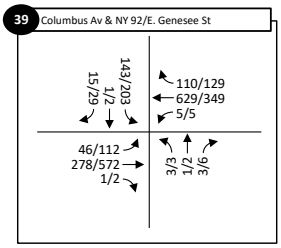
37 Lexington Av/ & NY 92/E. Genesee St



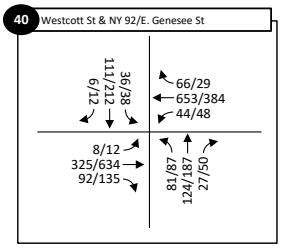
38 Westcott St & Lexington Av



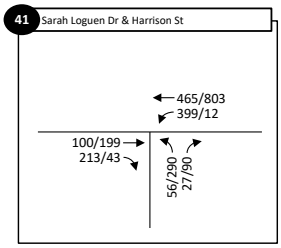
39 Columbus Av & NY 92/E. Genesee St



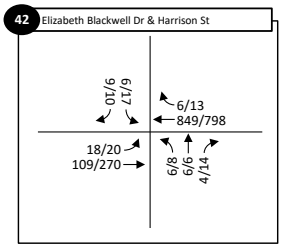
40 Westcott St & NY 92/E. Genesee St



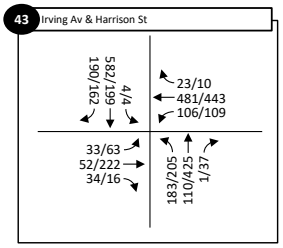
41 Sarah Loguen Dr & Harrison St



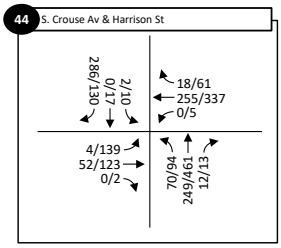
42 Elizabeth Blackwell Dr & Harrison St



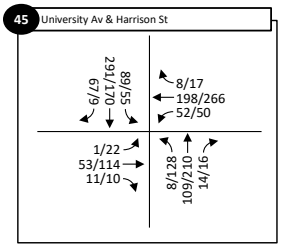
43 Irving Av & Harrison St



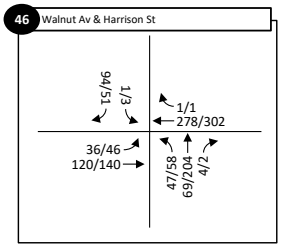
44 S. Crouse Av & Harrison St



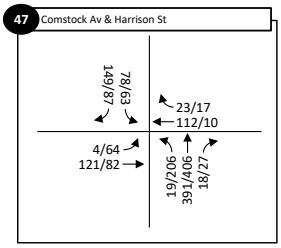
45 University Av & Harrison St



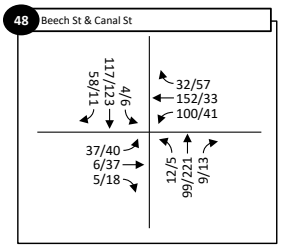
46 Walnut Av & Harrison St



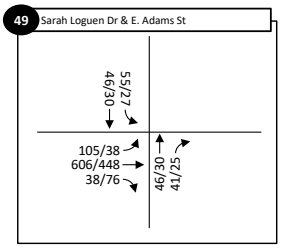
47 Comstock Av & Harrison St



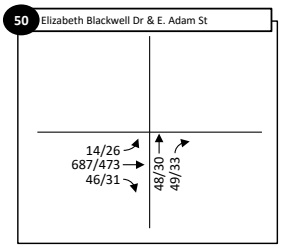
48 Beech St & Canal St



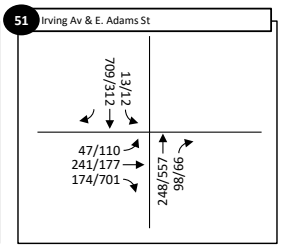
49 Sarah Loguen Dr & E. Adams St



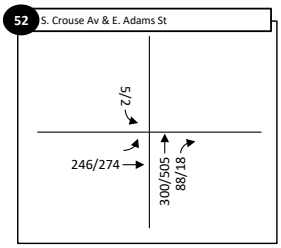
50 Elizabeth Blackwell Dr & E. Adam St

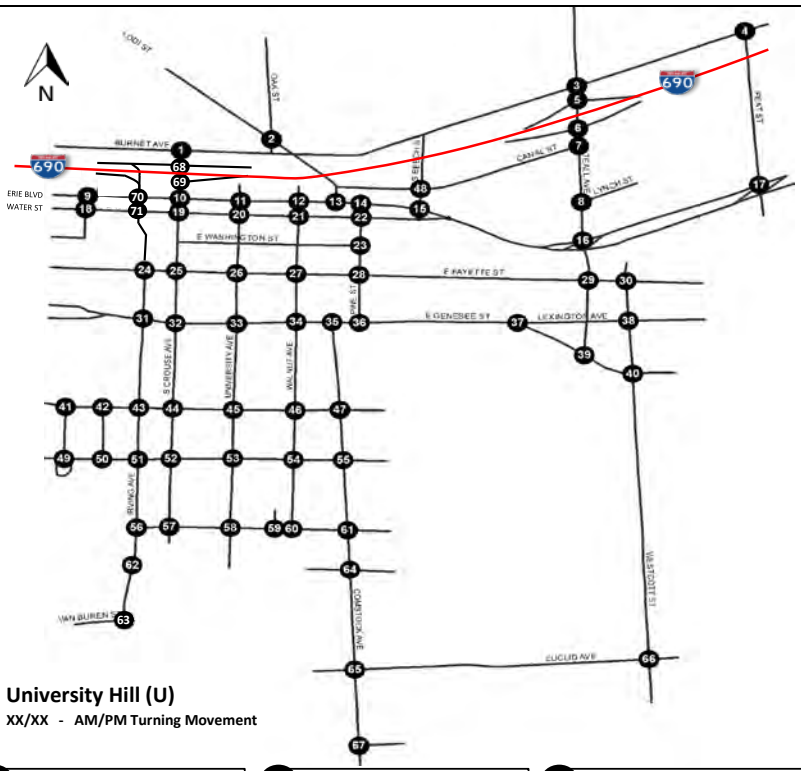


51 Irving Av & E. Adams St



52 S. Crouse Av & E. Adams St

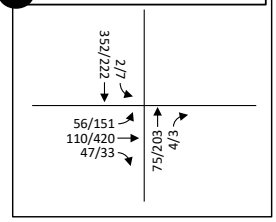




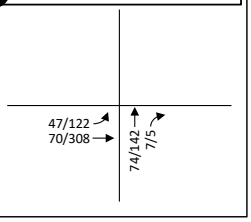
University Hill (U)

XX/XX - AM/PM Turning Movement

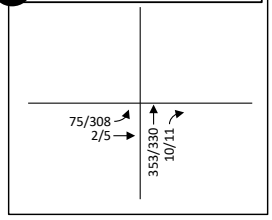
53 University Av & E. Adams St



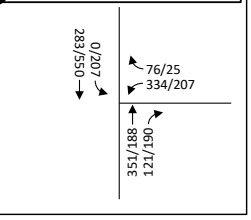
54 Walnut Av & E. Adams St



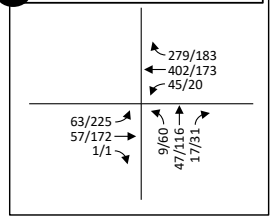
55 Comstock Av & E. Adams St



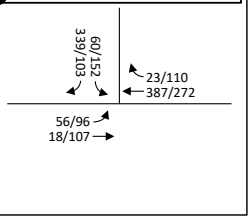
56 Irving Av & Waverly Av



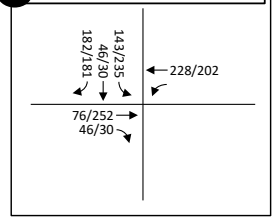
57 S. Crouse Av & Waverly Av



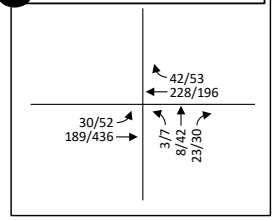
58 University Av & Waverly Av



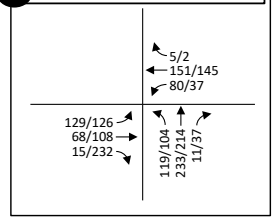
59 Walnut Pl & Waverly Av



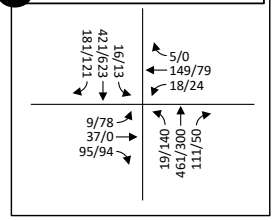
60 Walnut Av & Waverly Av



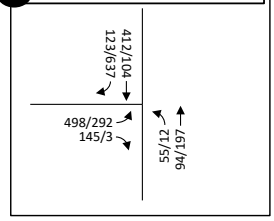
61 Comstock Av & Waverly Av



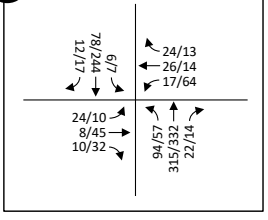
62 Irving Av & University Pl



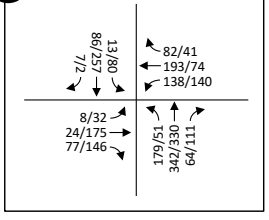
63 Irving Av & Van Buren St



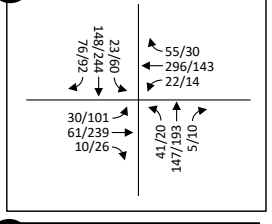
64 Comstock Av & University Pl



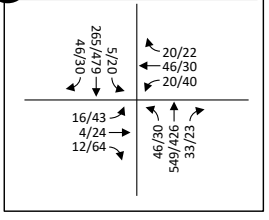
65 Comstock Av & Euclid Av



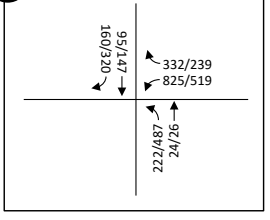
66 Westcott St & Euclid Av



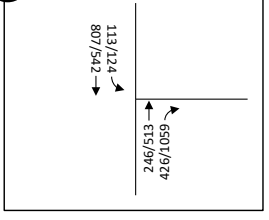
67 Comstock Av & Stratford St



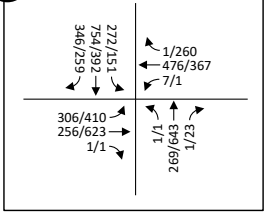
68 Crouse Av & Westbound I-690



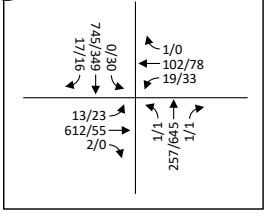
69 Crouse Av & Eastbound I-690



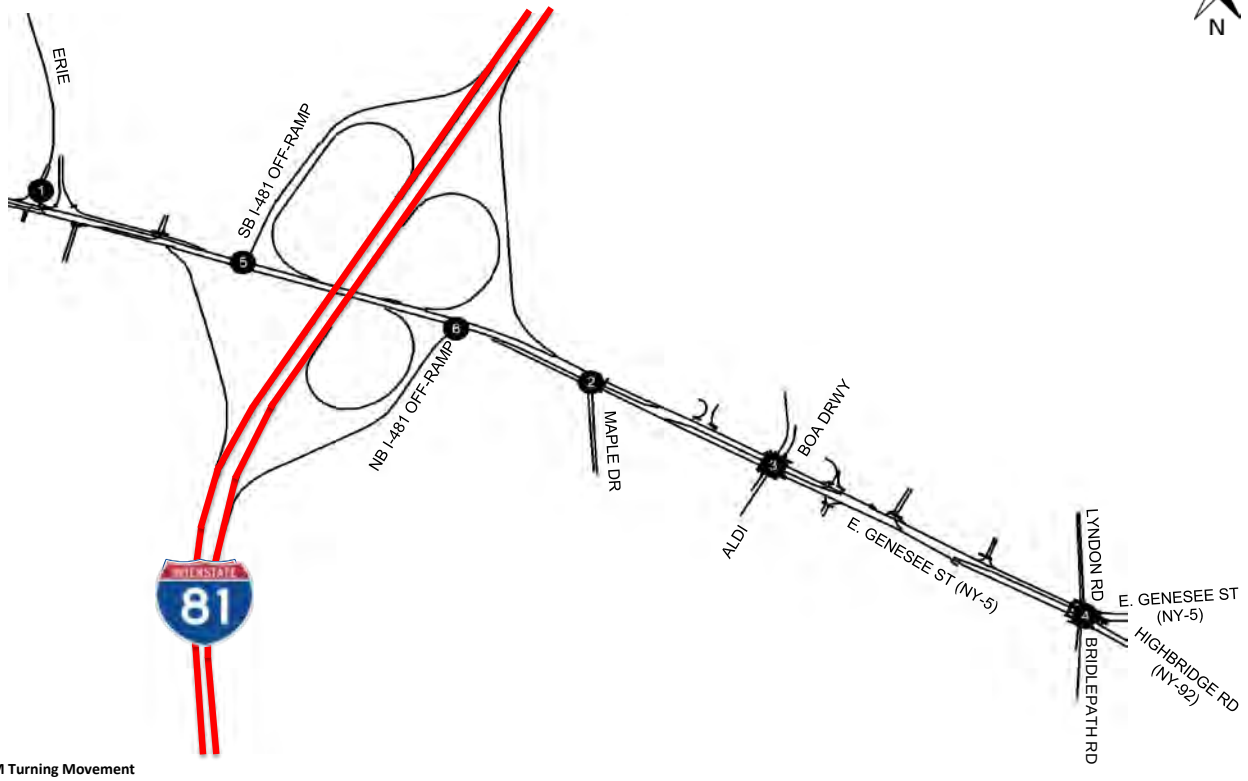
70 Irving Av & Erie Blvd



71 Irving Av & Water St

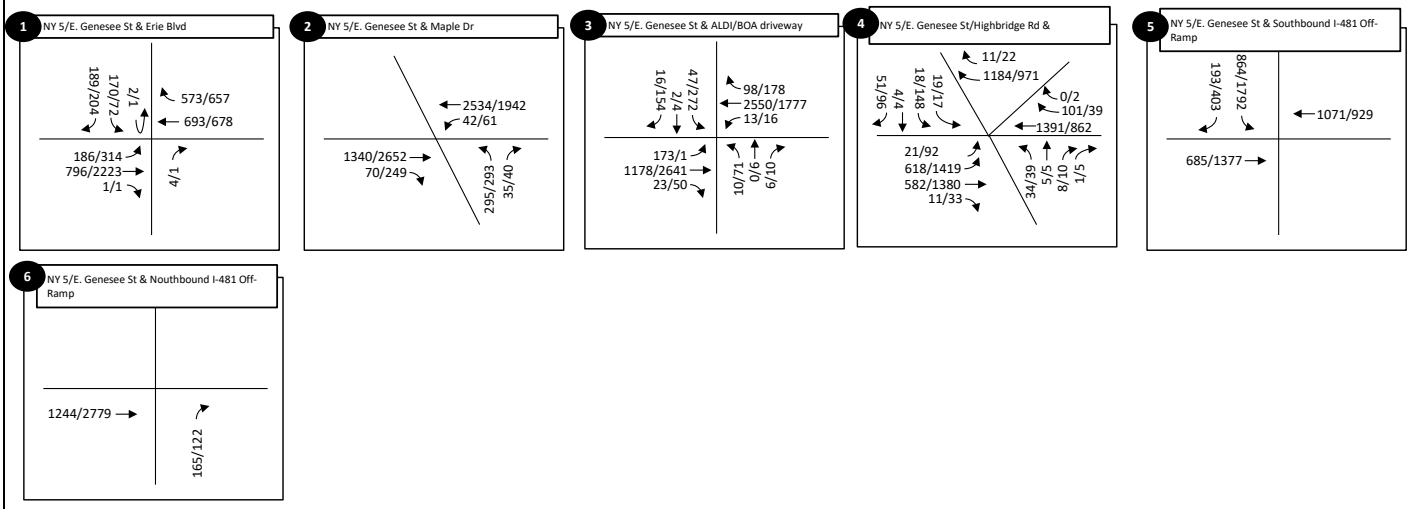


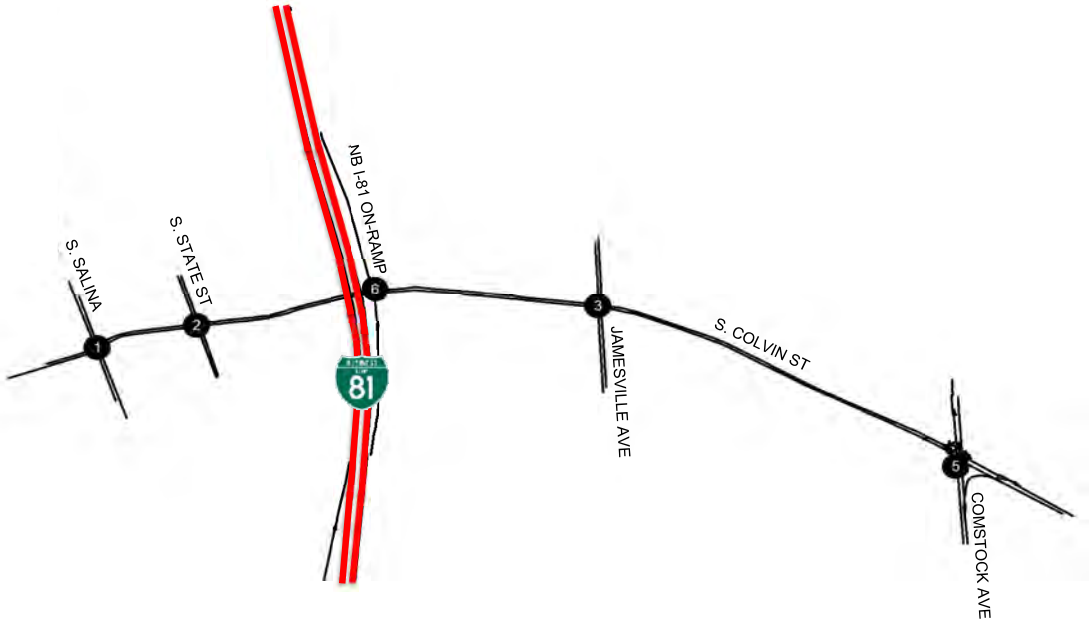
2026 CG



Dewitt

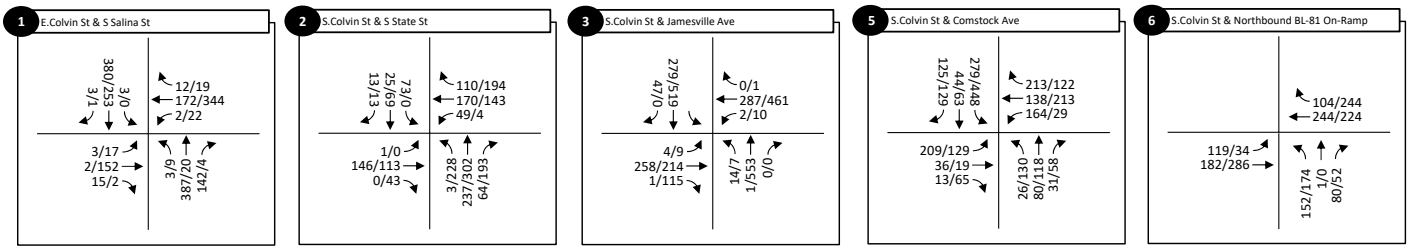
XX/XX - AM/PM Turning Movement





Comstock

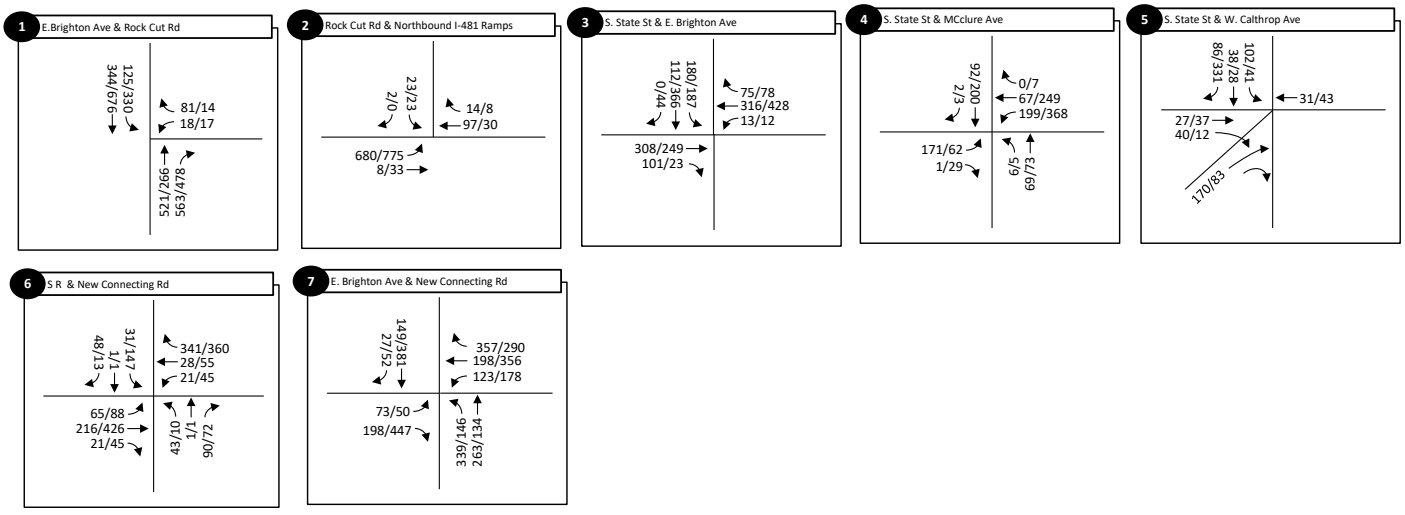
XX/XX - AM/PM Turning Movement



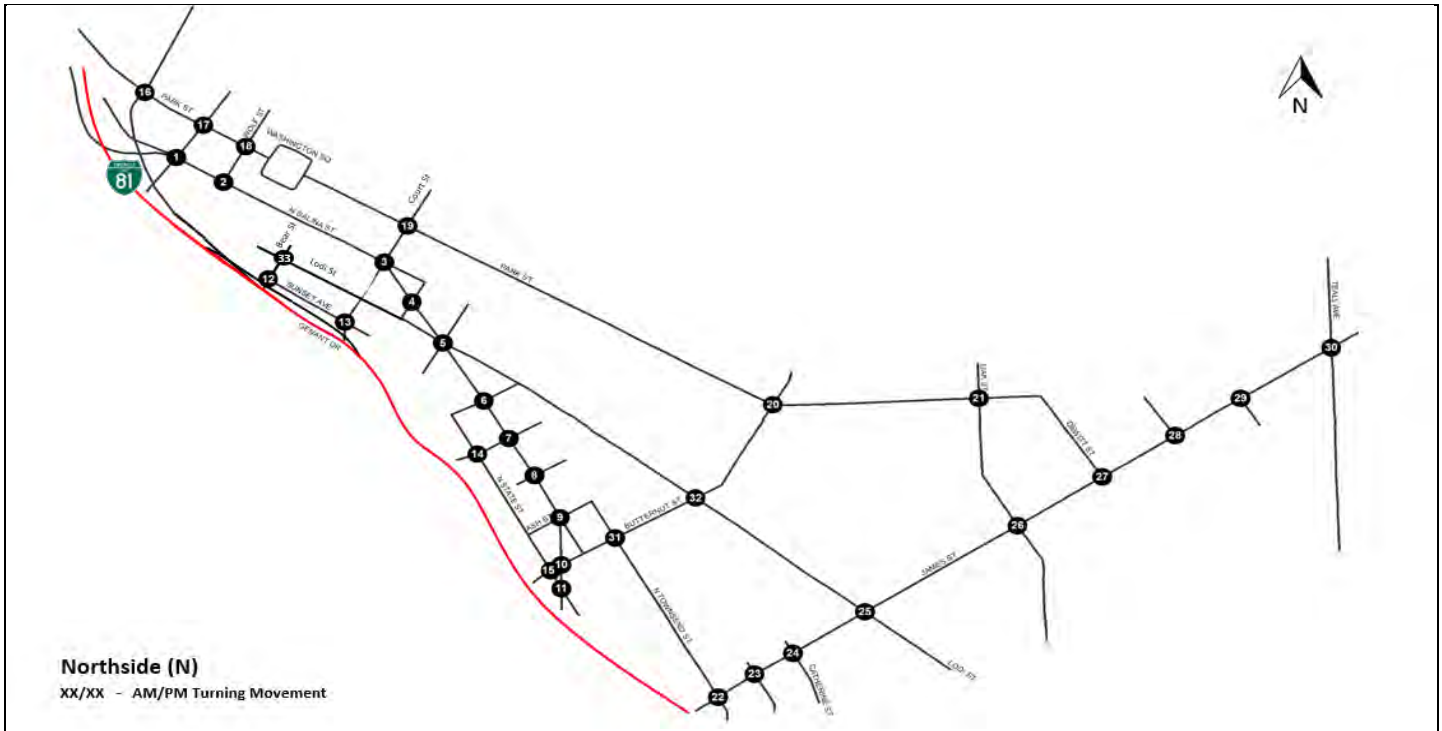
2026 CG

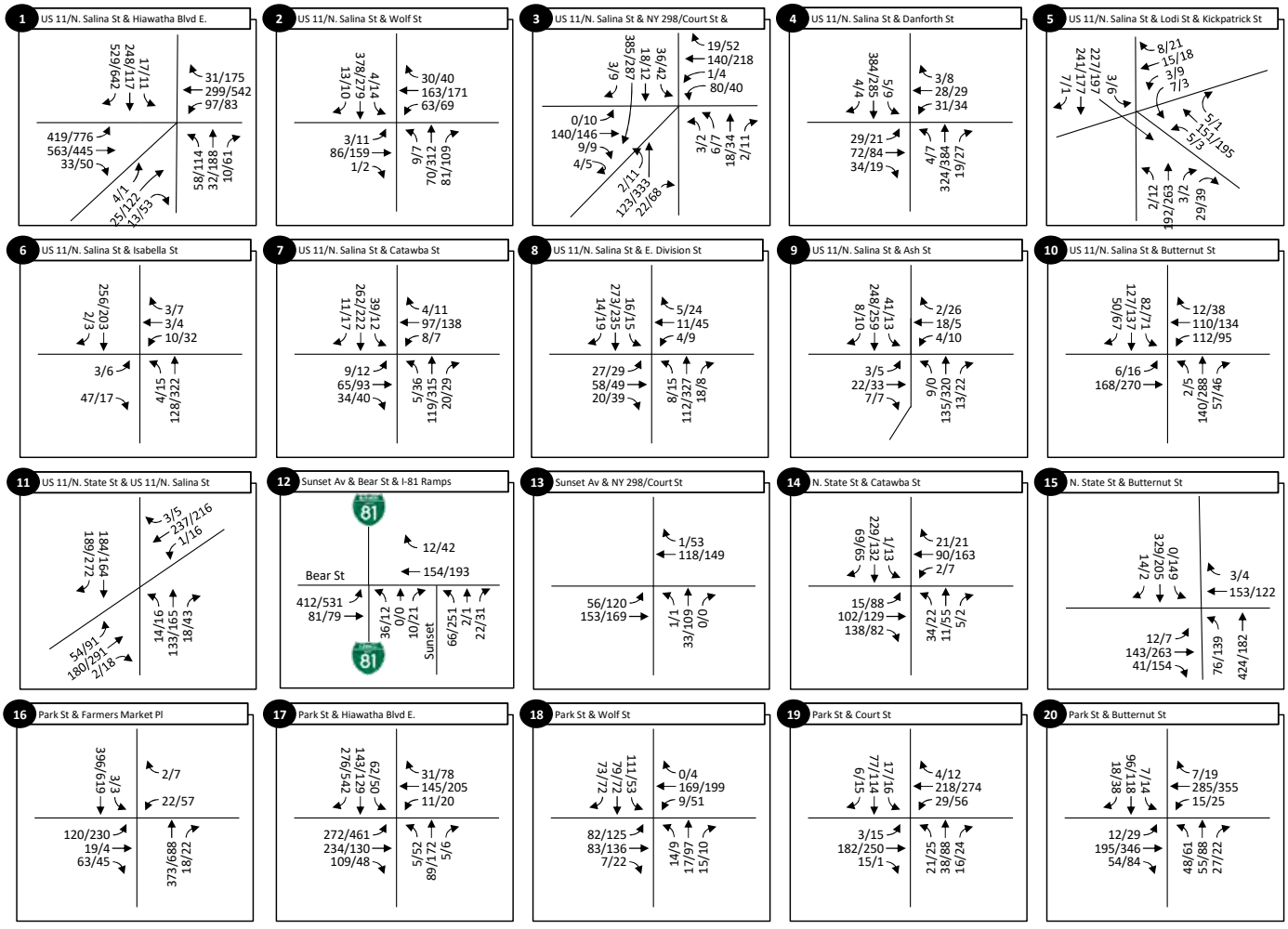
Valley

XX/XX - AM/PM Turning Movement

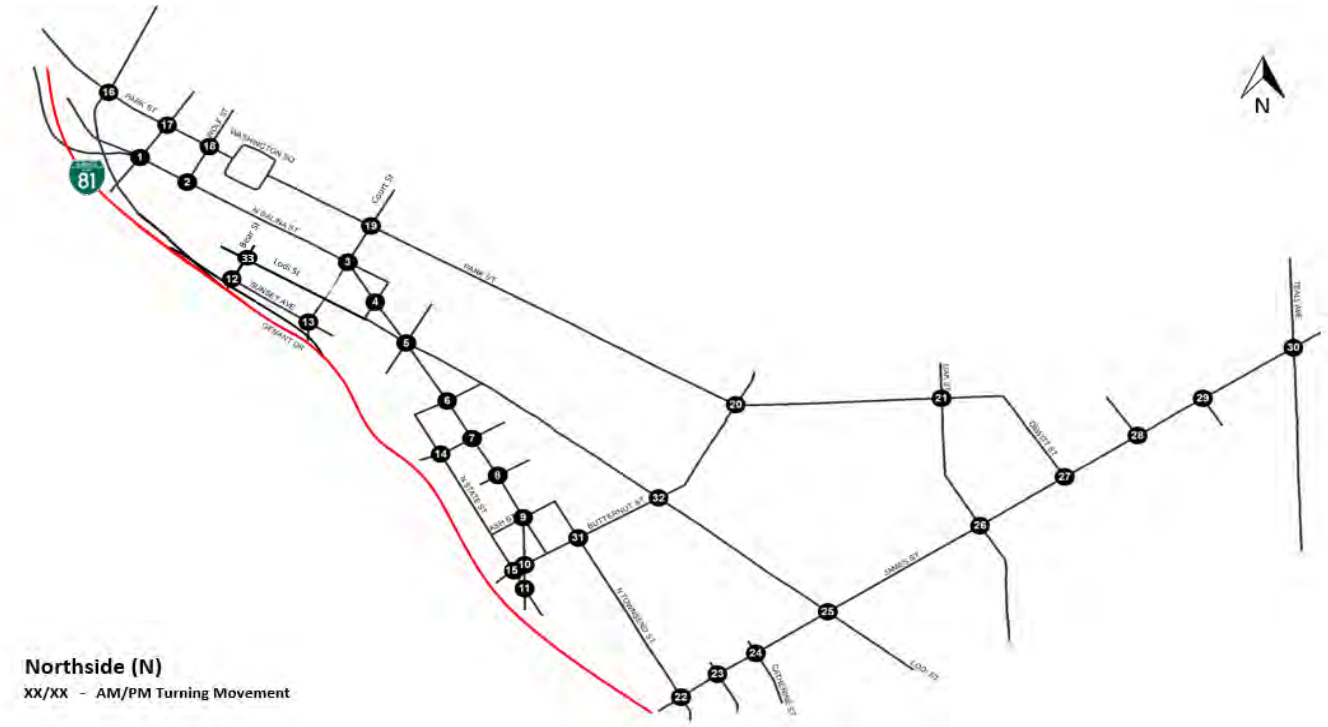


2056 CG


N
Northside (N)
XX/XX - AM/PM Turning Movement


1 US 11/N. Salina St & Hiawatha Blvd E.
529/642 248/117 17/11
31/175 299/542 97/83
419/776 563/445 33/50
4/1 25/122 23/53
58/114 32/188 10/61
2 US 11/N. Salina St & Wolf St
378/279 13/10 4/14
30/40 163/171 63/69
3/11 86/159 1/2
9/7 70/312 81/109
3 US 11/N. Salina St & NY 298/Court St &
385/287 3/9 18/12 36/42
19/52 140/218 1/4 80/40
0/10 140/146 9/9 4/5
2/11 123/333 22/68
3/2 6/7 18/34 2/11
4 US 11/N. Salina St & Danforth St
384/285 4/4 5/9
3/8 28/29 31/34
29/21 72/84 34/19
4/7 324/384 19/27
5 US 11/N. Salina St & Lodi St & Kickpatrick St
227/197 241/177 7/1 3/6
8/21 15/18 3/9 7/3 5/1 151/195 5/3
2/12 192/263 3/2 29/39
6 US 11/N. Salina St & Isabella St
256/203 2/3
3/7 3/4 10/32
3/6 47/17
4/15 128/322
7 US 11/N. Salina St & Catawba St
262/222 11/17 39/12
4/11 97/138 8/7
9/12 65/93 34/40
5/36 119/315 20/29
8 US 11/N. Salina St & E. Division St
273/235 14/19 16/15
5/24 11/45 4/9
27/29 58/49 20/39
8/15 112/327 18/8
9 US 11/N. Salina St & Ash St
248/259 8/10 41/13
2/26 18/5 4/10
3/5 22/33 7/7
9/0 135/320 13/22
10 US 11/N. Salina St & Butternut St
127/137 50/67 82/71
12/38 110/134 112/95
6/16 168/270
2/5 140/288 57/46
11 US 11/N. State St & US 11/N. Salina St
184/164 189/272
3/5 237/216 1/16
54/91 180/291 2/18
14/16 133/165 18/43
12 Sunset Av & Bear St & I-81 Ramps
12/42 154/193
Bear St
412/531 81/79
36/12 0/0 10/21
66/251 2/1 22/31
Sunset
13 Sunset Av & NY 298/Court St
1/53 118/149
56/120 153/169
1/1 33/109 0/0
14 N. State St & Catawba St
229/132 69/65 1/13
21/21 90/163 2/7
15/88 102/129 138/82
34/22 11/55 5/2
15 N. State St & Butternut St
329/205 14/2 0/149
3/4 153/122
12/7 143/263 41/154
76/139 424/182
16 Park St & Farmers Market Pl
396/619 3/3
2/7 22/57
120/230 19/4 63/45
373/688 18/22
17 Park St & Hiawatha Blvd E.
276/542 143/129 62/50
31/78 145/205 11/20
272/461 234/130 109/48
5/52 89/172 5/6
18 Park St & Wolf St
73/72 79/72 111/53
0/4 169/199 9/51
82/125 83/136 7/22
14/9 17/97 15/10
19 Park St & Court St
6/15 77/114 17/16
4/12 218/274 29/56
3/15 182/250 15/1
21/25 38/88 16/24
20 Park St & Butternut St
18/38 96/118 7/14
7/19 285/355 15/25
12/29 195/346 54/84
48/61 55/88 27/22

2056 CG



21 Park St & Oak St

33/77	10/19	25/26
121/130		281/150
		9/16
39/63	42/63	
77/221	66/83	
21/29	14/27	

22 N. Townsend St & James St

3/21	15/35	28/37
243/252		448/701
		117/66
17/11	90/113	
539/548	74/203	
39/26	25/80	

23 N. McBride St & James St

7/57	4/83	33/21
11/48		578/738
		1/12
57/52	7/9	
505/601	49/64	
16/10	3/5	

24 Catherine St & James St

17/40	1/10	27/14
133/155		571/595
		146/68
24/22	25/137	
437/644	72/221	
52/23	18/52	

25 Lodi St & James St

15/21	39/27	39/36
253/333		683/607
		6/9
1/13	45/48	
445/621	210/357	
9/72	20/47	

26 Oak St & James St

102/90	26/40	24/50
228/159		603/525
		34/22
48/124	24/37	
346/515	65/139	
109/55	20/35	

27 Dewitt St & James St

37/32	111/140	107/116
	3/3	619/551
		2/2
14/55	5/15	
369/527	6/6	
10/8	2/4	

28 Sedgwick Dr & James St

48/96	69/84	102/84
		679/632
77/41		
404/630		

29 Wilson St & James St

		770/706
		14/12
457/705	11/11	
17/8	23/18	

30 Teall Av & James St

126/127	349/402	9/12
	0/0	506/446
		107/175
59/120	152/145	
294/487	309/435	
126/116	127/180	

31 Townsend St & Butternut St

6/15	11/34	6/22
78/89		177/179
		76/124
18/6	52/74	
182/285	40/77	
108/97	26/99	

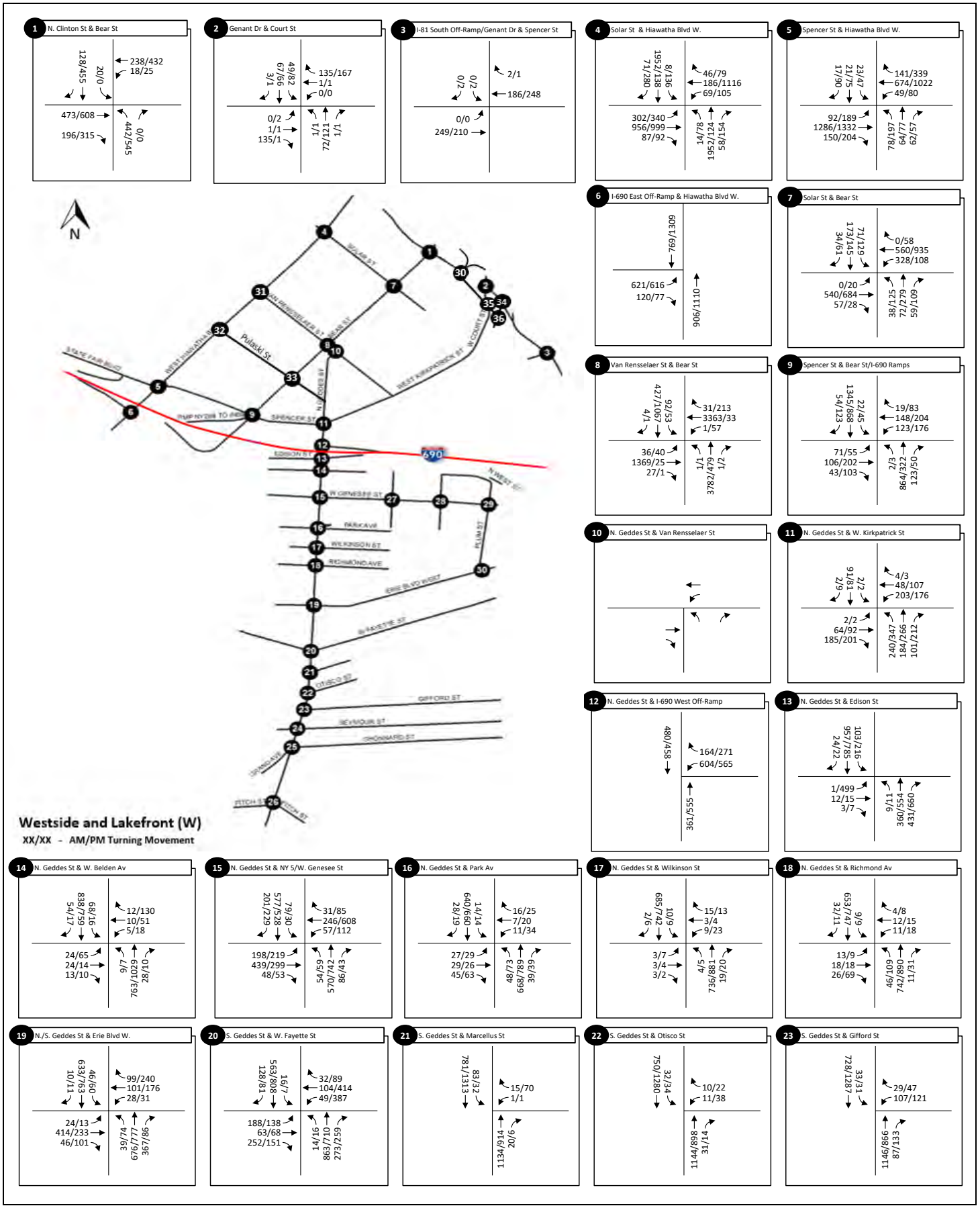
32 Lodi St & Butternut St

16/18	40/47	52/59
208/173		215/259
		84/136
33/41	28/47	
171/305	173/254	
16/72	50/105	

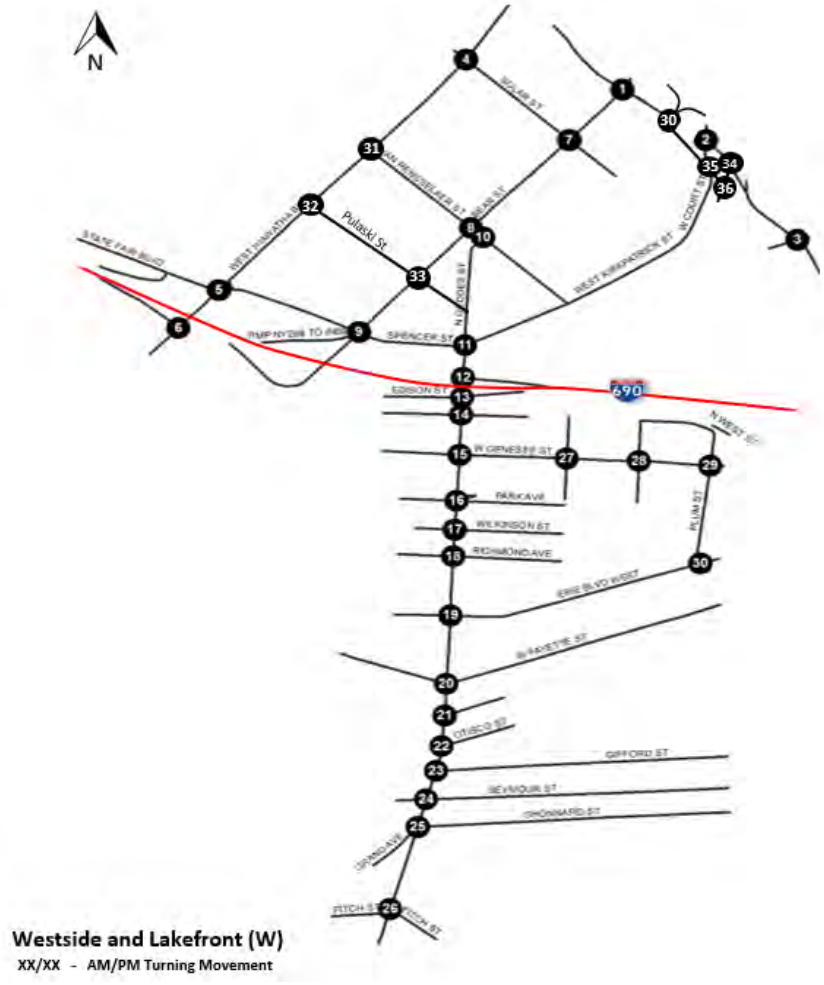
33 Lodi St & Bear St

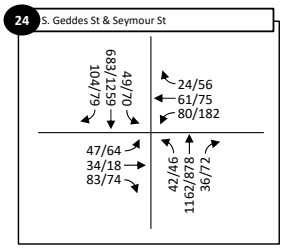
34/55	10/12	8/7
		10/13
		130/178
		4/8
14/13	3/1	
81/96	5/2	
17/21	1/0	

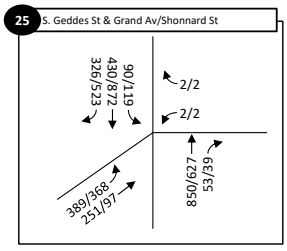
2056 CG

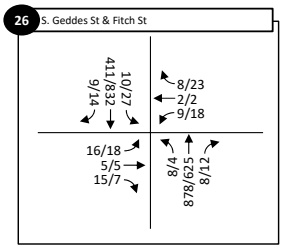

1 N. Clinton St & Bear St
128/455
20/0
238/432
18/25
473/608
196/315
44/545
0/0
2 Genant Dr & Court St
49/82
67/66
3/1
135/167
1/1
0/0
0/2
1/1
135/1
1/1
72/121
1/1
3 I-81 South Off-Ramp/Genant Dr & Spencer St
0/2
0/2
2/1
186/248
0/0
249/210
4 Solar St & Hiawatha Blvd W.
8/136
195/138
71/280
46/79
186/1116
69/105
302/340
956/999
87/92
14/78
1952/124
58/154
5 Spencer St & Hiawatha Blvd W.
23/47
21/75
17/90
141/339
674/1022
49/80
92/189
1286/1332
150/204
78/197
64/77
62/57
6 I-690 East Off-Ramp & Hiawatha Blvd W.
769/1309
621/616
120/77
906/1110
7 Solar St & Bear St
71/129
173/145
34/61
0/58
560/935
328/108
0/20
540/684
57/28
38/125
72/279
59/109
8 Van Rensselaer St & Bear St
92/53
427/1067
4/1
31/213
3363/33
1/57
36/40
1369/25
27/1
1/1
3782/479
1/2
9 Spencer St & Bear St/I-690 Ramps
22/45
1345/868
54/123
19/83
148/204
123/176
71/55
106/202
43/103
2/3
864/322
123/50
10 N. Geddes St & Van Rensselaer St
11 N. Geddes St & W. Kirkpatrick St
2/2
91/81
2/9
4/3
48/107
203/176
2/2
64/92
185/201
240/347
184/266
101/212
12 N. Geddes St & I-690 West Off-Ramp
480/458
164/271
604/565
361/555
13 N. Geddes St & Edison St
103/216
957/785
24/22
1/499
12/15
3/7
9/11
360/554
431/660
14 N. Geddes St & W. Belden Av
68/16
838/759
54/17
12/130
10/51
5/18
24/65
24/14
13/10
9/7
763/1029
28/10
15 N. Geddes St & NY 5/W. Genesee St
79/30
577/528
201/229
31/85
246/608
57/112
198/219
439/299
48/53
54/59
570/742
86/43
16 N. Geddes St & Park Av
14/14
640/660
28/19
16/25
7/20
11/34
27/29
29/26
45/63
48/73
668/789
39/39
17 N. Geddes St & Wilkinson St
10/9
685/742
2/6
15/13
3/4
9/23
3/7
3/4
3/2
4/5
736/881
19/20
18 N. Geddes St & Richmond Av
9/9
653/747
32/11
4/8
12/15
11/18
13/9
18/18
26/69
46/109
742/890
11/31
19 N./S. Geddes St & Erie Blvd W.
46/60
638/763
10/11
99/240
101/176
28/31
24/13
414/233
46/101
39/74
676/777
367/86
20 S. Geddes St & W. Fayette St
16/7
563/808
128/81
32/89
104/414
49/387
188/138
63/68
252/151
14/16
863/710
273/259
21 S. Geddes St & Marcellus St
83/32
781/1313
15/70
1/1
1134/914
20/6
22 S. Geddes St & Otisco St
32/34
750/1280
10/22
11/38
1144/898
31/14
23 S. Geddes St & Gifford St
33/31
728/1287
29/47
107/121
1146/866
87/133
N
Pulaski St
SOLAR ST
WEST JAMESVILLE ST
WEST ONONDAGA ST
NORTH CLINTON ST
SOUTH CLINTON ST
NORTH SALINA ST
WEST FAYETTE ST
SOUTH SALINA ST
WEST WASHINGTON ST
SPENCER ST
EDISON ST
690
W GENESEE ST
PARK AVE
WILKINSON ST
RICHMOND AVE
ERIE BLVD WEST
W RAYEVILLE ST
GIFFORD ST
BEVARQUA ST
IRONWARD ST
FITCH ST
Westside and Lakefront (W)
XX/XX - AM/PM Turning Movement

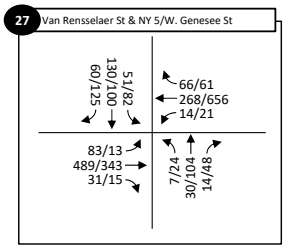
2056 CG

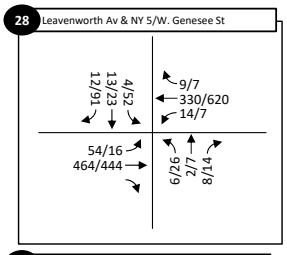

N
Pulaski St
SPENCER ST
PARK AVE
WILKINSON ST
RICHMOND AVE
ERIE BLVD WEST
W FAYETTE ST
GIFFORD ST
BEVIMOUR ST
SHONNARD ST
690
Westside and Lakefront (W)
XX/XX - AM/PM Turning Movement

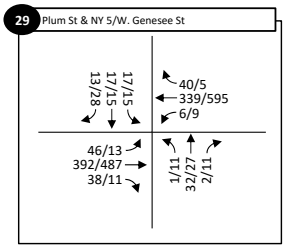

24
S. Geddes St & Seymour St
683/1259
104/79
49/70
24/56
61/75
80/182
47/64
34/18
83/74
42/46
1162/878
36/72

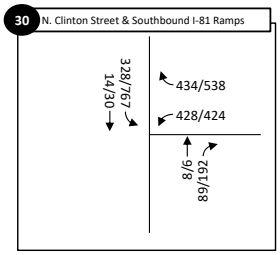

25
S. Geddes St & Grand Av/Shonnard St
326/523
430/872
90/119
2/2
2/2
389/368
251/97
850/627
53/39

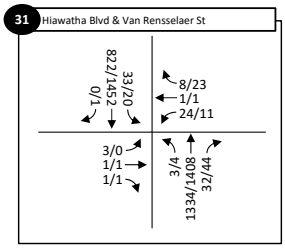

26
S. Geddes St & Fitch St
411/832
9/14
10/27
8/23
2/2
9/18
16/18
5/5
15/7
8/4
878/625
8/12

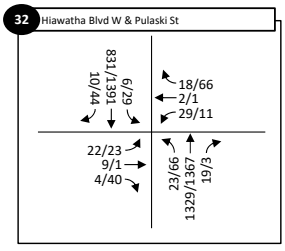

27
Van Rensselaer St & NY 5/W. Genesee St
130/100
60/125
51/82
66/61
268/656
14/21
83/13
489/343
31/15
7/24
30/104
14/48

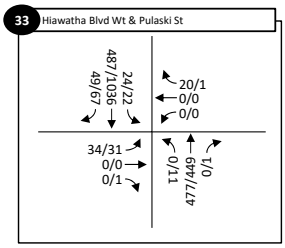

28
Leavenworth Av & NY 5/W. Genesee St
12/91
13/23
4/52
9/7
330/620
14/7
54/16
464/444
6/26
2/7
8/14

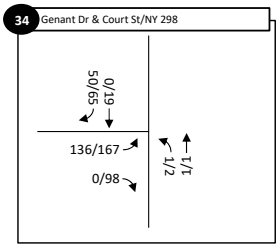

29
Plum St & NY 5/W. Genesee St
13/28
17/15
17/15
40/5
339/595
6/9
46/13
392/487
38/11
1/11
32/27
2/11

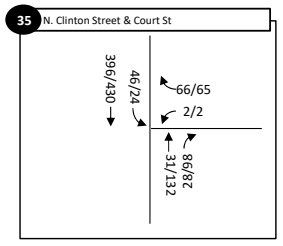

30
N. Clinton Street & Southbound I-81 Ramps
14/30
328/767
434/538
428/424
8/6
89/192

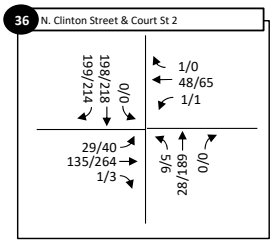

31
Hiawatha Blvd & Van Rensselaer St
822/1452
0/1
33/20
8/23
1/1
24/11
3/0
1/1
1/1
3/4
1334/1408
32/44


32
Hiawatha Blvd W & Pulaski St
831/1391
10/44
6/29
18/66
2/1
29/11
22/23
9/1
4/40
23/66
1329/1367
19/3

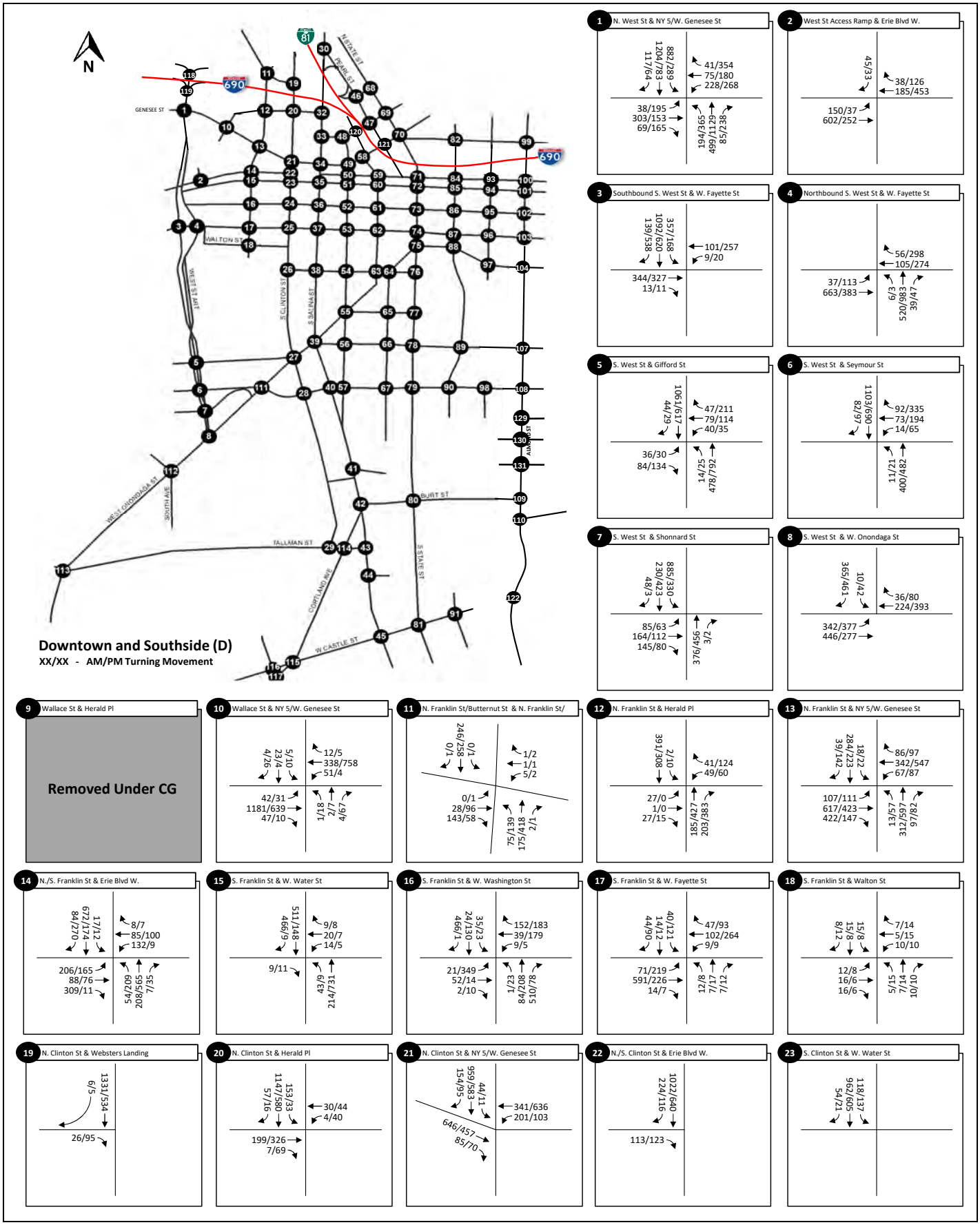

33
Hiawatha Blvd Wt & Pulaski St
487/1036
49/67
24/22
20/1
0/0
0/0
34/31
0/0
0/1
0/11
477/449
0/1


34
Genant Dr & Court St/NY 298
50/65
0/19
136/167
0/98
1/2
1/1

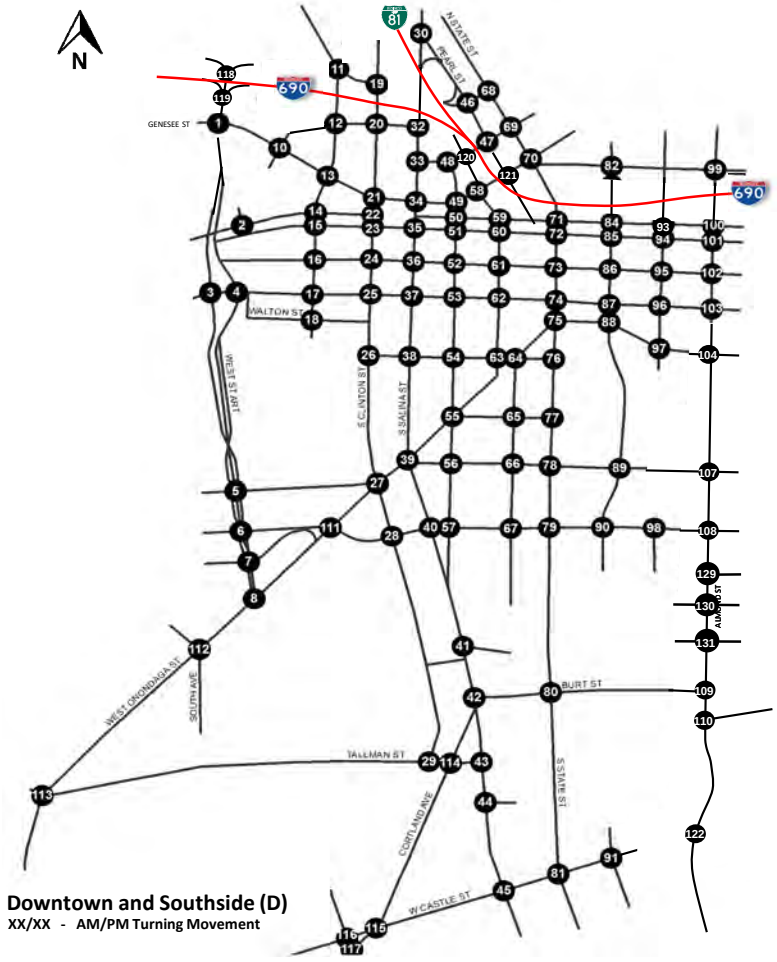

35
N. Clinton Street & Court St
396/430
46/24
66/65
2/2
98/82
31/132


36
N. Clinton Street & Court St 2
199/214
198/218
0/0
1/0
48/65
1/1
29/40
135/264
1/3
5/6
28/189
0/0

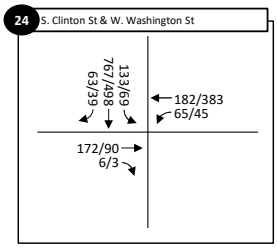
2056 CG

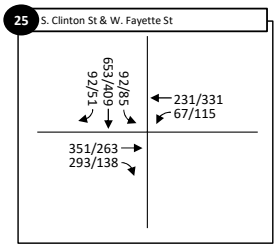

Downtown and Southside (D)
XX/XX - AM/PM Turning Movement
1 N. West St & NY 5/W. Genesee St
882/289
1204/783
11/764
41/354
75/180
228/268
38/195
303/153
69/165
194/365
499/1129
85/238
2 West St Access Ramp & Erie Blvd W.
45/33
38/126
185/453
150/37
602/252
3 Southbound S. West St & W. Fayette St
357/168
1092/620
139/538
101/257
9/20
344/327
13/11
4 Northbound S. West St & W. Fayette St
56/298
105/274
37/113
663/383
6/3
520/983
39/47
5 S. West St & Gifford St
1061/617
44/29
47/211
79/114
40/35
36/30
84/134
14/25
478/792
6 S. West St & Seymour St
1103/690
82/97
92/335
73/194
14/65
11/21
400/482
7 S. West St & Shonnard St
885/330
230/423
48/3
85/63
164/112
145/80
376/456
3/2
8 S. West St & W. Onondaga St
365/461
10/42
36/80
224/393
342/377
446/277
9 Wallace St & Herald Pl
Removed Under CG
10 Wallace St & NY 5/W. Genesee St
5/10
23/4
4/26
12/5
338/758
51/4
42/31
1181/639
47/10
1/18
2/7
4/67
11 N. Franklin St/Butternut St & N. Franklin St/
246/258
0/1
0/1
1/2
1/1
5/2
0/1
28/96
143/58
75/139
175/418
2/1
12 N. Franklin St & Herald Pl
2/10
391/308
41/124
49/60
27/0
1/0
27/15
185/427
203/383
13 N. Franklin St & NY 5/W. Genesee St
18/22
284/223
39/142
86/97
342/547
67/87
107/111
617/423
422/147
13/57
312/597
9/82
14 N./S. Franklin St & Erie Blvd W.
17/12
672/174
84/270
8/7
85/100
132/9
206/165
88/76
309/11
54/209
208/565
7/35
15 S. Franklin St & W. Water St
511/148
466/9
9/8
20/7
14/5
9/11
43/9
214/731
16 S. Franklin St & W. Washington St
35/23
24/130
466/1
152/183
39/179
9/5
21/349
52/14
2/10
1/23
84/208
510/78
17 S. Franklin St & W. Fayette St
40/121
14/12
44/90
47/93
102/264
9/9
71/219
591/226
14/7
12/8
7/17
7/12
18 S. Franklin St & Walton St
15/8
15/8
8/12
7/14
5/15
10/10
12/8
16/6
16/6
5/15
7/14
10/10
19 N. Clinton St & Websters Landing
1331/534
6/5
26/95
20 N. Clinton St & Herald Pl
153/33
1147/580
57/16
30/44
4/40
199/326
7/69
21 N. Clinton St & NY 5/W. Genesee St
959/583
154/95
44/11
341/636
201/103
646/457
85/70
22 N./S. Clinton St & Erie Blvd W.
1022/640
224/116
113/123
23 S. Clinton St & W. Water St
118/137
962/605
54/21
GENESEE ST
WALTON ST
WEST ST EXT
S CLINTON ST
S SALINA ST
S STATE ST
ALMOND ST
BURT ST
TALLMAN ST
W CASTLE ST
SOUTH AVE
W ONONDAGA ST
CORTLAND AVE
PEARL ST
690
81

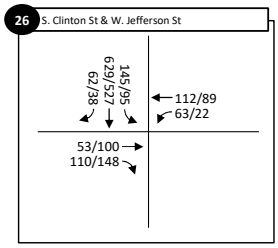
2056 CG

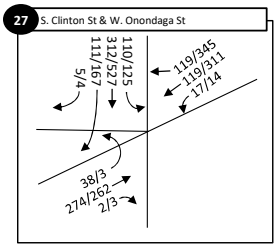


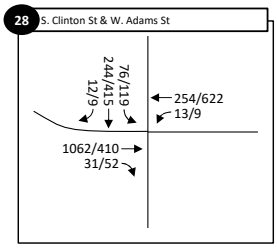
Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

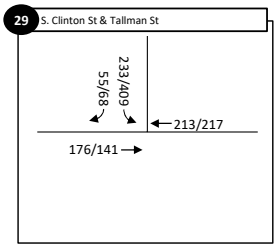


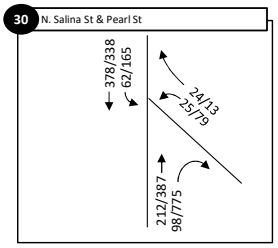


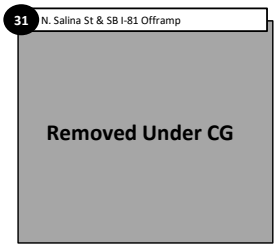


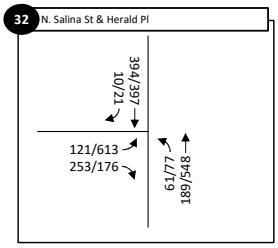


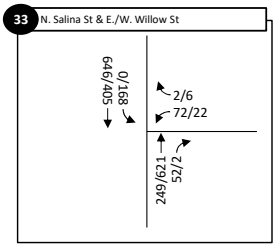


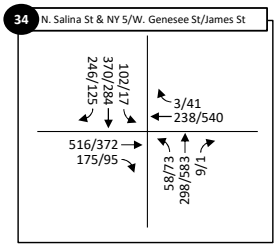


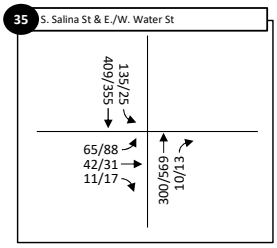


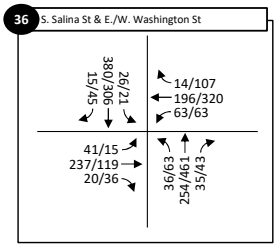


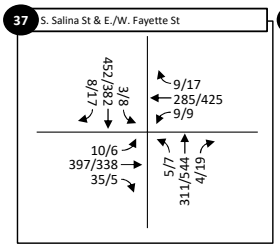


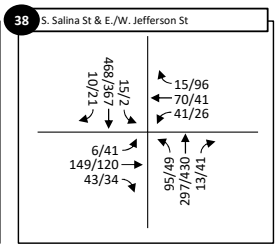


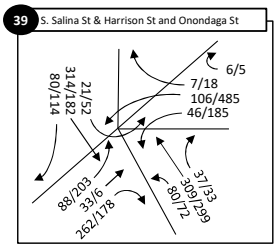


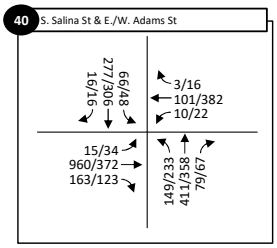


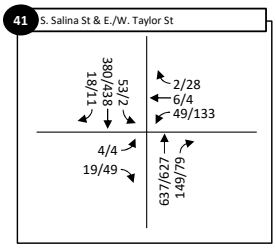


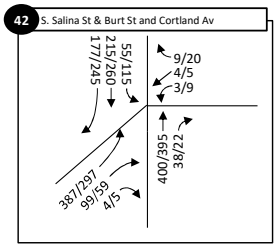


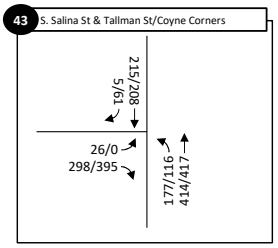


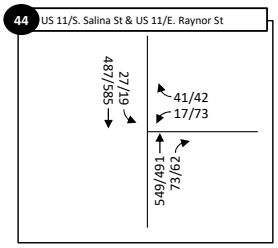


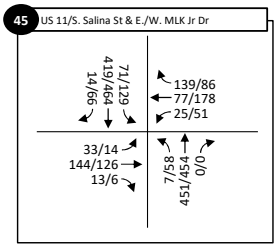


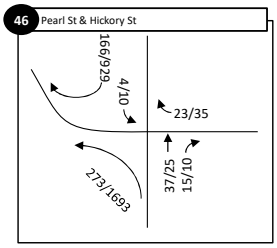




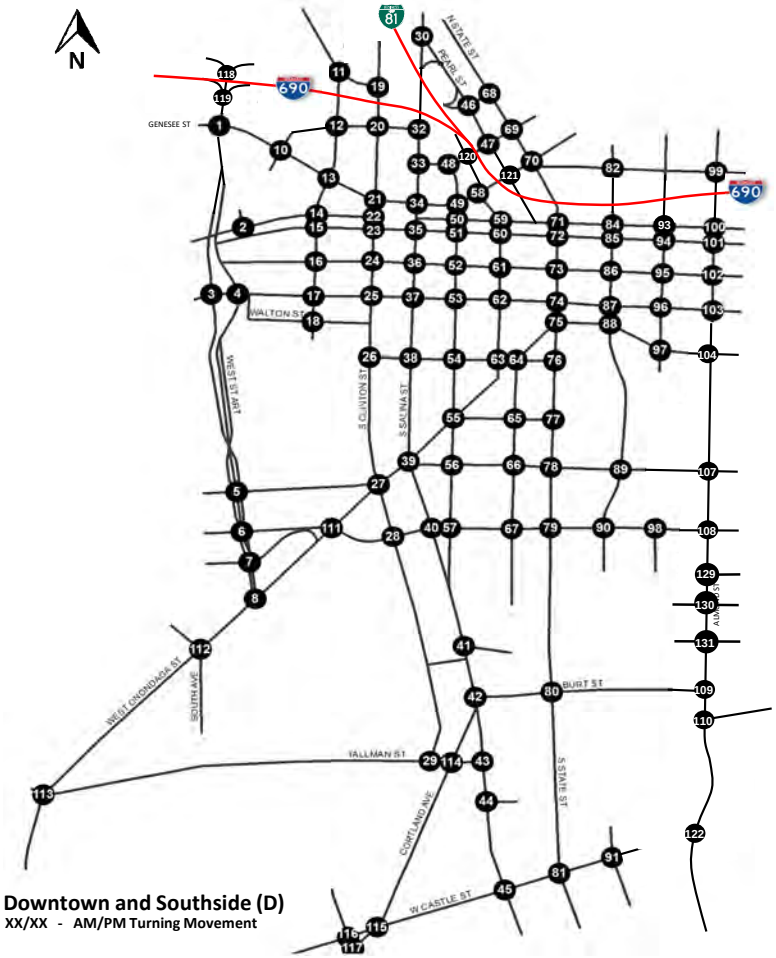




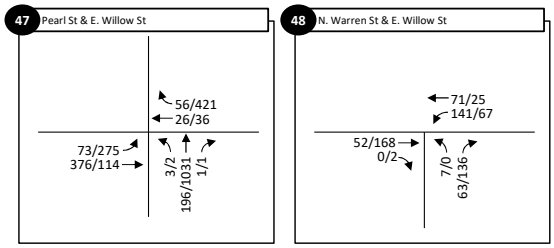


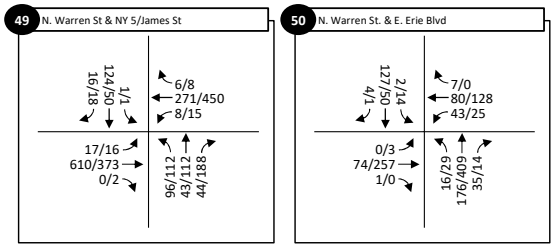


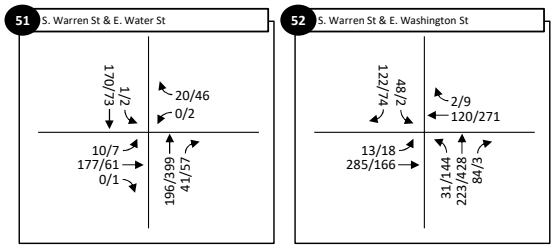
2056 CG

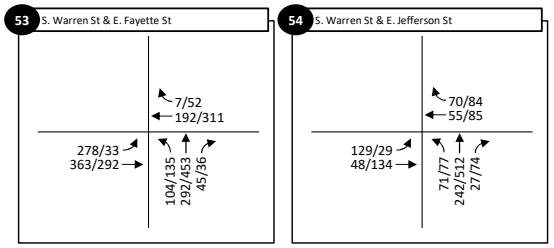


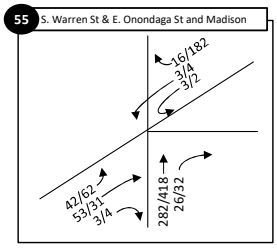
Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

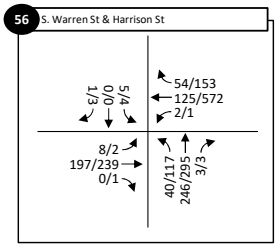


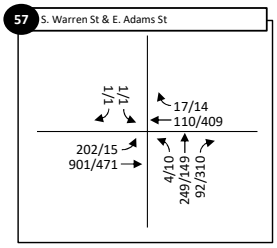


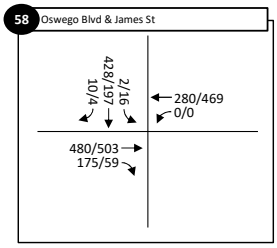


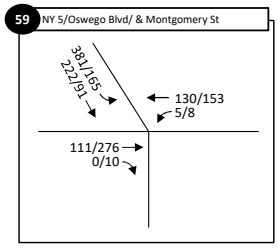


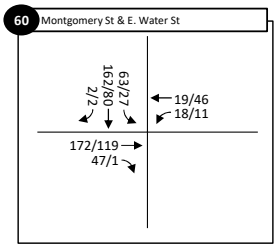


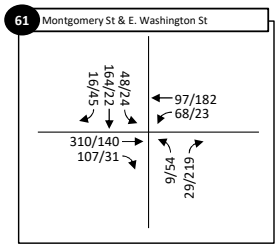


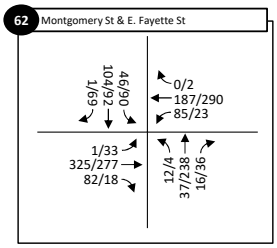


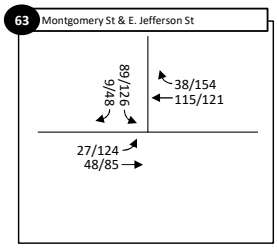


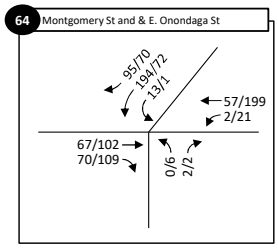


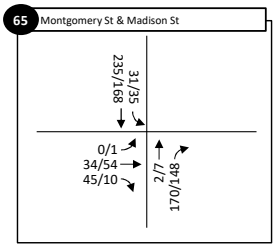


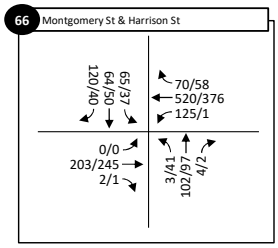


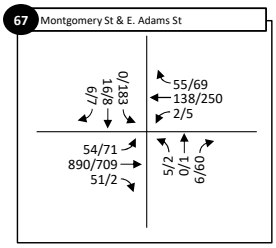


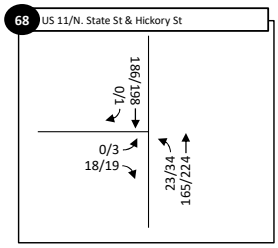


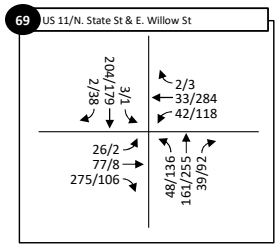




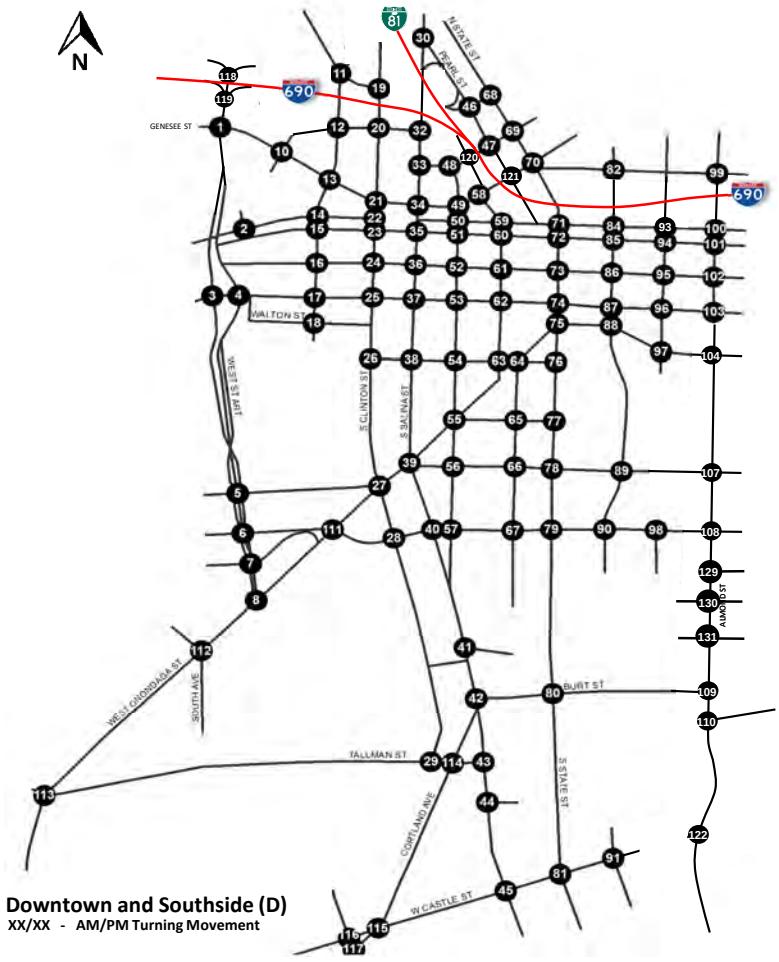








2056 CG



70 US 11/N. State St & James St

76/27 526/365 45/39		101/206 221/384 218/245
56/36 367/233 47/19	9/32 178/653 151/325	

71 US 11/S. State St & NY 5/Erie Blvd E.

175/232 608/365 10/32		40/314 193/420 135/20
67/180 377/205 48/55	126/526 232/516 26/3	

72 US 11/S. State St & E. Water St

17/11 753/399 19/30		18/61 13/17 52/5
18/81 170/63 47/3	5/9 21/36	

73 US 11/S. State St & E. Washington St

22/20 636/577 13/18		8/16 139/154 58/5
33/235 77/211 6/25	12/33 428/718 21/8	

74 US 11/S. State St & E. Fayette St

29/43 585/503		18/17 140/156 9/30
92/156 203/195 93/51	46/99 352/587 17/16	

75 US 11/S. State St & NY 92/E. Genesee St

115/58 462/473 109/54		42/116 128/55 10/30
	66/35 373/587 48/75	

76 US 11/S. State St & E. Jefferson St

413/286		
64/73 19/32	423/624	

77 US 11/S. State St & Madison St

432/317		
144/152 90/86	279/475	

78 US 11/S. State St & Harrison St

99/86 266/295 158/22		53/98 528/396 8/28
2/20 267/260 3/4	29/17 224/357 86/80	

79 US 11/S. State St & E. Adams St

110/140 164/179 3/7		12/10 170/301 8/20
63/157 817/773 16/22	22/13 264/286 83/45	

80 S. State St & Burt St

23/4 163/211 2/6		37/51 72/67 154/164
87/31 137/197 21/59	0/6 281/291 111/198	

81 S. State St & E. MLK Jr Dr

69/67 92/191 54/70		17/20 183/231 0/0
17/11 163/222 35/22	4/13 273/321 3/6	

82 N. Townsend St & Burnet Av

8/21 388/303 3/20		17/56 146/105 83/38
37/83 26/44 9/12	0/1 135/256 3/37	

83 N. Townsend St & Westbound I-690 offramp

Removed Under CG

84 N./S. Townsend St & NY 5/Erie Blvd E.

53/61 423/262 1/29		8/13 281/482 149/80
248/391 329/149	85/243 131/281 44/144	

85 S. Townsend St & E. Water St

10/6 890/485 1/1		4/9 53/21 14/10
14/14 95/62 101/35	28/61 243/645 10/48	

86 S. Townsend St & E. Washington St

17/5 978/501 9/24		4/15 168/95 31/10
13/47 47/155 60/37	27/55 265/692 25/7	

87 S. Townsend St & E. Fayette St

18/18 1050/515 2/15		12/36 128/122 31/28
12/2 168/175 69/77	36/66 292/715 39/37	

88 S. Townsend St & NY 92/E. Genesee St

72/59 1014/520 64/43		70/59 115/143 81/60
15/5 107/118 41/11	0/15 283/754 77/109	

89 S. Townsend St & Harrison St

314/96 407/455 149/44		255/224 438/453 9/73
18/45 202/362 2/8	1/25 350/448 14/49	

90 S. Townsend St & E. Adams St

29/256 336/267 53/14		13/61 241/157 0/35
159/138 831/812 20/8	48/13 193/323 37/25	

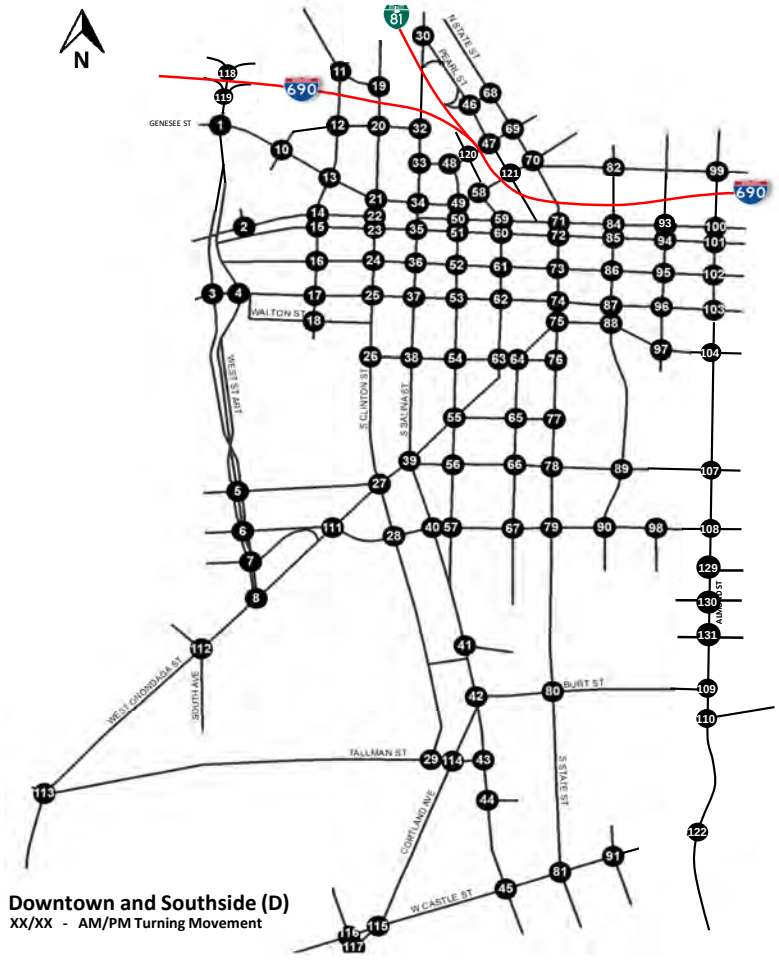
91 Oakwood Av & E. MLK Jr Dr

66/181 13/13 0/45		89/45 179/190 22/0
29/15 202/280 3/0	25/16 168/123 0/0	

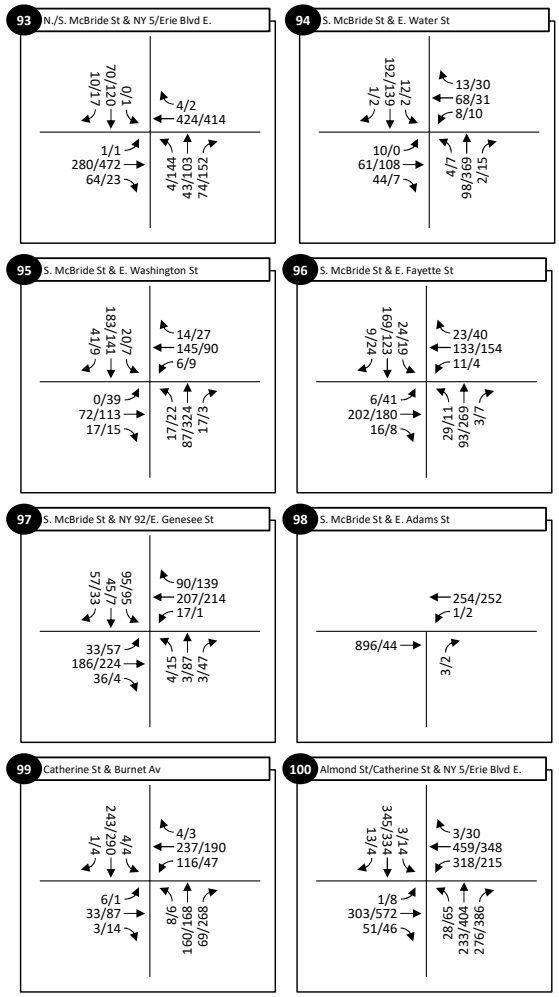
92 N. McBride St & EB I-690 Onramp

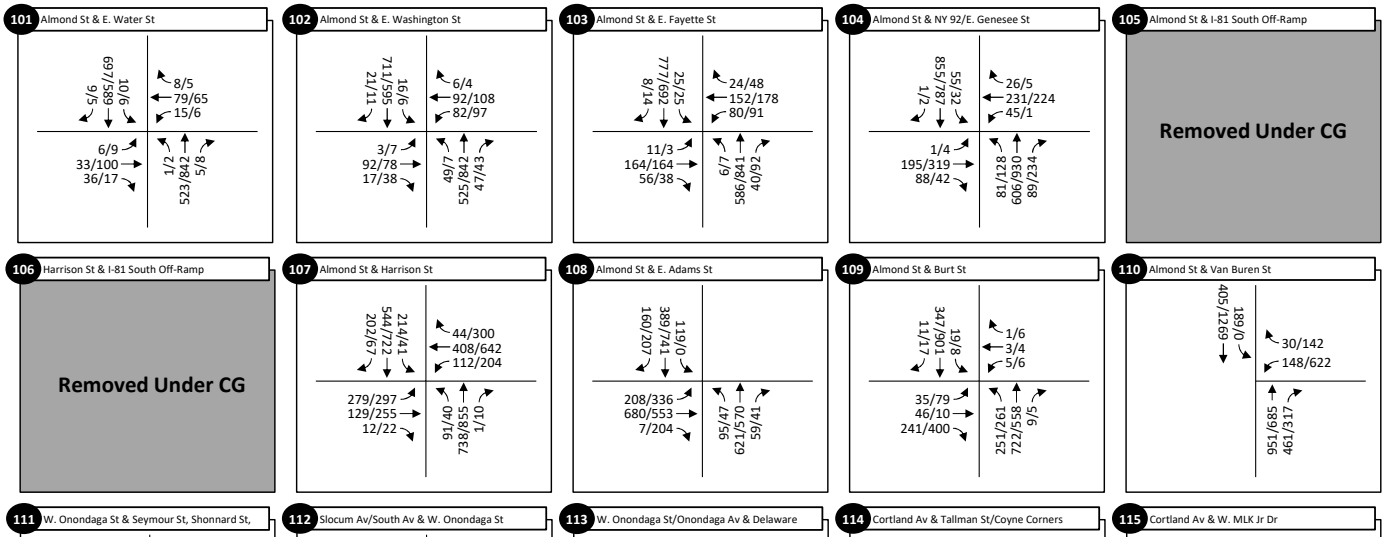
Removed Under CG

2056 CG

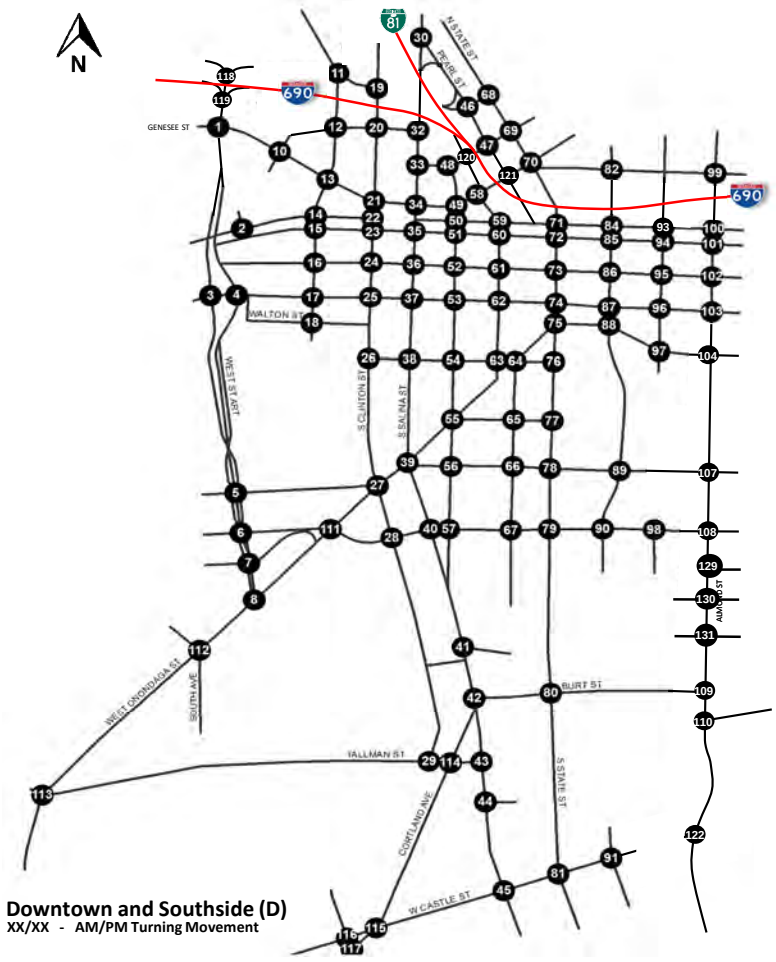


Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

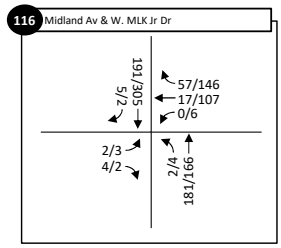


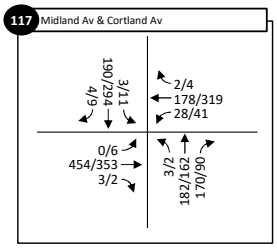


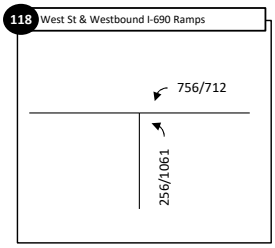
2056 CG

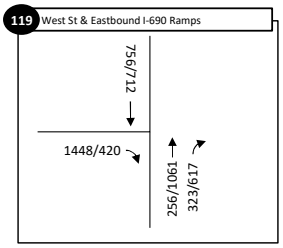


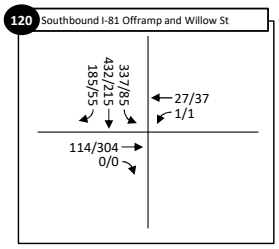
Downtown and Southside (D)
XX/XX - AM/PM Turning Movement

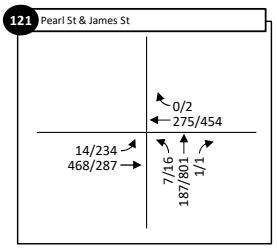


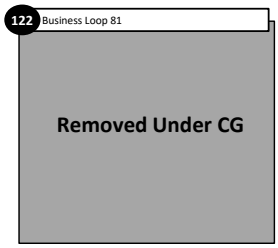


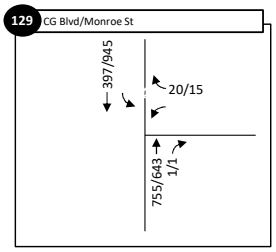


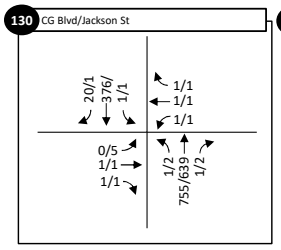


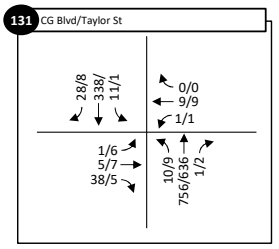




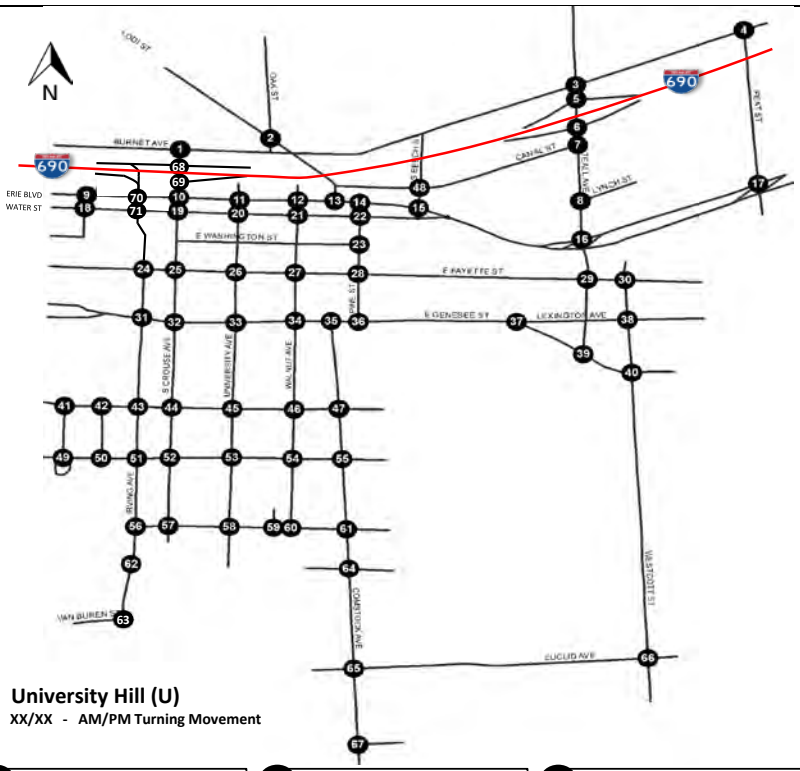








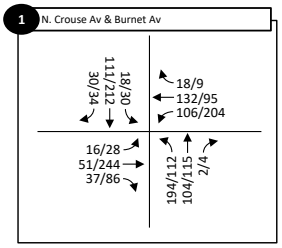
2056 CG



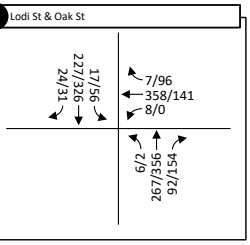
University Hill (U)

XX/XX - AM/PM Turning Movement

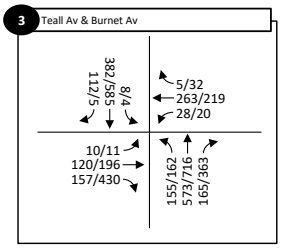
1 N. Crouse Av & Burnet Av



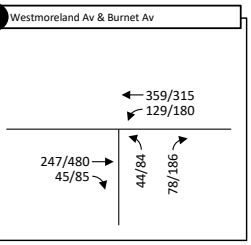
2 Lodi St & Oak St



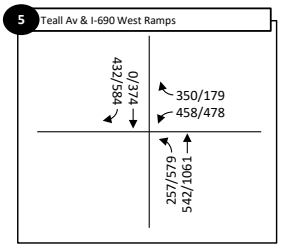
3 Teall Av & Burnet Av



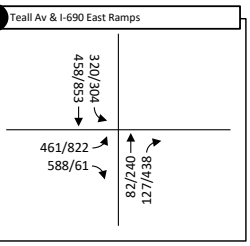
4 Westmoreland Av & Burnet Av



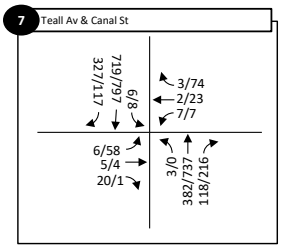
5 Teall Av & I-690 West Ramps



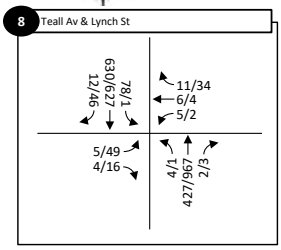
6 Teall Av & I-690 East Ramps



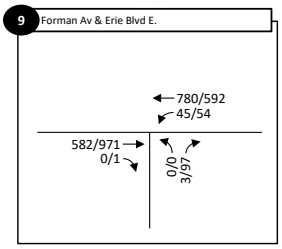
7 Teall Av & Canal St



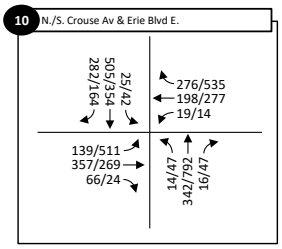
8 Teall Av & Lynch St



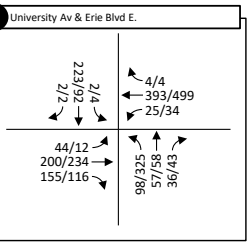
9 Forman Av & Erie Blvd E.



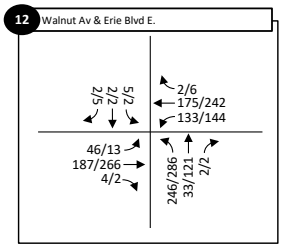
10 N./S. Crouse Av & Erie Blvd E.



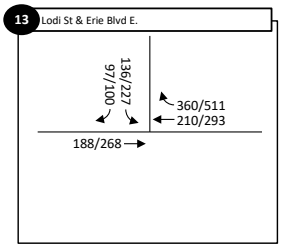
11 University Av & Erie Blvd E.



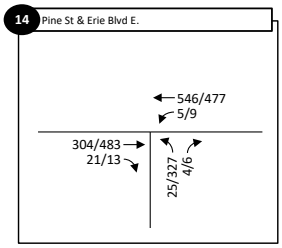
12 Walnut Av & Erie Blvd E.



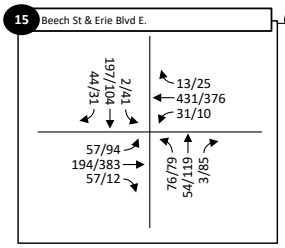
13 Lodi St & Erie Blvd E.



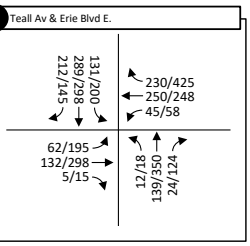
14 Pine St & Erie Blvd E.



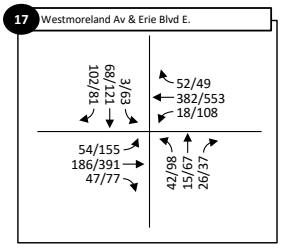
15 Beech St & Erie Blvd E.



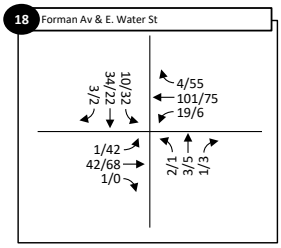
16 Teall Av & Erie Blvd E.



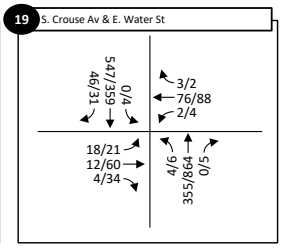
17 Westmoreland Av & Erie Blvd E.



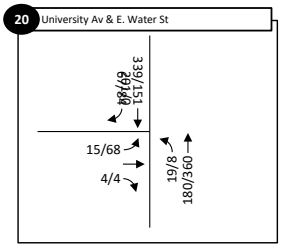
18 Forman Av & E. Water St



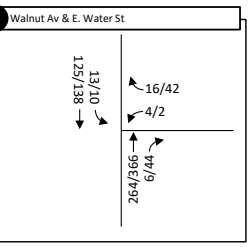
19 S. Crouse Av & E. Water St



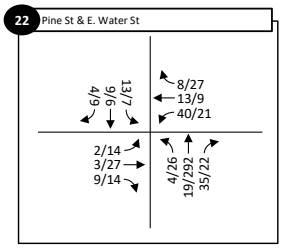
20 University Av & E. Water St



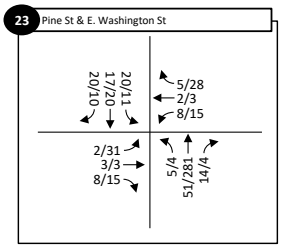
21 Walnut Av & E. Water St



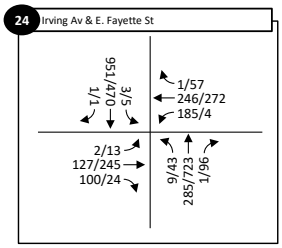
22 Pine St & E. Water St



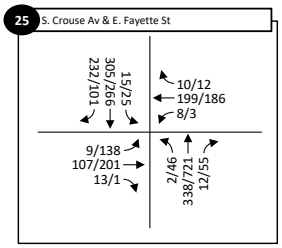
23 Pine St & E. Washington St



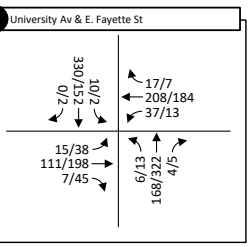
24 Irving Av & E. Fayette St



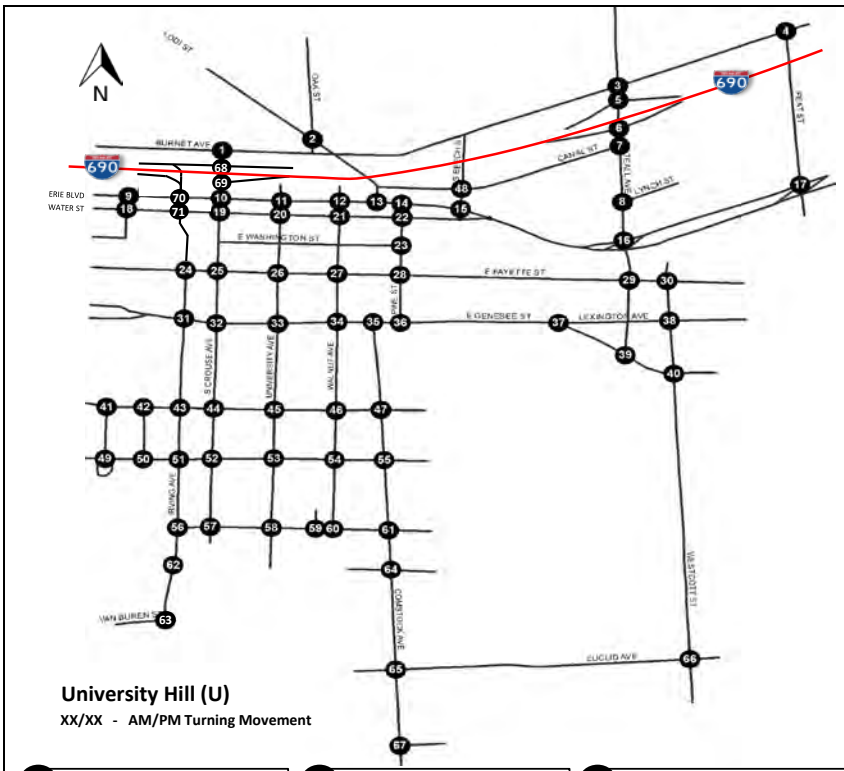
25 S. Crouse Av & E. Fayette St



26 University Av & E. Fayette St



2056 CG



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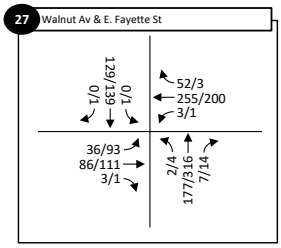
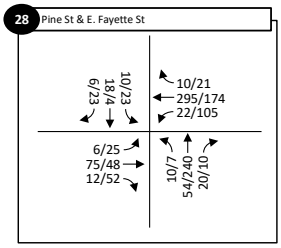
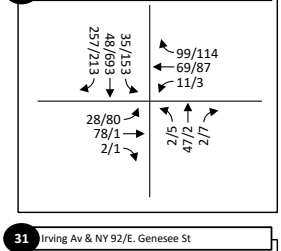
27 Walnut Av & E. Fayette St



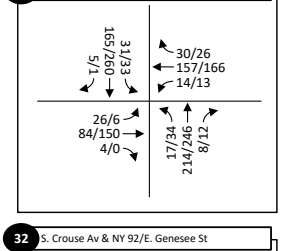
28 Pine St & E. Fayette St



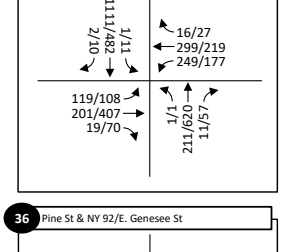
29 Columbus Av & E. Fayette St



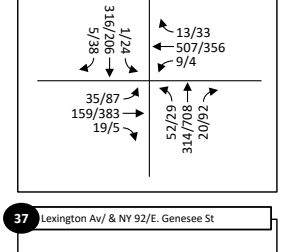
30 Westcott St & E. Fayette St



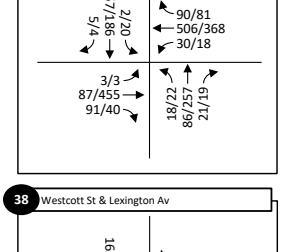
31 Irving Av & NY 92/E. Genesee St



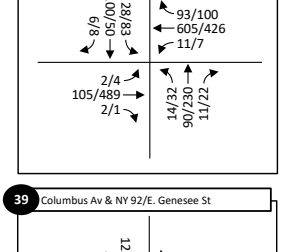
32 S. Crouse Av & NY 92/E. Genesee St



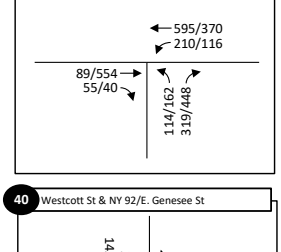
33 University Av & NY 92/E. Genesee St



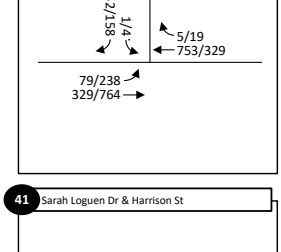
34 Walnut Av & NY 92/E. Genesee St



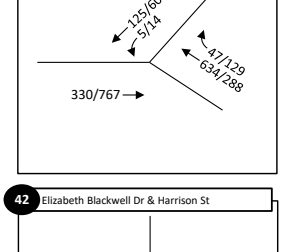
35 Comstock Av & NY 92/E. Genesee St



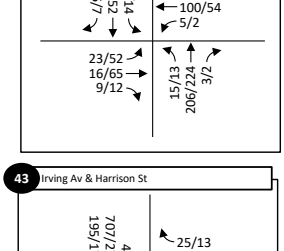
36 Pine St & NY 92/E. Genesee St



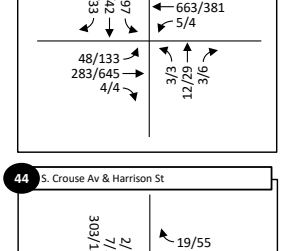
37 Lexington Av/ & NY 92/E. Genesee St



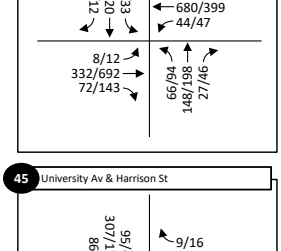
38 Westcott St & Lexington Av



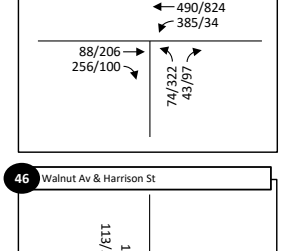
39 Columbus Av & NY 92/E. Genesee St



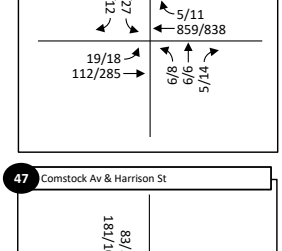
40 Westcott St & NY 92/E. Genesee St



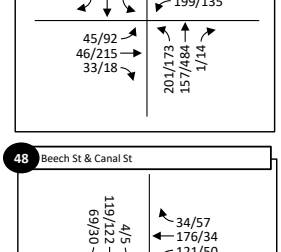
41 Sarah Loguen Dr & Harrison St



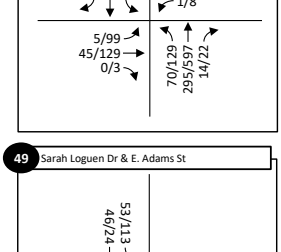
42 Elizabeth Blackwell Dr & Harrison St



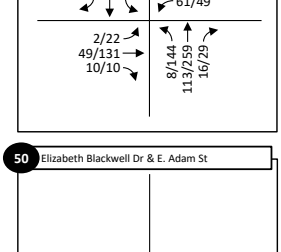
43 Irving Av & Harrison St



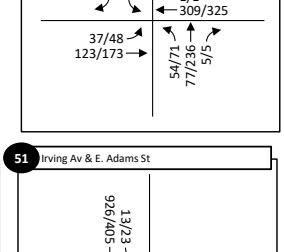
44 S. Crouse Av & Harrison St



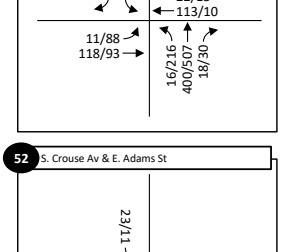
45 University Av & Harrison St



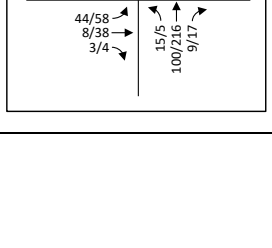
46 Walnut Av & Harrison St



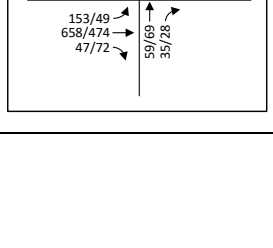
47 Comstock Av & Harrison St



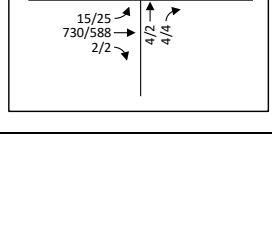
48 Beech St & Canal St



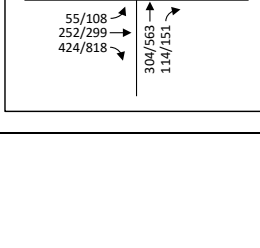
49 Sarah Loguen Dr & E. Adams St



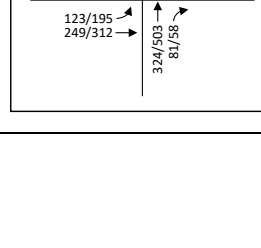
50 Elizabeth Blackwell Dr & E. Adam St

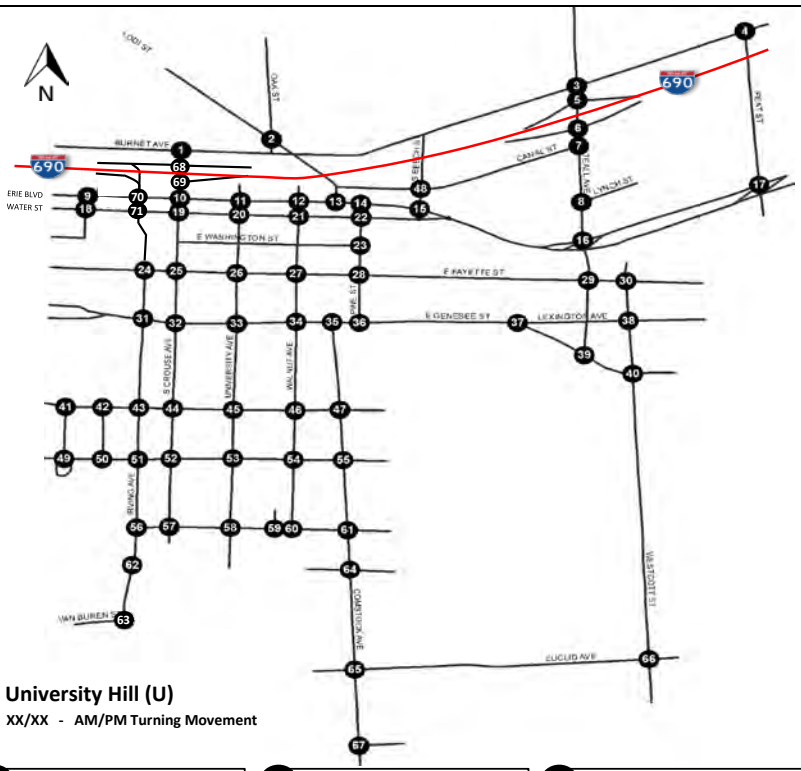


51 Irving Av & E. Adams St



52 S. Crouse Av & E. Adams St





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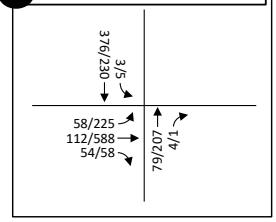
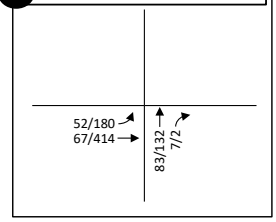
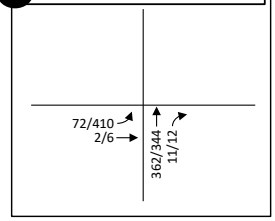
53 University Av & E. Adams St



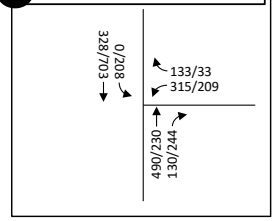
54 Walnut Av & E. Adams St



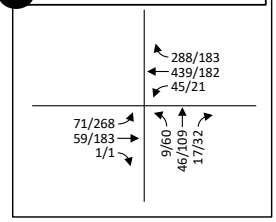
55 Comstock Av & E. Adams St



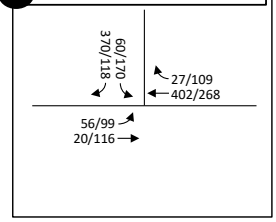
56 Irving Av & Waverly Av



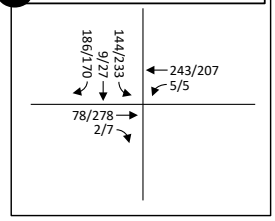
57 S. Crouse Av & Waverly Av



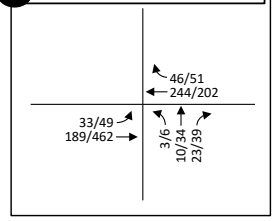
58 University Av & Waverly Av



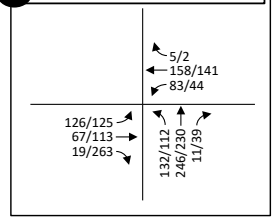
59 Walnut Pl & Waverly Av



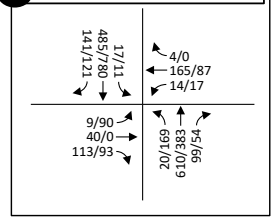
60 Walnut Av & Waverly Av



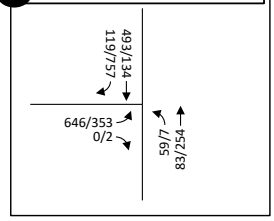
61 Comstock Av & Waverly Av



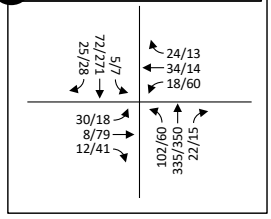
62 Irving Av & University Pl



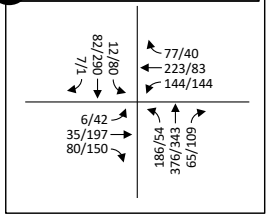
63 Irving Av & Van Buren St



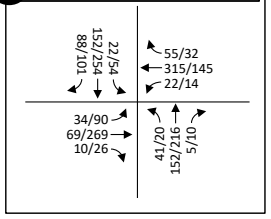
64 Comstock Av & University Pl



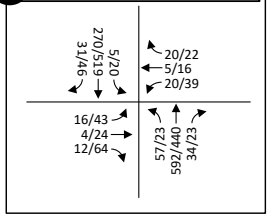
65 Comstock Av & Euclid Av



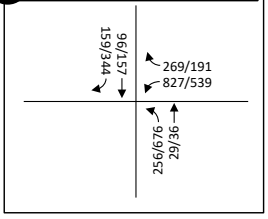
66 Westcott St & Euclid Av



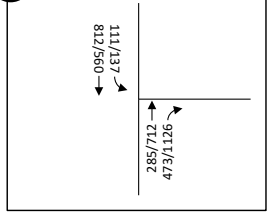
67 Comstock Av & Stratford St



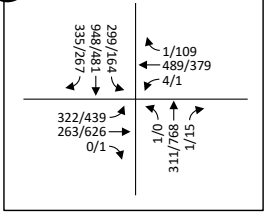
68 Crouse Av & Westbound I-690



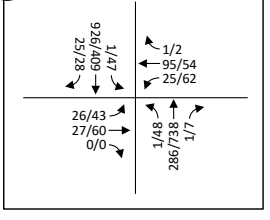
69 Crouse Av & Eastbound I-690



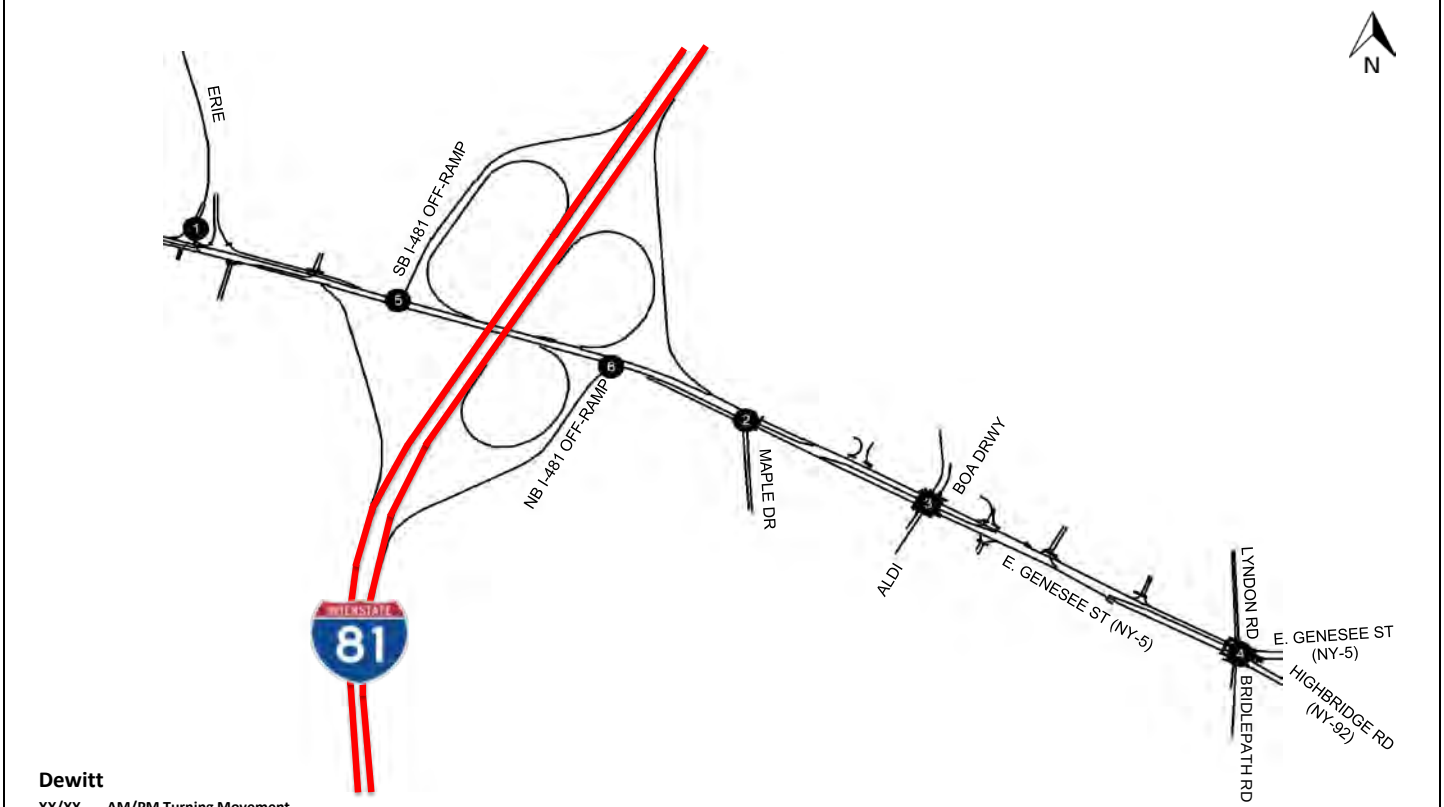
70 Irving Av & Erie Blvd



71 Irving Av & Water St

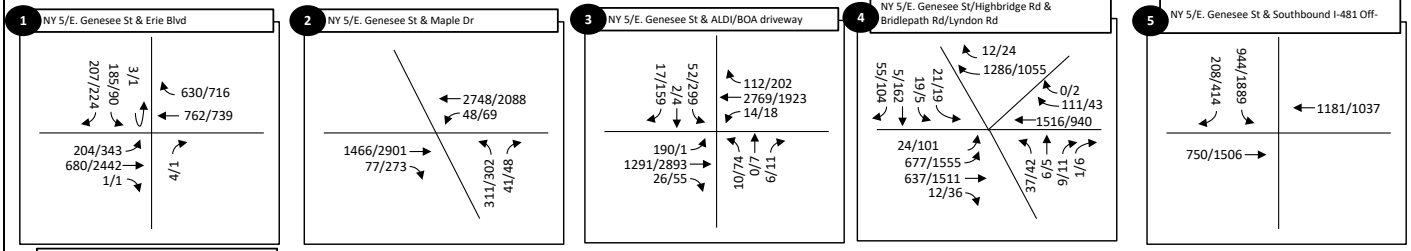


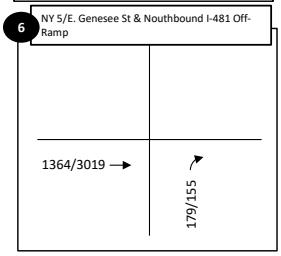
2056 CG



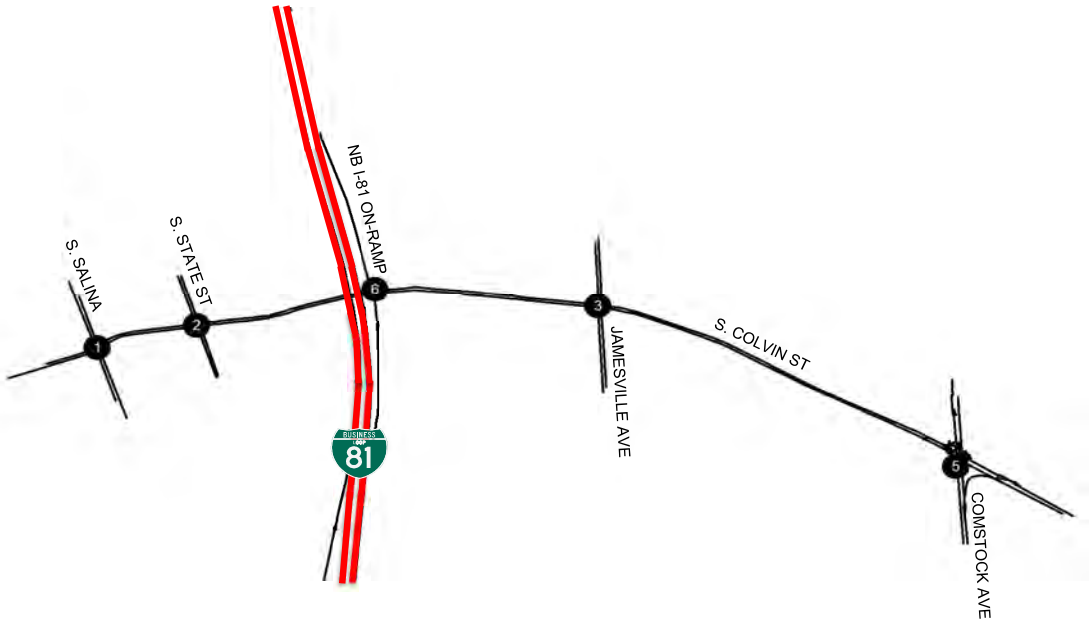
Dewitt

XX/XX - AM/PM Turning Movement



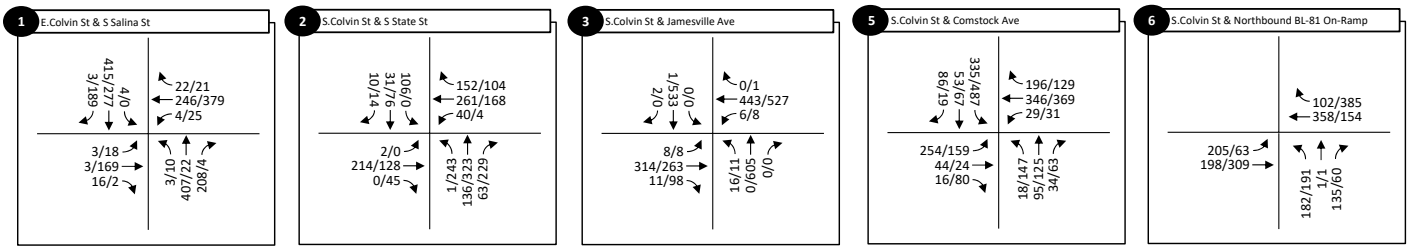


2056 CG



Comstock

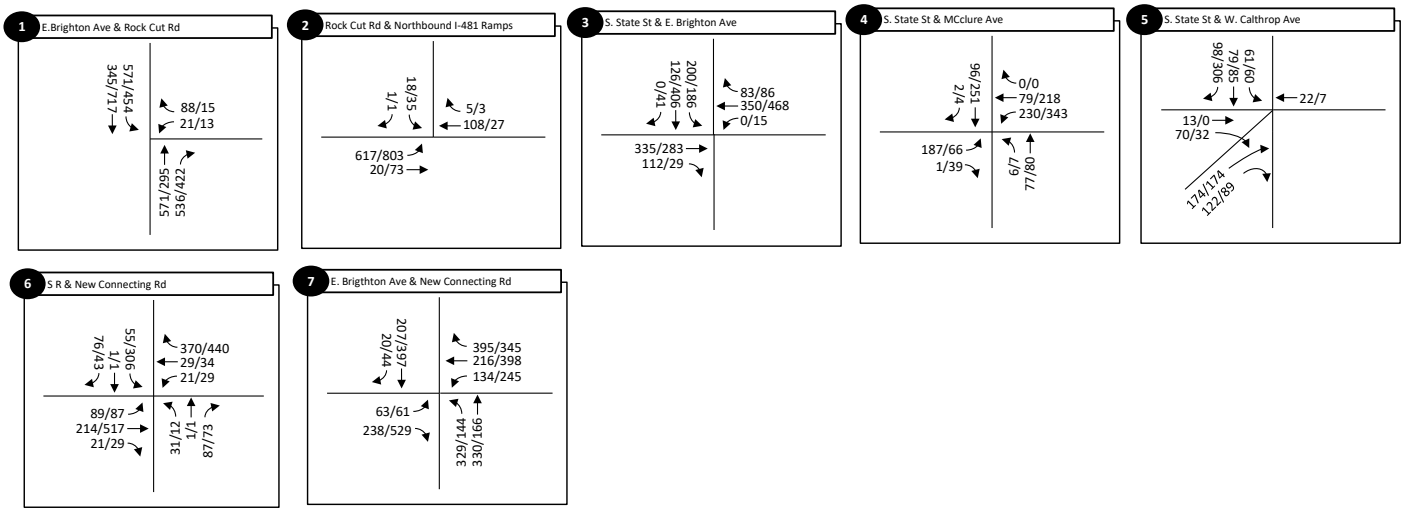
XX/XX - AM/PM Turning Movement



2056 CG

Valley

XX/XX - AM/PM Turning Movement



5-2-7: 2026 and 2056 Community Grid Alternative

Freeway Level of Service

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
Northbound BL-81 (Former I-81)									
before off-ramp to Northbound Former I-481	BFS	14.9	B	11.2	B	16.2	B	13.1	B
at off-ramp to Northbound Former I-481	Diverge	3.8	A	5.4	A	8.3	A	6.2	A
at off-ramp to Glen Av	Diverge	8.4	A	5.7	A	8.8	A	5.0	A
between Glen Av on and off-ramps	BFS	15.6	B	10.7	A	16.8	B	9.0	A
between Glen Av on-ramp and S. Salina St off-ramp	BFS	10.5	A	7.5	A	13.4	B	6.5	A
at Exit 17 (S. Salina St, Brighton Av) to E Brighton St	Diverge	6.0	A	6.6	A	8.2	A	4.0	A
between Interchange 17 (S. Salina St, Brighton Av) off and on-ramps	BFS	6.7	A	0.6	A	8.7	A	4.2	A
between S. Salina St on-ramp and Colvin St off-ramp	Weave	6.5	A	1.2	A	8.0	A	4.4	A
between Colvin St on and off-ramps	BFS	7.5	A	1.6	A	8.7	A	4.5	A
at Colvin St on-ramp	Merge	8.0	A	2.8	A	10.2	B	7.0	A
at Interchange 19 (N. Salina St, Pearl St) on-ramp	Merge	4.2	A	22.2	C	3.3	A	24.1	C
between on-ramp from Pearl St and Bear St off-ramp	Weave	7.3	A	20.7	C	9.3	A	23.2	C
at Exit to Bear St	Diverge	6.0	A	15.2	B	7.1	A	16.5	B
between Exit to Bear St and Hiawatha	BFS	6.6	A	18.5	B	8.8	A	20.7	C
at Exit 23 (Hiawatha Blvd) to Hiawatha Blvd W	BFS	5.3	A	14.4	B	6.4	A	16.8	B
between Exit to Bear St and off-ramp to Exit 23 (Hiawatha Blvd)	Merge	6.0	A	12.8	B	6.6	A	14.1	B
between on-ramp from Bear and on-ramp from Hiawatha Blvd	BFS	12.9	B	24.2	C	16.4	B	26.9	C
between Interchange 23 (Hiawatha Blvd) on-ramp and Exit 25 (7th Northbound St)	Merge	9.2	A	18.7	C	12.1	B	20.7	C
at Exit 25 (7th Northbound St)	Diverge	10.8	B	20.1	C	14.0	B	22.1	C
between Interchange 25 (7th Northbound St) off and on-ramps	BFS	9.1	A	21.6	C	12.4	B	24.1	C
between Interchange 25 (7th Northbound St) on-ramp and Exit 25A (I-90)	Weave	7.8	A	20.1	C	10.4	B	23.6	C
between Interchange 25A (I-90) off and on-ramps	BFS	8.6	A	22.9	C	11.6	B	25.3	C
between Interchange 25A (I-90) on-ramp and Exit 26 (US 11)	BFS	9.0	A	20.2	C	11.6	B	22.2	C
at Exit 26 (US 11)	Diverge	8.5	A	17.0	B	10.7	B	18.2	B
between Exit 26 (US 11) and Exits 27-28 (Airport Rd)	BFS	8.4	A	19.9	C	11.4	B	22.3	C
between Interchange 27 (Airport Blvd) off and on-ramp	BFS	5.3	A	15.5	B	6.9	A	17.7	B
at Interchange 27 (Airport Blvd) on-ramp	Merge	8.0	A	19.7	B	9.7	A	22.0	C
between Interchange 27 (Airport Blvd) on-ramp and Interchange 28 (Taft Rd) on-ramp	BFS	7.9	A	20.2	C	9.6	A	22.8	C
at Interchange 28 (Taft Rd) on-ramp	Merge	10.4	B	21.5	C	12.0	B	23.2	C

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
between Interchange 28 (Taft Rd) on-ramp and Exit 29S (Former I-481 Southbound)	BFS	10.0	A	23.8	C	11.8	B	26.4	D
at Exit 29S (Former I-481 Southbound)	Diverge	9.5	A	18.9	B	11.0	B	20.7	C
between Exit 29S (I-481 Southbound) and NY 481 Southbound on-ramp	BFS	8.9	A	25.8	C	10.5	A	30.1	D
between Interchange 29N (NY 481) on and off-ramps	Weave	6.9	A	36.3	E	7.9	A	39.4	E
between Exit 29N (Northbound NY-481) and Northbound Former I-481 (3 lane)	BFS	6.7	A	16.3	B	7.4	A	15.4	B
between Exit 29N (Northbound NY-481) and Northbound Former I-481 (2 lane)	BFS	9.9	A	19.4	C	10.8	A	21.7	C
at Interchange 29S (Former I-481) on-ramp	Merge	6.5	A	12.7	B	7.5	A	14.8	B
between Interchange 29N (Former I-481) and Exit 30 (NY 31)	BFS	8.3	A	16.6	B	9.7	A	20.0	C
Southbound BL-81 (Former I-81)									
between Interchange 30 (NY-31) on-ramp and Exit 29N (Former I-481)	BFS	21.0	C	12.1	B	27.2	D	13.8	B
at Exit Southbound Former I-81	Diverge	21.6	C	11.7	B	33.9	D	13.3	B
between Southbound Former I-481 off-ramp and Westbound NY 481 off-ramp	BFS	22.2	C	11.9	B	26.7	D	13.3	B
at Exit 29N (NY-481)	Diverge	14.6	B	8.0	A	16.8	B	8.9	A
between Northbound NY-481 off-ramp and Former Northbound I-481 on-ramp	BFS	20.3	C	10.5	A	23.4	C	11.9	B
at Interchange 29S (NY-481) on-ramp	Merge	14.6	B	8.9	A	17.2	B	10.5	B
between Interchange 29S (Former I-481) and Southbound NY 481 on-ramps	BFS	14.4	B	8.0	A	16.5	B	9.1	A
at Interchange 29N (NY 481) on-ramp	Merge	22.4	C	13.2	B	24.6	C	14.0	B
between Interchange 29S (Former I-481) on-ramp and Exit 28 (Taft Rd)	BFS	23.8	C	13.3	B	26.5	D	14.3	B
at Exit 28 (Taft Rd)	Diverge	17.5	B	11.3	B	19.0	B	11.9	B
between Exit 28 (Taft Rd) and Exits 27-26 (Airport Rd) off-ramps	BFS	20.9	C	11.3	B	23.7	C	12.3	B
at Exit 27(Airport Blvd)	Diverge	22.2	C	15.6	B	19.7	B	13.8	B
between Interchange 27 (Airport Rd) off and on-ramps	BFS	17.8	B	8.8	A	20.1	C	9.6	A
at Interchange 27 (Airport Rd) on-ramp	Merge	17.6	B	12.4	B	19.9	B	13.5	B
between Interchange 27 (Airport Rd) and Interchange 27-26 (US 11) on-ramps	BFS	20.3	C	12.4	B	22.9	C	13.5	B
at Interchange 26 (US 11) on-ramp	Merge	16.3	B	13.8	B	17.4	B	14.4	B
between Interchange 26 (US 11) on-ramp and Exit 25A (I-90)	BFS	18.0	C	13.9	B	20.2	C	14.8	B
between Exit 25A (I-90) and Westbound I-90 Exit 36	BFS	21.6	C	15.3	B	24.4	C	16.2	B
between Interchange 25A (I-90) on-ramp and Exit 25 (7th Northbound St)	Weave	17.7	B	12.2	B	19.9	B	12.8	B
between Exit 25 (7th Northbound St) and on-ramp from 7th N St	BFS	18.5	C	12.4	B	21.0	C	13.3	B
between Interchange 25 (7th Northbound St) on-ramp and Exit 23A (Hiawatha Blvd)	Weave	17.0	B	12.1	B	18.9	B	13.0	B

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
between Exit 23A (Hiawatha Blvd) and Old Liverpool Rd on-ramp	BFS	18.3	C	10.6	A	21.1	C	11.4	B
at Old Liverpool Rd on-ramp	Merge	18.6	B	11.6	B	20.8	C	14.0	B
at N. Clinton St off-ramp	Diverge	17.0	B	10.4	B	19.4	B	13.0	B
between N. Clinton St on and off-ramp	BFS	17.7	B	8.0	A	19.9	C	8.5	A
at N. Clinton St on-ramp	Merge	13.6	B	5.8	A	14.6	B	8.0	A
between N. Clinton St on-ramp and I-690 off-ramp	BFS	20.2	C	12.5	B	22.5	C	13.4	B
at I-690 off-ramp	Diverge	20.1	C	12.3	B	22.1	C	13.1	B
at Clinton St off-ramp	Diverge	25.4	C	6.9	A	27.4	C	9.4	A
between MLK East Intersection and Exit 17 (S. Salina St, Brighton Av) off-ramp	BFS	3.4	A	10.5	A	3.5	A	10.6	A
at Exit 17 (S. Salina St, Brighton Av) off-ramp	Diverge	3.3	A	8.9	A	3.4	A	8.7	A
between Exit 17 (S. Salina St, Brighton Av) off and on-ramps	BFS	1.9	A	6.7	A	1.9	A	7.7	A
at Brighton Av on-ramp	Merge	2.6	A	7.3	A	3.9	A	9.4	A
at Glen Av off-ramp	Diverge	2.6	A	7.5	A	3.4	A	10.0	A
at off-ramp to Northbound Former I-481	Diverge	1.5	A	10.8	B	4.5	A	11.5	B
between off-ramp to Northbound Former I-481 and on-ramp from Southbound Former I-481	BFS	0.4	A	8.1	A	4.1	A	11.6	B
at on-ramp from Glen Av	Merge	1.7	A	6.1	A	3.1	A	8.6	A
at Interchange 16A (Former I-481) on-ramp	Merge	3.7	A	7.8	A	6.0	A	9.7	A
after on-ramp from Southbound Former I-481	BFS	4.7	A	8.9	A	7.5	A	10.9	A
Northbound I-81 (Former I-481)									
at Exit 1 (Rock Cut Rd)	Weave	6.1	A	8.0	A	6.3	A	8.0	A
between Interchange 1 (Brighton Av, Rock Cut Rd) off and on-ramps	BFS	9.1	A	7.2	A	9.6	A	10.9	A
at Interchange 1 (Brighton Av, Rock Cut Rd) on-ramp	Merge	11.9	B	10.8	B	11.6	B	14.1	B
between Interchange 1 (Brighton Av, Rock Cut Rd) and Exit 2 (Jamesville Rd)	BFS	19.6	C	13.2	B	16.1	B	17.3	B
at Exit 2 (Jamesville Rd)	Diverge	13.1	B	8.7	A	10.9	B	11.4	B
between Interchange 2 (Jamesville Rd) off and on-ramps	BFS	14.6	B	11.8	B	14.0	B	16.0	B
at Interchange 2 (Jamesville Rd) on-ramp	Merge	17.1	B	13.7	B	18.1	B	16.8	B
between Interchange 2 (Jamesville Rd) on-ramp and Exit 3E (Eastbound NY-5)	BFS	22.9	C	18.4	C	23.5	C	22.9	C
at Exit 3E (Eastbound NY-5)	Diverge	14.7	B	19.3	B	21.0	C	15.0	B
between Interchange 3E (Eastbound NY-5) off and on-ramps	BFS	19.6	C	17.5	B	22.1	C	21.8	C
between Interchange 3E (Eastbound NY-5) on-ramp and Exit 3W (Westbound NY-5)	Weave	15.2	B	14.2	B	17.5	B	16.9	B
between Interchange 3W (Westbound NY-5)off and on-ramps	BFS	19.2	C	19.0	C	21.8	C	22.8	C

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
at Interchange 3W (Westbound NY-5) on-ramp	Merge	19.7	B	15.9	B	21.4	C	17.6	B
between Interchange 3W (Westbound NY-5) on-ramp and Exit 4 (Westbound I-690)	BFS	18.3	C	14.5	B	22.0	C	16.4	B
at Exit 4 (Westbound I-690)	Diverge	17.5	B	14.3	B	19.2	B	16.1	B
between Interchange 4 (Westbound I-690) off-and on-ramps	BFS	15.5	B	14.7	B	16.2	B	17.0	B
at Interchange 4 (Eastbound I-690) on-ramp	Merge	11.5	B	19.1	B	16.5	B	21.1	C
between Interchange 4 (Eastbound I-690) on-ramp and Exit 5E (Kirkville Rd)	BFS	11.5	B	18.0	B	15.9	B	19.7	C
at Exit 5E (Kirkville Rd)	Diverge	11.1	B	17.9	B	14.7	B	19.1	B
between Interchange 5E (Kirkville Rd) off and on-ramps	BFS	16.1	B	16.0	B	21.7	C	25.0	C
between Interchange 5E (Kirkville Rd) on-ramp and Exit 5W (Kirkville Rd)	Weave	11.4	B	12.4	B	14.3	B	19.1	B
between Interchange 5W (Kirkville Rd) off and on-ramps	BFS	12.5	B	16.0	B	16.8	B	24.6	C
at Interchange 5W (Kirkville Rd) on-ramp	Merge	9.6	A	11.6	B	12.6	B	17.8	B
between Interchange 5W (Kirkville Rd) on-ramp and Exit 6 (I-90)	BFS	9.4	A	11.7	B	12.6	B	17.8	B
at Exit 6 (I-90)	Diverge	9.3	A	11.7	B	12.7	B	18.5	B
between Interchange 6 (I-90) off and on-ramps	BFS	10.2	A	10.3	A	13.5	B	16.2	B
at Interchange 6 (I-90) on-ramp	Merge	8.9	A	9.3	A	11.3	B	13.5	B
at Exit 7 (NY-298 Bridgeport Rd)	Diverge	10.6	B	10.6	B	14.3	B	16.6	B
between Interchange 7 (NY-298 Bridgeport Rd) off and on- ramps	BFS	9.2	A	10.3	A	11.5	B	15.3	B
at Interchange 7 (NY-298 Bridgeport Rd) on-ramp	Merge	6.9	A	10.0	A	8.5	A	13.8	B
between Interchange 7 (NY 298 Bridgeport Rd) on-ramp and Exit 8 Northern Blvd)	BFS	10.2	A	14.5	B	12.7	B	20.1	C
at Exit 8 (Northern Blvd)	Diverge	7.3	A	10.2	B	9.1	A	14.3	B
between Interchange 8 (Northern Blvd) off and on-ramps	BFS	7.6	A	11.6	B	9.5	A	15.9	B
at Interchange 8 (Northern Blvd) on-ramp	Merge	6.5	A	14.7	B	8.8	A	15.9	B
between interchange 8 (Northern Blvd) on-ramp and NY481 Westbound off-ramp	BFS	6.2	A	13.0	B	7.5	A	16.7	B
at Exit to Former I-81	Diverge	6.0	A	12.0	B	7.0	A	15.6	B
between split to Former I-481 mainline and Northbound Former I-81 merge	BFS	4.3	A	9.2	A	5.6	A	8.4	A
Southbound I-81 (Former I-481)									
at Interchange 9N (Former I-81) on-ramp	Merge	11.7	B	7.8	A	14.9	B	8.8	A
between Interchange 9N (Northbound Former I-81) on-ramp and Southbound Former I-81 on-ramp	BFS	14.7	B	11.0	B	17.7	B	9.7	A
at Southbound Former I-81 on-ramp	Merge	13.3	B	8.9	A	15.1	B	9.2	A
at Exit 8 (Northern Blvd) off-ramp	Diverge	15.8	B	10.6	B	18.4	B	12.3	B

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
between Interchange 8 (Northern Blvd) off and on-ramps	BFS	17.2	B	13.3	B	20.0	C	15.2	B
at Interchange 8 (Northern Blvd) on-ramp	Merge	14.1	B	10.4	B	16.2	B	12.0	B
between Interchange 8 (Northern Blvd) on-ramp and Exit 7 (NY-298 Bridgeport Rd)	BFS	21.0	C	15.6	B	24.1	C	18.0	B
at Exit 7 (NY-298 Bridgeport Rd)	Diverge	18.4	B	11.3	B	21.5	C	13.3	B
between Interchange 7 (NY-298 Bridgeport Rd) off and on- ramp	BFS	17.1	B	14.5	B	19.6	C	16.6	B
at Interchange 7 (NY-298 Bridgeport Rd) on-ramp	Merge	14.1	B	13.9	B	16.1	B	16.2	B
between Interchange 7 (NY-298 Bridgeport Rd) and Exit 6 (I-90)	BFS	20.5	C	19.9	C	23.2	C	22.8	C
at Exit 6 (I-90)	Diverge	15.7	B	16.0	B	17.8	B	18.4	B
between Interchange 6 (I-90) off and on-ramp	BFS	18.4	C	16.8	B	20.8	C	19.2	C
at Interchange 6 (I-90) on-ramp	Merge	18.1	B	16.6	B	20.8	C	18.3	B
between Interchange 6 (I-90) on-ramp and Exit 5W (Kirkville Rd)	BFS	25.4	C	23.0	C	28.8	D	25.6	C
at Exit 5W (Kirkville Rd)	Diverge	16.7	B	14.9	B	19.2	B	16.7	B
between Interchange 5W (Kirkville Rd) off and on-ramps	BFS	21.9	C	21.2	C	24.4	C	23.7	C
between Interchange 5W (Kirkville Rd) on-ramp and Exit 5E (Kirkville Rd)	Weave	17.5	B	15.4	B	20.2	C	17.9	B
between Interchange 5E (Kirkville Rd) off and on-ramps	BFS	23.5	C	20.2	C	26.1	D	23.3	C
at Interchange 5E (Kirkville Rd) on-ramp	Merge	18.3	B	17.6	B	20.2	C	20.0	B
between Interchange 5E (Kirkville Rd) on-ramp and Exit 4 (Westbound I-690)	BFS	18.0	B	16.9	B	19.8	C	19.1	C
at Exit 4 (Westbound I-690)	Diverge	17.7	B	16.6	B	20.0	B	18.7	B
between Interchange 4 (Eastbound I-690) on and off-ramps	BFS	14.1	B	17.1	B	15.6	B	19.7	C
at Interchange 4 (Eastbound I-690) on-ramp	Merge	8.6	A	21.3	C	14.8	B	23.3	C
between Interchange 4 (Eastbound I-690) on-ramp and Exit 3W (Westbound NY-5)	BFS	11.5	B	27.6	D	18.4	C	34.6	D
at Exit 3W (Westbound NY-5)	Diverge	8.6	A	20.6	C	13.6	B	26.4	C
between Interchange 3W (Westbound NY-5) off and on-ramps	BFS	7.4	A	13.2	B	11.5	B	14.7	B
between Interchange 3W (Westbound NY-5) on-ramp and onramp from (Eastbound NY-5)	BFS	8.1	A	9.2	A	11.9	B	9.3	A
at Interchange 3E (Eastbound NY-5) on-ramp	Merge	8.7	A	13.5	B	12.5	B	14.6	B
between Interchange 3E (Eastbound NY-5) on-ramp and Exit 2 (Jamesville Rd)	BFS	8.8	A	15.1	B	13.0	B	16.6	B
at Exit 2 (Jamesville Rd)	Diverge	13.2	B	22.8	C	19.6	B	24.8	C
between Interchange 2 (Jamesville Rd) off and on-ramps	BFS	9.5	A	14.7	B	14.5	B	16.4	B
at Interchange 2 (Jamesville Rd) on-ramp	Merge	7.3	A	10.3	B	10.5	B	11.6	B

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
between Interchange 2 (Jamesville Rd) on-ramp and Exit 1 (Brighton Av)	BFS	10.9	A	15.5	B	15.7	B	17.3	B
at Exit 1 (Brighton Av)	Diverge	7.1	A	11.0	B	10.8	B	12.7	B
between Exit 1 (Brighton Av) and Southbound Former I-81 merge	BFS	5.3	A	8.7	A	8.5	A	9.7	A
Eastbound I-690									
between Interchange 7 (NY-297) and Interchange 8 (State Fair Blvd) on-ramps	BFS	27.4	D	13.6	B	31.5	D	15.6	B
at Interchange 8 (State Fair Blvd) on-ramp	Merge	19.7	B	13.0	B	22.8	C	14.4	B
at Exit 8 (Hiawatha Blvd)	Diverge	22.6	C	13.9	B	32.7	D	15.5	B
between Exit 8 (Hiawatha Blvd) and Exit 9 (Bear St)	BFS	24.7	C	11.6	B	29.1	D	13.5	B
at Exit 9 (Bear St)	Diverge	19.7	B	12.2	B	21.8	C	13.8	B
between Exit 9 (Bear St) and Interchange 10 (N. Geddes St) on-ramp	BFS	21.5	C	11.5	B	23.7	C	13.4	B
at Interchange 10 (N. Geddes St) on-ramp and West St off-ramp	Weave	21.2	C	14.1	B	23.1	C	15.7	B
at Exit 11 (West St) off-ramp	Diverge	19.9	B	12.5	B	21.5	C	15.0	B
between West St off-ramp and on-ramp	BFS	18.4	C	14.8	B	19.8	C	16.2	B
at Interchange 11 (West St) on-ramp	Merge	18.8	B	19.0	B	18.2	B	17.2	B
between onramp from Southbound Former I-81 and Irving Av off-ramp	Weave	22.5	C	22.4	C	26.0	C	21.4	C
between Irving Av off-ramp and Crouse Av on-ramp	BFS	19.0	C	20.6	C	20.3	C	21.2	C
between Crouse Av on-ramp and Exit 14 (Teall Av)	Weave	19.3	B	22.6	C	18.5	B	24.1	C
between Interchange 14 (Teall Av) off and on-ramps	BFS	19.2	C	23.0	C	17.9	B	23.8	C
at Interchange 14 (Teall Av) on-ramp	Merge	17.8	B	23.1	C	18.4	B	24.1	C
at Exit 15 (Midler Av)	Diverge	16.4	B	21.1	C	17.2	B	21.8	C
between Interchange 15 (Midler Av) off and on-ramps	BFS	16.5	B	24.0	C	17.6	B	25.3	C
at Interchange 15 (Midler Av) on-ramp	Merge	1.6	A	21.8	C	15.9	B	21.1	C
between Interchange 15 (Midler Av) on-ramp and Exits 16S-N (Thompson Rd)	BFS	1.8	A	27.5	D	19.3	C	28.7	D
at Exits 16S-N (Thompson Rd) and Exit 17 (Bridge St)	Diverge	1.1	A	19.6	B	17.3	B	20.3	C
between Interchange 16S-N (Thompson Rd) off and on-ramps	BFS	1.3	A	17.3	B	11.0	B	18.1	C
at Interchange 16S-N (Thompson Rd) on-ramp	Merge	2.4	A	18.9	B	11.4	B	19.5	B
between Interchange 16S-N (Thompson Rd) and Interchange 17 (Bridge St) on-ramps	BFS	3.4	A	22.8	C	14.0	B	23.7	C
at Interchange 17 (Bridge St) on-ramp	Merge	3.6	A	20.6	C	14.5	B	20.9	C
at Former I-481 ramps	Diverge	3.6	A	26.7	C	16.0	B	27.2	C
Westbound I-690									
at on-ramp from Southbound Former I-481	Merge	23.1	C	18.1	B	25.6	C	19.8	B
at Exit 17 (Bridge St)	Diverge	16.9	B	14.0	B	18.9	B	15.3	B

2026 and 2056 Community Grid Alternative Freeway LOS Analysis

Segment	Type	2026 AM Density (pc/mi/ln)	2026 AM LOS	2026 PM Density (pc/mi/ln)	2026 PM LOS	2056 AM Density (pc/mi/ln)	2056 AM LOS	2056 PM Density (pc/mi/ln)	2056 PM LOS
at Exit 16N-S (Thompson Rd)	Diverge	20.0	B	15.6	B	22.8	C	17.1	B
between Interchange 16N-S (Thompson Rd) off and on-ramps	BFS	21.4	C	18.3	C	24.5	C	19.9	C
at Interchange 16N-S (Thompson Rd) on-ramp	Merge	17.9	B	20.6	C	19.7	B	21.6	C
at Exit 15 (Midler Av)	Diverge	17.1	B	22.2	C	18.8	B	22.9	C
between Interchange 15 (Midler Av) off and on-ramps	BFS	21.2	C	24.2	C	23.6	C	25.5	C
at Interchange 15 (Midler Av) on-ramp	Merge	20.1	C	24.4	C	21.9	C	25.4	C
at Exit 14 (Teall Av)	Diverge	19.0	B	22.7	C	20.7	C	23.7	C
between Teall Av off and on-ramps	BFS	18.8	C	23.9	C	20.5	C	24.7	C
between Interchange 14 (Teall Av) on-ramp and Crouse Av off-ramp	Weave	17.3	B	23.1	C	18.2	B	23.7	C
between off-ramp to Crouse Av and on-ramp from Irving Av	BFS	18.6	C	26.3	D	24.8	C	27.2	D
between Irving Av on-ramp off-ramp to Northbound Former I-81	Weave	14.0	B	20.7	C	19.0	B	22.5	C
between off-ramp to Northbound Former I-81 and West St off-ramp	BFS	10.8	A	14.5	B	14.1	B	15.6	B
between West St off and on-ramps	BFS	9.5	A	14.9	B	13.0	B	16.5	B
between Interchange 11 (West St) on-ramp and Exit 10 (N. Geddes St)	Weave	8.4	A	15.5	B	12.8	B	17.4	B
between Exit 10 (N. Geddes St) and Interchange 9 (Bear St) on-ramp	BFS	7.8	A	18.0	B	10.7	A	20.1	C
at Interchange 9 (Bear St) on-ramp	Merge	11.8	B	23.8	C	14.6	B	25.3	C
between Interchange 9 (Bear St) and Interchange 8 (State Fair Blvd) on-ramps	BFS	11.3	B	25.6	C	14.4	B	27.8	D
at Interchange 8 (Hiawatha Blvd) on-ramp	Merge	12.4	B	24.7	C	15.5	B	25.1	C
between Interchange 8 (State Fair Blvd) on-ramp and Exit 7 (NY 297, Fairgrounds)	BFS	12.9	B	29.4	D	16.6	B	31.6	D

5-2-8: 2026 and 2056 Community Grid Alternative

Intersection Level of Service

Approach	2026				2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Comstock								
C-1								
S.Colvin St & S Salina St								
NB	12.1	B	19.2	B	13.4	B	19.8	B
SB	4.4	A	8.7	A	5.9	A	10.8	B
SWB	20.1	C	7.8	A	21.6	C	10.8	B
EB	7.9	A	8.4	A	11.6	B	10.4	B
ALL	10.7	B	8.7	A	12.6	B	11.0	B
C-2								
S.Colvin St & S State St								
NB	26.3	C	50.1	D	23.3	C	14.8	B
SB	23.5	C	9.9	A	32.3	C	19.5	B
EB	5.1	A	11.6	B	5.5	A	14.6	B
WB	5.5	A	13.0	B	7.5	A	17.4	B
ALL	14.8	B	32.5	C	13.7	B	15.7	B
C-3								
S.Colvin St & Jamesville Ave								
NB	7.7	A	45.3	D	7.6	A	61.4	E
SB	12.9	B	52.9	D	0.0	A	59.9	E
EB	0.6	A	0.9	A	0.8	A	1.2	A
WB	0.2	A	0.4	A	0.4	A	0.5	A
ALL	5.1	A	27.6	C	0.7	A	30.7	C
C-5								
S.Colvin St & Comstock Ave								
NB	6.0	A	6.9	A	8.9	A	9.6	A
NWB	6.3	A	9.5	A	7.6	A	10.4	B
SB	8.7	A	12.7	B	15.9	B	20.4	C
SEB	8.6	A	11.9	B	18.1	B	18.9	B
ALL	7.5	A	10.6	B	12.5	B	15.0	B
C-6								
S.Colvin St & Northbound BL-81 On-Ramp								
NB	13.8	B	15.8	B	13.0	B	16.1	B
EB	11.1	B	9.8	A	38.9	D	11.5	B
WB	8.2	A	8.3	A	10.3	B	6.1	A
ALL	10.7	B	10.5	B	20.8	C	10.0	A
Dewitt								
DW-1								
NY 5/E. Genesee St & Erie Blvd								
NB	0.0	A	0.0	A	0.0	A	0.0	A
NWB	4.5	A	2.5	A	6.2	A	1.1	A
SB	9.5	A	3.9	A	10.0	A	3.7	A
EB	8.7	A	6.0	A	8.7	A	9.5	A
WB	14.1	B	9.6	A	15.3	B	9.3	A
ALL	9.5	A	5.9	A	10.1	B	7.9	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
DW-2								
NY 5/E. Genesee St & Maple Dr								
NB	48.3	D	60.7	E	49.5	D	58.2	E
NWB	14.7	B	12.6	B	15.8	B	14.0	B
SEB	39.2	D	13.5	B	42.1	D	15.6	B
ALL	24.4	C	16.2	B	27.1	C	17.8	B
DW-3								
NY 5/E. Genesee St & ALDI/BOA driveway								
NEB	67.0	E	67.5	E	64.9	E	70.7	E
NWB	15.6	B	31.3	C	19.0	B	36.3	D
SEB	13.5	B	13.8	B	15.7	B	15.9	B
SWB	55.2	E	61.9	E	54.9	D	0.0	A
ALL	15.8	B	25.5	C	18.6	B	25.3	C
DW-4								
NY 5/E. Genesee St/Highbridge Rd & Bridlepath Rd/Lyndon Rd								
NB	62.0	E	60.8	E	61.9	E	65.4	E
NWB	46.5	D	54.7	D	66.6	E	58.0	E
SB	69.0	E	75.3	E	69.5	E	80.5	F
SEB	20.8	C	39.1	D	24.8	C	46.6	D
WB	42.9	D	57.7	E	54.5	D	63.1	E
ALL	39.3	D	47.6	D	50.3	D	54.0	D
DW-5								
NY 5/E. Genesee St & Southbound I-481 Off-Ramp								
SB	41.1	D	55.8	E	44.9	D	84.8	F
EB	12.1	B	16.9	B	12.6	B	19.4	B
WB	17.1	B	17.0	B	18.1	B	17.5	B
ALL	22.7	C	35.7	D	27.0	C	50.4	D
DW-6								
NY 5/E. Genesee St & Northbound I-481 Off-Ramp								
NEB	11.2	B	20.1	C	19.1	C	21.5	C
EB	0.7	A	3.2	A	2.3	A	3.5	A
ALL	2.1	A	3.9	A	4.3	A	4.4	A
Downtown and Southside								
D-1								
N. West St & NY 5/W. Genesee St								
NB	37.8	D	34.7	C	102.8	F	34.4	C
SB	14.7	B	23.7	C	9.6	A	27.1	C
EB	30.0	C	30.3	C	58.3	E	27.0	C
WB	22.0	C	21.7	C	38.3	D	31.4	C
ALL	21.9	C	28.6	C	36.1	D	30.8	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-3 **Southbound S. West St & W. Fayette St**								
SB	20.7	C	26.8	C	24.0	C	19.7	B
EB	17.0	B	18.2	B	30.1	C	34.4	C
WB	3.6	A	3.1	A	1.6	A	6.9	A
ALL	19.2	B	21.9	C	24.0	C	20.4	C
D-4 **Northbound S. West St & W. Fayette St**								
NB	7.4	A	20.7	C	39.5	D	6.7	A
EB	14.7	B	12.5	B	6.5	A	26.7	C
WB	17.6	B	23.8	C	31.5	C	28.9	C
ALL	11.8	B	19.8	B	21.8	C	17.9	B
D-5 **S. West St & Gifford St**								
NB	20.6	C	14.5	B	0.6	A	4.6	A
SB	41.3	D	21.0	C	11.3	B	4.9	A
EB	22.4	C	17.8	B	49.9	D	44.1	D
WB	14.2	B	17.5	B	33.9	C	28.7	C
ALL	30.5	C	17.3	B	11.5	B	11.2	B
D-6 **S. West St & Seymour St**								
NB	12.3	B	11.9	B	29.6	C	2.2	A
SB	28.4	C	9.9	A	21.7	C	3.5	A
WB	13.0	B	20.0	B	12.4	B	35.1	D
ALL	21.8	C	13.8	B	22.0	C	13.1	B
D-7 **S. West St & Shonnard St**								
NB	20.7	C	16.8	B	24.7	C	13.8	B
SB	25.3	C	21.8	C	7.6	A	23.5	C
EB	29.7	C	26.4	C	35.1	D	37.3	D
ALL	25.2	C	21.1	C	16.9	B	23.1	C
D-8 **S. West St & W. Onondaga St**								
NEB	5.4	A	42.0	D	60.2	E	39.0	D
SB	23.8	C	27.0	C	24.8	C	36.9	D
SWB	22.8	C	26.4	C	20.8	C	25.1	C
ALL	13.6	B	32.9	C	44.2	D	34.7	C
D-10 **Wallace St & NY 5/W. Genesee St**								
NEB	12.5	B	13.2	B	21.3	C	15.9	B
NWB	10.0	A	4.7	A	10.4	B	5.7	A
SB	0.0	A	5.8	A	0.0	A	0.0	A
SEB	10.6	B	6.5	A	11.5	B	16.2	B
ALL	10.5	B	6.1	A	11.3	B	10.9	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-11								
N. Franklin St & Butternut St								
NB	1.1	A	0.8	A	0.7	A	1.1	A
NWB	8.9	A	8.7	A	7.2	A	7.4	A
SEB	6.0	A	6.7	A	6.0	A	7.1	A
SWB	1.6	A	1.4	A	1.7	A	1.7	A
ALL	2.2	A	1.1	A	2.2	A	2.3	A
D-12								
N. Franklin St & Herald Pl								
NB	8.1	A	21.9	C	10.0	A	25.1	C
SB	9.9	A	24.1	C	16.5	B	24.1	C
EB	24.7	C	8.1	A	18.4	B	12.2	B
WB	16.1	B	5.8	A	8.6	A	6.7	A
ALL	11.0	B	18.6	B	13.0	B	21.7	C
D-13								
N. Franklin St & NY 5/W. Genesee St								
NEB	17.8	B	24.1	C	36.3	D	38.0	D
NWB	35.0	C	25.6	C	23.7	C	38.1	D
SB	16.6	B	14.0	B	17.4	B	11.6	B
SEB	13.6	B	13.7	B	11.2	B	24.5	C
ALL	19.2	B	20.0	B	18.7	B	29.8	C
D-14								
N./S. Franklin St & Erie Blvd W.								
NB	9.4	A	6.3	A	6.2	A	7.6	A
SB	37.5	D	11.5	B	21.1	C	14.9	B
EB	38.4	D	20.0	C	25.7	C	31.4	C
WB	23.8	C	29.6	C	37.8	D	40.0	D
ALL	31.1	C	12.9	B	22.6	C	17.3	B
D-15								
S. Franklin St & W. Water St								
NB	5.6	A	8.7	A	2.9	A	16.7	C
SB	0.5	A	0.2	A	0.3	A	0.5	A
EB	8.7	A	0.0	A	8.3	A	0.0	A
WB	11.3	B	11.0	B	8.3	A	14.8	B
ALL	2.0	A	6.5	A	1.2	A	12.2	B
D-16								
S. Franklin St & W. Washington St								
NB	3.9	A	1.9	A	4.3	A	14.0	B
SB	4.4	A	10.7	B	1.1	A	16.9	B
EB	19.0	B	20.7	C	21.5	C	13.6	B
WB	12.8	B	13.9	B	9.0	A	10.7	B
ALL	10.4	B	9.5	A	9.2	A	13.0	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-17								
S. Franklin St & W. Fayette St								
NB	12.4	B	15.8	B	17.0	B	15.0	B
SB	10.2	B	17.3	B	18.1	B	9.1	A
EB	21.7	C	15.9	B	16.5	B	14.9	B
WB	25.2	C	16.1	B	33.4	C	12.5	B
ALL	20.8	C	16.3	B	19.2	B	12.9	B
D-18								
S. Franklin St & Walton St								
NB	7.7	A	7.9	A	7.7	A	7.8	A
SB	6.7	A	6.4	A	6.3	A	6.3	A
EB	0.6	A	0.2	A	0.5	A	0.3	A
WB	0.1	A	0.1	A	0.1	A	0.1	A
ALL	3.5	A	4.0	A	3.3	A	4.0	A
D-19								
N. Clinton St & Websters Landing								
SB	4.5	A	1.2	A	3.7	A	0.6	A
EB	0.9	A	0.4	A	1.0	A	0.6	A
ALL	4.5	A	1.2	A	3.7	A	0.6	A
D-20								
N. Clinton St & Herald Pl								
SB	8.2	A	18.5	B	9.6	A	15.9	B
EB	26.5	C	16.6	B	25.7	C	41.8	D
WB	31.0	C	29.7	C	24.8	C	8.9	A
ALL	10.6	B	18.7	B	11.9	B	23.8	C
D-21								
N. Clinton St & NY 5/W. Genesee St								
SB	21.1	C	53.2	D	20.4	C	33.3	C
SEB	10.4	B	21.5	C	23.7	C	6.8	A
WB	14.2	B	18.4	B	33.4	C	27.9	C
ALL	16.3	B	29.7	C	24.2	C	24.1	C
D-22								
N./S. Clinton St & Erie Blvd W.								
SB	2.4	A	3.5	A	0.4	A	0.4	A
EB	14.9	B	13.8	B	11.7	B	12.5	B
ALL	3.3	A	4.7	A	1.3	A	1.7	A
D-23								
S. Clinton St & W. Water St								
SB	4.0	A	5.1	A	0.5	A	0.6	A
ALL	4.0	A	5.1	A	0.5	A	0.6	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-24								
S. Clinton St & W. Washington St								
SB	8.0	A	32.6	C	5.4	A	27.2	C
EB	23.4	C	8.5	A	19.3	B	14.5	B
WB	20.4	C	7.9	A	8.4	A	7.5	A
ALL	11.9	B	20.9	C	7.8	A	17.9	B
D-25								
S. Clinton St & W. Fayette St								
SB	5.1	A	4.7	A	3.7	A	3.6	A
EB	24.6	C	12.4	B	24.4	C	18.6	B
WB	27.3	C	1.8	A	13.1	B	5.4	A
ALL	15.7	B	6.0	A	12.9	B	8.5	A
D-26								
S. Clinton St & W. Jefferson St								
SB	11.3	B	7.2	A	2.4	A	2.4	A
EB	8.5	A	11.7	B	9.7	A	11.5	B
WB	17.7	B	19.3	B	15.7	B	17.9	B
ALL	11.9	B	9.9	A	5.3	A	6.1	A
D-27								
S. Clinton St & W. Onondaga St								
NEB	16.1	B	20.2	C	18.9	B	39.3	D
SB	24.7	C	15.2	B	3.4	A	17.5	B
SWB	13.8	B	25.1	C	9.2	A	8.4	A
ALL	18.9	B	19.8	B	9.8	A	18.7	B
D-28								
S. Clinton St & W. Adams St								
SB	37.2	D	41.4	D	46.1	D	57.9	E
EB	12.4	B	5.3	A	5.8	A	9.9	A
WB	8.9	A	6.9	A	3.9	A	2.8	A
ALL	17.2	B	17.0	B	13.1	B	23.8	C
D-29								
S. Clinton St & Tallman St								
SB	24.2	C	28.6	C	17.1	B	27.7	C
EB	3.4	A	3.9	A	3.3	A	4.0	A
WB	0.2	A	0.2	A	0.2	A	0.2	A
ALL	11.4	B	16.3	B	8.0	A	16.1	B
D-30								
N. Salina St & Pearl St								
NB	1.2	A	2.1	A	0.8	A	2.1	A
NWB	9.1	A	8.9	A	8.5	A	9.0	A
SB	0.8	A	0.6	A	1.0	A	2.1	A
ALL	1.7	A	1.8	A	1.4	A	2.8	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-31								
N. Salina St & SB I-81 Offramp								
SB	3.2	A	8.8	A	3.7	A	4.6	A
EB	1.7	A	16.3	C	19.9	C	19.0	C
WB	2.7	A	22.1	C	19.0	C	18.2	C
ALL	2.4	A	16.8	C	14.0	B	10.6	B
D-32								
N. Salina St & Herald Pl								
NB	10.8	B	24.2	C	3.2	A	18.3	B
SB	37.7	D	9.7	A	13.8	B	21.5	C
EB	50.5	D	21.8	C	9.1	A	43.5	D
ALL	35.8	D	19.7	B	9.5	A	29.8	C
D-33								
N. Salina St & E./W. Willow St								
NB	0.9	A	1.7	A	0.7	A	1.1	A
SB	66.4	E	10.7	B	22.7	C	13.2	B
WB	35.1	D	19.6	B	33.1	C	21.7	C
ALL	43.0	D	6.7	A	17.2	B	7.5	A
D-34								
N. Salina St & NY 5/W. Genesee St/James St								
NB	13.0	B	24.0	C	13.4	B	19.7	B
SB	29.5	C	14.7	B	25.6	C	11.4	B
EB	11.4	B	18.0	B	14.2	B	29.5	C
WB	14.3	B	16.5	B	15.0	B	20.7	C
ALL	18.4	B	18.6	B	18.1	B	20.4	C
D-35								
S. Salina St & E./W. Water St								
NB	11.1	B	11.6	B	6.0	A	7.7	A
SB	8.7	A	4.8	A	9.6	A	7.6	A
EB	24.1	C	47.6	D	17.1	B	10.6	B
ALL	11.3	B	13.3	B	9.9	A	8.1	A
D-36								
S. Salina St & E./W. Washington St								
NB	30.0	C	13.9	B	15.0	B	23.5	C
SB	20.2	C	5.3	A	9.1	A	16.8	B
EB	14.1	B	13.7	B	17.7	B	11.7	B
WB	5.1	A	18.6	B	22.8	C	12.8	B
ALL	18.9	B	12.9	B	15.3	B	16.7	B
D-37								
S. Salina St & E./W. Fayette St								
NB	13.3	B	12.7	B	24.0	C	10.7	B
SB	7.0	A	10.3	B	18.3	B	17.2	B
EB	19.4	B	4.3	A	6.2	A	9.1	A
WB	9.9	A	6.1	A	12.8	B	6.7	A
ALL	12.4	B	8.9	A	14.8	B	10.9	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-38								
S. Salina St & E./W. Jefferson St								
NB	10.0	B	11.9	B	23.7	C	11.1	B
SB	12.4	B	5.5	A	11.9	B	9.6	A
EB	16.7	B	18.9	B	17.6	B	15.0	B
WB	26.1	C	26.4	C	24.6	C	15.6	B
ALL	13.9	B	12.6	B	17.9	B	11.8	B
D-39								
S. Salina St & Harrison St and Onondaga St								
NB	22.1	C	26.2	C	25.3	C	29.8	C
NEB	17.0	B	32.4	C	9.4	A	32.1	C
SB	33.9	C	14.1	B	76.6	E	73.6	E
WB	83.0	F	32.0	C	23.3	C	68.8	E
ALL	39.5	D	26.9	C	40.5	D	53.0	D
D-40								
S. Salina St & E./W. Adams St								
NB	28.6	C	47.2	D	32.8	C	34.9	C
SB	47.1	D	26.4	C	23.1	C	121.1	F
EB	45.3	D	22.2	C	15.8	B	20.0	B
WB	38.1	D	11.6	B	10.2	B	16.6	B
ALL	40.9	D	29.0	C	21.5	C	44.5	D
D-41								
S. Salina St & E./W. Taylor St								
NB	16.5	B	14.4	B	18.4	B	15.6	B
SB	21.3	C	16.4	B	17.3	B	17.5	B
EB	4.2	A	4.8	A	4.3	A	5.1	A
WB	10.0	B	10.1	B	10.3	B	10.9	B
ALL	17.9	B	14.1	B	17.5	B	15.1	B
D-42								
S. Salina St & Burt St and Cortland Av								
NB	13.6	B	11.3	B	16.5	B	12.0	B
NEB	12.8	B	11.4	B	13.9	B	10.8	B
SB	12.5	B	11.4	B	12.2	B	10.5	B
WB	7.6	A	6.1	A	7.2	A	7.1	A
ALL	12.9	B	11.3	B	14.1	B	11.0	B
D-43								
S. Salina St & Tallman St/Coyne Corners								
NB	0.9	A	0.4	A	1.0	A	0.5	A
SB	3.3	A	1.8	A	3.3	A	2.2	A
EB	15.1	C	17.7	C	13.3	B	19.8	C
ALL	5.7	A	6.5	A	5.0	A	7.3	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-44								
US 11/S. Salina St & US 11/E. Raynor St								
NB	13.2	B	11.8	B	14.2	B	12.6	B
SB	11.0	B	11.0	B	11.0	B	11.5	B
WB	8.3	A	9.1	A	8.4	A	7.4	A
ALL	12.0	B	11.2	B	12.6	B	11.6	B
D-45								
US 11/S. Salina St & E./W. MLK Jr Dr								
NB	10.9	B	12.3	B	11.6	B	13.8	B
SB	15.5	B	15.6	B	15.4	B	16.3	B
EB	10.8	B	10.5	B	10.8	B	10.3	B
WB	8.6	A	9.4	A	8.7	A	9.9	A
ALL	12.3	B	13.1	B	12.3	B	13.7	B
D-46								
Pearl St & Hickory St								
NWB	1.4	A	1.8	A	0.7	A	2.1	A
SEB	0.3	A	0.7	A	0.2	A	0.7	A
SWB	5.9	A	6.0	A	5.7	A	5.8	A
ALL	1.2	A	0.9	A	1.2	A	1.0	A
D-47								
Pearl St & E. Willow St								
NEB	15.2	C	11.1	B	20.0	C	13.0	B
NWB	15.9	C	16.8	C	16.6	C	17.1	C
SWB	6.4	A	8.8	A	6.0	A	9.3	A
ALL	14.5	B	13.8	B	17.4	C	14.0	B
D-48								
N. Warren St & E. Willow St								
NWB	8.1	A	14.4	B	7.0	A	12.7	B
EB	1.8	A	6.3	A	1.9	A	5.4	A
WB	0.8	A	0.2	A	0.3	A	1.6	A
ALL	3.3	A	9.0	A	1.8	A	5.3	A
D-49								
N. Warren St & NY 5/James St								
NB	4.2	A	4.5	A	4.8	A	5.0	A
SB	7.4	A	8.1	A	14.1	B	15.2	B
SWB	4.3	A	2.7	A	2.1	A	7.7	A
EB	24.0	C	20.6	C	23.9	C	21.1	C
ALL	13.4	B	8.6	A	15.2	B	11.6	B
D-50								
N. Warren St. & E. Erie Blvd								
NB	11.2	B	13.8	B	7.0	A	10.1	B
SB	2.9	A	4.3	A	10.7	B	5.0	A
EB	13.1	B	15.4	C	13.8	B	25.5	D
WB	6.2	A	0.5	A	15.3	C	25.1	D
ALL	9.5	A	12.7	B	10.5	B	15.0	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-51								
S. Warren St & E. Water St								
NB	4.6	A	36.4	D	11.1	B	6.2	A
SB					7.7	A	3.3	A
EB	12.9	B	15.4	B	12.6	B	17.3	B
WB	8.3	A	127.7	F	4.4	A	11.5	B
ALL	7.4	A	47.1	D	10.5	B	7.0	A
D-52								
S. Warren St & E. Washington St								
NB	19.0	B	9.6	A	16.1	B	7.3	A
SB					22.2	C	3.0	A
EB	1.1	A	9.6	A	1.3	A	11.0	B
WB	20.7	C	7.8	A	15.4	B	19.4	B
ALL	13.3	B	9.2	A	12.1	B	10.2	B
D-53								
S. Warren St & E. Fayette St								
NB	20.9	C	33.0	C	22.3	C	13.7	B
EB	1.8	A	21.7	C	20.3	C	18.2	B
WB	7.6	A	11.7	B	13.3	B	13.1	B
ALL	12.6	B	25.4	C	20.0	B	14.7	B
D-54								
S. Warren St & E. Jefferson St								
NB	22.1	C	13.6	B	10.5	B	19.2	B
EB	12.2	B	38.4	D	4.0	A	21.6	C
WB	5.2	A	12.7	B	8.3	A	11.1	B
ALL	16.9	B	16.4	B	8.3	A	18.3	B
D-55								
S. Warren St & E. Onondaga St and Madison St								
NB	21.5	C	27.9	C	17.7	B	15.3	B
NEB	17.1	B	28.5	C	21.9	C	18.3	B
SWB	13.0	B	10.0	A	8.8	A	9.1	A
ALL	20.4	C	23.9	C	18.5	B	14.3	B
D-56								
S. Warren St & Harrison St								
NB	16.3	B	17.3	B	13.0	B	32.1	C
SB	11.5	B	10.2	B	8.8	A	18.8	B
EB	21.7	C	19.4	B	20.9	C	26.0	C
WB	56.2	E	26.1	C	16.1	B	65.4	E
ALL	40.5	D	22.1	C	16.1	B	44.0	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-57								
S. Warren St & E. Adams St								
NB	30.4	C	25.2	C	31.3	C	26.6	C
SB	6.9	A	29.5	C	0.0	A	0.0	A
EB	3.8	A	10.6	B	5.9	A	4.3	A
WB	8.3	A	11.3	B	5.0	A	10.1	B
ALL	9.5	A	15.7	B	11.2	B	13.8	B
D-58								
Oswego Blvd & James St								
NEB	6.7	A	10.3	B	6.8	A	10.3	B
SEB	4.1	A	4.0	A	3.1	A	2.0	A
SWB	32.7	C	32.5	C	31.0	C	33.8	C
ALL	10.8	B	17.7	B	10.2	B	16.8	B
D-59								
NY 5/Oswego Blvd/ & Montgomery St								
SEB	33.1	C	22.1	C	31.3	C	24.3	C
EB	12.3	B	15.0	B	12.9	B	16.3	B
WB	15.2	B	15.7	B	16.8	B	14.5	B
ALL	26.5	C	17.6	B	26.9	C	19.3	B
D-60								
Montgomery St & E. Water St								
SB	6.0	A	5.6	A	5.4	A	7.9	A
EB	18.5	B	22.4	C	12.4	B	12.8	B
WB	15.6	B	22.8	C	14.3	B	15.3	B
ALL	12.0	B	16.7	B	9.4	A	11.9	B
D-61								
Montgomery St & E. Washington St								
NB					1.9	A	4.6	A
SB	17.5	B	12.8	B	10.0	A	17.4	B
EB	8.1	A	4.8	A	6.8	A	1.6	A
WB	7.4	A	4.1	A	15.3	B	8.9	A
ALL	11.1	B	6.3	A	9.1	A	7.0	A
D-62								
Montgomery St & E. Fayette St								
NB					11.0	B	17.6	B
SB	18.1	B	6.9	A	17.1	B	19.7	B
EB	2.7	A	16.8	B	28.7	C	5.2	A
WB	13.0	B	28.5	C	16.0	B	6.2	A
ALL	8.9	A	18.0	B	21.8	C	11.6	B
D-63								
Montgomery St & E. Jefferson St								
SB	22.1	C	23.9	C	15.6	B	2.9	A
EB	32.1	C	14.1	B	15.2	B	4.4	A
WB	5.8	A	8.2	A	2.6	A	6.1	A
ALL	16.5	B	17.8	B	9.6	A	4.6	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-64 **Montgomery St and & E. Onondaga St**								
NB					9.7	A	18.9	B
SWB	19.0	B	11.0	B	8.3	A	10.0	A
EB	7.7	A	3.5	A	13.2	B	6.6	A
WB					11.5	B	22.2	C
ALL	15.9	B	7.3	A	10.1	B	13.0	B
D-65 **Montgomery St & Madison St**								
NB					3.8	A	4.8	A
SB	8.8	A	7.8	A	10.5	B	17.4	B
EB	14.2	B	14.9	B	7.8	A	7.7	A
ALL	10.2	B	9.8	A	7.9	A	11.5	B
D-66 **Montgomery St & Harrison St**								
NB					20.2	C	22.4	C
SB	21.3	C	14.0	B	19.1	B	33.2	C
EB	10.5	B	9.7	A	10.7	B	13.3	B
WB	16.5	B	4.3	A	7.9	A	23.7	C
ALL	16.7	B	8.3	A	11.8	B	22.0	C
D-67 **Montgomery St & E. Adams St**								
NB	10.2	B	1.3	A	10.0	A	1.6	A
SB	17.6	B	31.5	C	24.7	C	36.3	D
EB	6.6	A	13.7	B	7.0	A	7.0	A
WB	6.8	A	5.8	A	4.8	A	4.5	A
ALL	7.0	A	14.7	B	7.0	A	11.2	B
D-68 **US 11/N. State St & Hickory St**								
NEB	7.8	A	7.2	A	7.3	A	7.5	A
NWB	0.6	A	0.5	A	0.3	A	0.4	A
SEB	0.3	A	0.3	A	0.3	A	0.3	A
ALL	0.8	A	0.8	A	0.5	A	0.6	A
D-69 **US 11/N. State St & E. Willow St**								
NEB	12.2	B	6.8	A	14.2	B	8.1	A
NWB	5.4	A	8.5	A	7.5	A	8.3	A
SEB	17.7	B	24.9	C	16.7	B	19.1	B
SWB	22.7	C	24.3	C	28.4	C	32.5	C
ALL	11.9	B	16.3	B	14.0	B	17.6	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-70								
US 11/N. State St & James St								
NEB	25.3	C	25.6	C	28.3	C	27.5	C
NWB	9.6	A	23.7	C	14.6	B	25.6	C
SEB	15.5	B	23.3	C	12.7	B	13.5	B
SWB	23.9	C	23.8	C	21.9	C	21.5	C
ALL	19.3	B	23.9	C	19.3	B	22.4	C
D-71								
US 11/S. State St & NY 5/Erie Blvd E.								
NB	5.4	A	9.4	A	12.0	B	11.3	B
SEB	26.4	C	39.1	D	26.3	C	35.6	D
EB	27.7	C	30.3	C	15.0	B	14.9	B
WB	45.1	D	24.7	C	20.7	C	18.3	B
ALL	27.8	C	23.9	C	19.7	B	19.3	B
D-72								
US 11/S. State St & E. Water St								
NB	14.7	B	46.7	D	12.8	B	40.6	D
SB	3.9	A	20.7	C	5.4	A	8.6	A
EB	29.2	C	52.9	D	20.0	B	25.1	C
WB	15.8	B	29.2	C	22.1	C	17.9	B
ALL	11.5	B	38.4	D	10.8	B	27.9	C
D-73								
US 11/S. State St & E. Washington St								
NB	31.2	C	25.6	C	11.1	B	31.2	C
SB	33.5	C	22.4	C	19.9	B	56.9	E
EB	17.1	B	34.8	C	11.6	B	41.5	D
WB	18.1	B	15.8	B	12.7	B	17.0	B
ALL	29.5	C	24.8	C	15.2	B	39.9	D
D-74								
US 11/S. State St & E. Fayette St								
NB	3.7	A	15.0	B	4.7	A	35.3	D
SB	14.2	B	8.6	A	42.6	D	64.6	E
EB	13.4	B	44.7	D	11.4	B	19.0	B
WB	25.4	C	38.2	D	30.0	C	29.1	C
ALL	12.3	B	21.0	C	24.1	C	39.9	D
D-75								
US 11/S. State St & NY 92/E. Genesee St								
NB	6.8	A	6.3	A	20.6	C	27.0	C
SB	11.7	B	2.7	A	11.8	B	6.2	A
WB	25.7	C	40.8	D	30.0	C	69.1	E
ALL	12.1	B	9.6	A	17.5	B	25.1	C

Approach	2026				2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-76								
US 11/S. State St & E. Jefferson St								
NB	18.2	B	15.7	B	12.9	B	32.4	C
SB	19.6	B	1.7	A	4.9	A	2.5	A
EB	6.1	A	14.6	B	22.5	C	21.3	C
ALL	17.9	B	11.2	B	9.9	A	20.0	B
D-77								
US 11/S. State St & Madison St								
NB	20.5	C	13.0	B	15.7	B	34.4	C
SB	27.4	C	47.9	D	21.2	C	20.3	C
EB	24.3	C	28.8	C	10.3	B	34.6	C
ALL	24.1	C	26.8	C	16.7	B	30.2	C
D-78								
US 11/S. State St & Harrison St								
NB	11.4	B	28.8	C	10.2	B	18.2	B
SB	17.4	B	25.3	C	13.7	B	8.6	A
EB	35.2	D	20.7	C	36.3	D	31.9	C
WB	23.7	C	9.1	A	20.0	B	58.2	E
ALL	20.9	C	20.6	C	18.7	B	30.9	C
D-79								
US 11/S. State St & E. Adams St								
NB	28.8	C	30.7	C	30.6	C	33.0	C
SB	33.3	C	31.9	C	37.0	D	34.2	C
EB	2.1	A	9.2	A	3.4	A	7.8	A
WB	6.9	A	8.9	A	7.4	A	7.5	A
ALL	13.6	B	16.8	B	15.0	B	17.3	B
D-80								
S. State St & Burt St								
NB	17.5	C	29.5	D	23.6	C	73.9	F
SB	12.3	B	15.2	C	14.1	B	19.4	C
EB	13.9	B	17.4	C	16.2	C	24.4	C
WB	13.2	B	17.8	C	17.0	C	24.6	C
ALL	14.8	B	21.7	C	18.7	C	42.7	E
D-81								
S. State St & E. MLK Jr Dr								
NB	8.6	A	8.9	A	9.0	A	9.4	A
SB	12.6	B	11.5	B	13.3	B	14.2	B
EB	11.4	B	10.8	B	9.8	A	10.5	B
WB	0.8	A	0.7	A	0.8	A	0.8	A
ALL	8.7	A	8.8	A	8.3	A	9.1	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-82								
N. Townsend St & Burnet Av								
NB	0.4	A	0.2	A	14.0	B	3.6	A
SB	14.3	B	9.4	A	12.1	B	18.1	B
EB	16.3	B	17.2	B	17.1	B	18.4	B
WB	23.6	C	3.0	A	9.1	A	15.3	B
ALL	15.1	B	5.9	A	12.3	B	13.2	B
D-84								
N./S. Townsend St & NY 5/Erie Blvd E.								
NB	25.1	C	6.0	A	10.3	B	5.9	A
SB	10.8	B	1.7	A	22.0	C	8.8	A
EB	13.6	B	20.1	C	25.9	C	14.9	B
WB	20.8	C	28.5	C	21.2	C	25.0	C
ALL	16.7	B	14.1	B	21.4	C	13.8	B
D-85								
S. Townsend St & E. Water St								
NB	10.1	B	8.9	A	17.7	B	9.1	A
SB	3.6	A	3.1	A	16.8	B	6.6	A
EB	3.8	A	14.6	B	16.1	B	20.4	C
WB	2.7	A	24.2	C	24.6	C	22.2	C
ALL	6.4	A	7.9	A	17.8	B	9.9	A
D-86								
S. Townsend St & E. Washington St								
NB	7.2	A	9.7	A	5.6	A	7.3	A
SB	8.3	A	6.9	A	11.9	B	11.2	B
EB	19.7	B	13.1	B	16.1	B	17.8	B
WB	12.9	B	37.6	D	24.0	C	11.0	B
ALL	9.4	A	11.5	B	12.6	B	10.3	B
D-87								
S. Townsend St & E. Fayette St								
NB	17.3	B	18.8	B	8.6	A	10.3	B
SB	11.1	B	39.7	D	6.9	A	9.4	A
EB	20.8	C	10.8	B	13.5	B	13.6	B
WB	13.2	B	12.4	B	28.0	C	12.3	B
ALL	13.8	B	23.7	C	9.7	A	10.7	B
D-88								
S. Townsend St & NY 92/E. Genesee St								
NB	11.8	B	33.6	C	7.7	A	14.1	B
NWB	31.3	C	44.6	D	34.5	C	27.9	C
SB	8.3	A	13.9	B	5.2	A	5.9	A
EB	17.6	B	28.6	C	25.5	C	22.1	C
ALL	13.1	B	28.3	C	11.7	B	13.7	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-89								
S. Townsend St & Harrison St								
NB	17.7	B	13.0	B	17.1	B	15.0	B
SB	26.7	C	25.0	C	61.3	E	23.1	C
EB	8.4	A	11.0	B	18.3	B	6.7	A
WB	13.3	B	14.3	B	11.8	B	17.0	B
ALL	18.6	B	16.2	B	36.2	D	16.1	B
D-90								
S. Townsend St & E. Adams St								
NB	20.5	C	31.6	C	20.1	C	20.8	C
SB	7.6	A	31.9	C	11.2	B	10.5	B
EB	18.8	B	12.2	B	18.2	B	18.9	B
WB	13.2	B	5.2	A	17.0	B	13.2	B
ALL	15.9	B	20.3	C	16.6	B	16.5	B
D-91								
Oakwood Av & E. MLK Jr Dr								
NB	17.7	B	7.5	A	17.8	B	8.1	A
SB	21.0	C	9.7	A	22.9	C	11.4	B
EB	10.6	B	8.7	A	10.6	B	9.9	A
WB	8.6	A	6.7	A	9.3	A	7.4	A
ALL	12.9	B	8.4	A	13.0	B	9.4	A
D-92								
N. McBride St & EB I-690 Onramp								
NB	0.2	A	0.1	A	0.1	A	0.1	A
SB	3.2	A	2.9	A	1.9	A	6.6	A
ALL	1.9	A	1.7	A	1.2	A	3.8	A
D-93								
N./S. McBride St & NY 5/Erie Blvd E.								
NB	18.2	B	11.1	B	3.7	A	17.5	B
SB	23.0	C	10.5	B	9.6	A	19.2	B
EB	15.2	B	9.4	A	17.7	B	6.9	A
WB	19.3	B	7.3	A	23.7	C	21.6	C
ALL	18.2	B	9.4	A	17.7	B	15.1	B
D-94								
S. McBride St & E. Water St								
NB	10.3	B	36.0	D	9.3	A	20.5	C
SB	27.9	C	19.2	B	13.6	B	35.8	D
EB	10.3	B	10.5	B	29.4	C	9.9	A
WB	11.6	B	8.2	A	17.2	B	14.5	B
ALL	15.9	B	25.3	C	17.8	B	20.7	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-95								
S. McBride St & E. Washington St								
NB	8.7	A	16.7	B	8.0	A	8.2	A
SB	38.4	D	21.5	C	15.7	B	4.8	A
EB	9.7	A	9.3	A	9.2	A	6.0	A
WB	9.2	A	17.6	B	12.3	B	10.1	B
ALL	19.9	B	16.7	B	12.3	B	7.4	A
D-96								
S. McBride St & E. Fayette St								
NB	13.7	B	27.0	C	27.4	C	21.1	C
SB	7.1	A	40.5	D	6.7	A	14.0	B
EB	6.3	A	12.4	B	4.2	A	6.6	A
WB	10.2	B	10.1	B	10.3	B	10.8	B
ALL	8.9	A	22.0	C	10.6	B	13.6	B
D-97								
S. McBride St & NY 92/E. Genesee St								
NB	7.8	A	6.3	A	17.7	B	20.6	C
SB	5.4	A	16.2	B	11.2	B	20.0	B
EB	29.6	C	56.7	E	7.4	A	8.8	A
WB	22.1	C	25.3	C	7.1	A	10.3	B
ALL	20.7	C	30.6	C	8.2	A	13.1	B
D-99								
Catherine St & Burnet Av								
NB	30.4	C	16.5	B	13.7	B	10.3	B
SB	30.9	C	29.4	C	18.8	B	17.3	B
EB	3.8	A	6.8	A	11.3	B	11.0	B
WB	8.5	A	7.6	A	12.7	B	12.7	B
ALL	21.0	C	17.4	B	15.1	B	13.0	B
D-100								
Almond St/Catherine St & NY 5/Erie Blvd E.								
NB	6.4	A	8.6	A	12.0	B	15.0	B
SB	7.1	A	17.1	B	14.8	B	15.7	B
EB	95.9	F	32.0	C	42.4	D	35.0	D
WB	61.3	E	38.3	D	21.9	C	23.4	C
ALL	43.1	D	24.3	C	21.5	C	22.6	C
D-101								
Almond St & E. Water St								
NB	6.8	A	21.0	C	18.9	B	32.0	C
SB	6.1	A	12.1	B	11.1	B	10.5	B
EB	12.3	B	21.1	C	28.1	C	19.2	B
WB	20.9	C	16.3	B	15.3	B	17.3	B
ALL	7.9	A	17.0	B	16.0	B	22.0	C

Approach	2026				2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-102								
Almond St & E. Washington St								
NB	7.7	A	6.5	A	7.7	A	10.9	B
SB	9.9	A	13.5	B	13.0	B	13.2	B
EB	27.5	C	20.7	C	29.1	C	27.9	C
WB	110.6	F	30.8	C	32.8	C	34.0	C
ALL	37.6	D	12.1	B	14.1	B	15.6	B
D-103								
Almond St & E. Fayette St								
NB	9.3	A	9.2	A	8.6	A	11.7	B
SB	14.1	B	21.6	C	20.1	C	19.6	B
EB	19.4	B	18.5	B	22.3	C	20.9	C
WB	18.5	B	27.3	C	17.0	B	16.2	B
ALL	13.8	B	17.3	B	15.5	B	15.9	B
D-104								
Almond St & NY 92/E. Genesee St								
NB	7.9	A	9.5	A	10.4	B	14.6	B
SB	10.0	B	22.0	C	23.4	C	23.6	C
SEB	24.1	C	24.1	C	23.0	C	25.8	C
EB	32.6	C	18.2	B	28.1	C	27.5	C
WB	3.8	A	8.6	A	9.0	A	6.0	A
ALL	10.1	B	15.7	B	16.3	B	18.2	B
D-107								
Almond St & Harrison St								
NB	6.1	A	16.9	B	9.1	A	14.5	B
SB	21.9	C	21.1	C	16.2	B	21.5	C
EB	31.2	C	28.8	C	84.7	F	51.0	D
WB	46.5	D	61.2	E	38.3	D	42.5	D
ALL	21.7	C	35.5	D	30.3	C	31.6	C
D-108								
Almond St & E. Adams St								
NB	39.8	D	12.7	B	39.3	D	23.7	C
SB	49.1	D	24.5	C	43.5	D	28.3	C
EB	11.8	B	13.8	B	13.2	B	19.5	B
ALL	32.5	C	17.5	B	30.0	C	23.8	C
D-109								
Almond St & Burt St								
NB	13.9	B	20.9	C	12.8	B	23.2	C
SB	16.6	B	43.2	D	23.0	C	39.5	D
EB	25.9	C	47.3	D	26.2	C	40.9	D
WB	22.3	C	15.1	B	24.0	C	15.8	B
ALL	17.0	B	35.6	D	17.7	B	33.7	C

Approach	2026				2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-110								
Almond St & Van Buren St								
NB	12.2	B	6.3	A	13.1	B	6.4	A
SB	15.4	B	20.6	B	5.6	A	42.5	D
WB	8.1	A	14.8	B	9.9	A	35.1	D
ALL	13.8	B	14.6	B	10.8	B	28.7	C
D-111								
W. Onondaga St & Seymour St, Shonnard St,								
NEB	26.8	C	25.8	C	42.8	D	57.5	E
SWB	21.9	C	22.4	C	31.2	C	35.4	D
EB	18.5	B	15.5	B	11.4	B	8.9	A
WB	8.2	A	18.5	B	8.3	A	7.6	A
ALL	19.7	B	20.6	C	20.6	C	25.5	C
D-112								
Slocum Av/South Av & W. Onondaga St								
NB	11.6	B	18.6	B	63.3	E	19.1	B
NEB	28.9	C	17.3	B	65.4	E	18.2	B
SEB	13.9	B	21.3	C	20.1	C	21.4	C
SWB	5.0	A	1.6	A	8.5	A	7.4	A
ALL	14.6	B	9.8	A	40.9	D	13.4	B
D-113								
W. Onondaga St/Onondaga Av & Delaware St/Tallman St								
NB	16.7	B	17.3	B	17.4	B	16.5	B
SEB	26.9	C	24.5	C	27.1	C	25.0	C
SWB	12.6	B	14.0	B	13.5	B	14.2	B
WB	18.7	B	28.7	C	18.3	B	28.7	C
ALL	19.3	B	19.5	B	19.9	B	19.8	B
D-114								
Cortland Av & Tallman St/Coyne Corners								
NB	13.2	B	11.8	B	11.6	B	10.1	B
SB	10.2	B	10.6	B	9.8	A	10.2	B
EB	8.6	A	8.4	A	8.6	A	8.3	A
WB	8.3	A	8.5	A	8.4	A	8.1	A
ALL	10.4	B	9.7	A	9.8	A	9.1	A
D-115								
Cortland Av & W. MLK Jr Dr								
NEB	21.1	C	20.7	C	7.0	A	7.1	A
SWB	28.0	C	26.3	C	6.0	A	6.9	A
WB	20.1	C	23.6	C	7.4	A	10.3	B
ALL	22.6	C	23.1	C	6.9	A	7.9	A

Approach	2026				2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-116 **Midland Av & W. MLK Jr Dr**								
NB	0.0	A	0.1	A	0.0	A	0.1	A
SB	10.4	B	10.0	A	0.6	A	3.5	A
EB	11.7	B	0.0	A	7.4	A	0.0	A
WB	7.9	A	10.8	B	7.5	A	9.4	A
ALL	5.8	A	7.8	A	1.6	A	4.7	A
D-117 **Midland Av & Cortland Av**								
NB	22.7	C	15.1	B	6.5	A	10.0	A
NEB	33.3	C	18.7	B	40.8	D	13.2	B
SB	24.6	C	15.1	B	3.9	A	7.7	A
SWB	21.9	C	15.8	B	11.9	B	18.2	B
ALL	26.8	C	16.3	B	20.0	C	12.4	B
D-118 **West St & Westbound I-690 Ramps**								
NB	27.2	C	26.3	C	18.7	B	14.0	B
WB	47.7	D	9.9	A	13.9	B	23.2	C
ALL	43.3	D	19.0	B	14.9	B	17.8	B
D-119 **West St & Eastbound I-690 Ramps**								
NB	15.6	B	16.5	B	6.3	A	23.7	C
SB	39.6	D	10.9	B	28.0	C	35.6	D
SEB	28.9	C	26.2	C	23.8	C	18.7	B
ALL	29.3	C	16.2	B	21.7	C	25.9	C
D-120 **Southbound I-81 Offramp and Willow St**								
SEB	18.3	B	9.6	A	16.6	B	13.0	B
SWB	10.8	B	9.2	A	8.1	A	7.8	A
EB	10.5	B	10.0	B	13.4	B	7.9	A
ALL	17.0	B	9.8	A	16.0	B	11.3	B
D-121 **Pearl St & James St**								
NEB	15.9	B	17.3	B	17.8	B	18.7	B
NWB	14.7	B	19.0	B	16.1	B	17.8	B
SWB	27.1	C	31.1	C	29.1	C	30.1	C
ALL	18.9	B	21.7	C	20.6	C	21.4	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
D-129								
CG Blvd & Monroe St								
NB	2.0	A	0.3	A	2.3	A	0.4	A
SB	2.5	A	2.0	A	1.7	A	2.2	A
WB	7.0	A	0.0	A	7.9	A	6.5	A
ALL	2.3	A	1.4	A	2.2	A	1.5	A
D-130								
CG Blvd & Jackson St								
NB	2.5	A	2.2	A	2.2	A	0.9	A
SB	10.0	B	9.6	A	9.2	A	8.3	A
EB	0.0	A	26.6	C	0.0	A	19.3	B
WB	6.1	A	5.7	A	0.0	A	0.0	A
ALL	5.3	A	7.4	A	4.4	A	5.4	A
D-131								
CG Blvd & Taylor St								
NB	2.8	A	4.2	A	2.6	A	2.5	A
SB	3.2	A	3.5	A	2.9	A	3.4	A
EB	11.6	B	24.2	C	7.6	A	9.3	A
WB	26.1	C	18.1	B	27.9	C	27.7	C
ALL	3.3	A	4.2	A	3.1	A	3.2	A
Northside								
N-1								
US 11/N. Salina St & Hiawatha Blvd E.								
NB	40.6	D	71.3	E	35.8	D	64.6	E
NEB	30.7	C	51.3	D	29.6	C	43.6	D
NWB	33.3	C	44.0	D	19.9	B	39.4	D
SEB	25.6	C	22.7	C	17.1	B	21.4	C
SWB	25.8	C	56.9	E	20.8	C	60.4	E
ALL	29.7	C	48.1	D	24.5	C	44.0	D
N-2								
US 11/N. Salina St & Wolf St								
NEB	15.2	B	15.6	B	14.9	B	15.5	B
NWB	22.5	C	25.9	C	24.0	C	27.9	C
SEB	21.4	C	21.6	C	21.6	C	21.7	C
SWB	7.8	A	7.8	A	7.7	A	7.7	A
ALL	15.9	B	18.4	B	16.9	B	19.0	B
N-3								
US 11/N. Salina St & NY 298/Court St & Alford St								
NEB	32.1	C	31.3	C	34.1	C	34.0	C
NWB	32.5	C	35.7	D	31.6	C	35.2	D
SEB	44.5	D	39.4	D	50.5	D	72.2	E
SWB	36.7	D	41.4	D	35.9	D	39.5	D
ALL	37.4	D	37.9	D	39.6	D	45.3	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-4								
US 11/N. Salina St & Danforth St								
NEB	11.9	B	29.2	C	12.5	B	21.4	C
NWB	15.5	B	5.5	A	10.1	B	10.0	B
SEB	17.2	B	5.1	A	17.8	B	8.8	A
SWB	13.7	B	33.6	C	13.9	B	23.2	C
ALL	15.4	B	10.7	B	13.9	B	11.9	B
N-5								
US 11/N. Salina St & Lodi St & Kickpatrick St								
NWB	21.0	C	20.2	C	20.0	C	27.5	C
SEB	29.7	C	23.9	C	25.2	C	27.0	C
SWB	24.5	C	15.6	B	14.3	B	16.4	B
ALL	25.6	C	21.2	C	22.6	C	26.8	C
N-6								
US 11/N. Salina St & Isabella St								
NEB	6.5	A	10.7	B	5.8	A	10.0	A
NWB	7.0	A	10.2	B	6.5	A	10.1	B
SEB	5.6	A	8.8	A	10.0	A	8.4	A
SWB	14.1	B	15.8	B	14.5	B	16.4	B
ALL	6.5	A	10.2	B	8.6	A	10.0	A
N-7								
US 11/N. Salina St & Catawba St								
NEB	15.2	B	15.7	B	14.5	B	15.6	B
NWB	7.6	A	8.1	A	7.5	A	8.5	A
SEB	10.3	B	10.2	B	10.3	B	10.2	B
SWB	14.8	B	15.9	B	15.4	B	16.0	B
ALL	11.5	B	11.4	B	11.2	B	11.4	B
N-8								
US 11/N. Salina St & E. Division St								
NEB	18.0	B	16.5	B	16.5	B	17.9	B
NWB	9.3	A	10.2	B	9.2	A	10.1	B
SEB	5.6	A	5.3	A	5.6	A	5.9	A
SWB	15.2	B	16.4	B	15.6	B	15.0	B
ALL	10.1	B	10.3	B	9.2	A	10.5	B
N-9								
US 11/N. Salina St & Ash St								
NB	19.2	B	21.8	C	20.3	C	20.1	C
NEB	5.7	A	6.8	A	6.7	A	6.9	A
SEB	19.0	B	19.9	B	21.1	C	21.5	C
SWB	7.4	A	5.3	A	7.2	A	4.1	A
ALL	17.7	B	19.0	B	19.3	B	18.8	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-10 **US 11/N. Salina St & Butternut St**								
NB	7.8	A	6.2	A	7.3	A	21.1	C
NEB	17.7	B	28.5	C	26.3	C	18.5	B
SB	12.5	B	8.3	A	12.7	B	23.4	C
SWB	19.7	B	31.7	C	27.5	C	25.9	C
ALL	14.5	B	17.3	B	18.5	B	22.2	C
N-11 **US 11/N. State St & US 11/N. Salina St**								
NB	14.6	B	16.7	B	21.0	C	23.6	C
NWB	21.6	C	20.3	C	91.7	F	18.9	B
SB	15.8	B	22.3	C	19.1	B	27.3	C
SEB	6.7	A	11.4	B	11.3	B	11.5	B
ALL	13.4	B	16.7	B	29.3	C	19.2	B
N-12 **Bear St & NB BL-81 Ramps/Sunset**								
NEB	28.1	C	21.7	C	23.5	C	31.7	C
NWB	26.3	C	27.4	C	17.7	B	28.9	C
SWB	14.4	B	10.4	B	9.4	A	12.5	B
ALL	27.8	C	26.7	C	14.7	B	28.3	C
N-13 **Sunset Av & NY 298/Court St**								
NEB	8.2	A	8.5	A	9.0	A	2.9	A
NWB	15.4	B	13.6	B	11.5	B	13.1	B
SWB	15.4	B	24.6	C	10.5	B	25.8	C
ALL	13.2	B	17.3	B	9.7	A	13.4	B
N-14 **N. State St & Catawba St**								
NEB	15.2	B	15.6	B	14.9	B	15.5	B
NWB	22.5	C	25.9	C	24.0	C	27.9	C
SEB	21.4	C	21.6	C	21.6	C	21.7	C
SWB	7.8	A	7.8	A	7.7	A	7.7	A
ALL	15.9	B	18.4	B	16.9	B	19.0	B
N-15 **N. State St & Butternut St**								
NEB	16.7	B	64.4	E	41.8	D	31.8	C
NWB	26.2	C	34.1	C	63.3	E	30.9	C
SEB	35.6	D	37.0	D	43.6	D	35.0	C
SWB	3.9	A	8.1	A	4.9	A	7.3	A
ALL	24.4	C	39.0	D	40.6	D	27.6	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-16								
Park St & Farmers Market Pl								
NEB	7.0	A	12.9	B	7.4	A	14.4	B
NWB	3.1	A	5.8	A	2.4	A	6.7	A
SEB	3.4	A	6.3	A	2.7	A	7.4	A
SWB	12.0	B	16.8	B	11.1	B	18.4	B
ALL	4.0	A	7.5	A	3.2	A	8.8	A
N-17								
Park St & Hiawatha Blvd E.								
NEB	8.7	A	21.6	C	12.7	B	20.3	C
NWB	55.9	E	66.4	E	57.1	E	66.4	E
SEB	30.8	C	26.0	C	30.9	C	30.7	C
SWB	13.9	B	16.3	B	13.3	B	16.3	B
ALL	19.0	B	27.3	C	21.7	C	28.5	C
N-18								
Park St & Wolf St								
NEB	12.1	B	14.7	B	11.0	B	13.5	B
NWB	7.0	A	10.6	B	7.6	A	10.5	B
SEB	28.3	D	20.3	C	19.9	C	23.1	C
SWB	9.5	A	11.2	B	9.1	A	11.3	B
ALL	18.2	C	14.5	B	13.1	B	14.9	B
N-19								
Park St & Court St								
NEB	11.8	B	10.7	B	13.0	B	12.7	B
NWB	7.8	A	10.4	B	7.9	A	10.0	B
SEB	9.2	A	9.1	A	8.0	A	8.9	A
SWB	10.8	B	15.8	C	10.1	B	13.4	B
ALL	10.3	B	12.6	B	10.4	B	11.9	B
N-20								
Park St & Butternut St								
NEB	13.5	B	12.1	B	13.5	B	12.3	B
SEB	9.7	A	15.0	B	8.7	A	15.4	B
SWB	12.1	B	10.7	B	12.2	B	10.3	B
WB	7.4	A	14.2	B	7.4	A	15.2	B
ALL	11.4	B	12.3	B	11.3	B	12.5	B
N-21								
Park St & Oak St								
NB	8.7	A	11.8	B	8.5	A	13.5	B
SB	11.7	B	9.5	A	12.2	B	9.5	A
EB	10.4	B	11.4	B	10.0	A	12.0	B
WB	9.4	A	10.4	B	8.8	A	10.8	B
ALL	10.5	B	10.9	B	10.5	B	11.7	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-22 **N. Townsend St & James St**								
NEB	8.8	A	12.5	B	11.2	B	16.7	B
NWB	27.6	C	8.8	A	7.7	A	13.7	B
SEB	19.9	B	17.2	B	20.6	C	17.6	B
SWB	2.1	A	6.1	A	17.7	B	6.6	A
ALL	10.1	B	9.8	A	14.7	B	12.3	B
N-23 **N. McBride St & James St**								
NEB	3.0	A	4.0	A	19.6	B	8.5	A
NWB	21.9	C	22.0	C	22.0	C	24.0	C
SEB	16.0	B	24.6	C	19.8	B	25.8	C
SWB	1.9	A	11.1	B	3.7	A	14.8	B
ALL	4.0	A	10.7	B	12.1	B	14.0	B
N-24 **Catherine St & James St**								
NEB	12.3	B	15.2	B	3.4	A	19.3	B
NWB	21.7	C	21.7	C	22.2	C	21.1	C
SEB	22.1	C	18.0	B	22.7	C	18.8	B
SWB	12.7	B	16.3	B	5.3	A	23.1	C
ALL	14.2	B	17.3	B	7.6	A	20.9	C
N-25 **Lodi St & James St**								
NEB	32.8	C	8.6	A	6.7	A	7.3	A
NWB	17.2	B	23.5	C	19.8	B	27.2	C
SEB	29.3	C	23.6	C	29.9	C	24.8	C
SWB	39.5	D	11.4	B	5.3	A	6.8	A
ALL	33.2	C	13.9	B	12.2	B	14.2	B
N-26 **Oak St & James St**								
NEB	3.3	A	6.7	A	20.5	C	9.2	A
NWB	15.1	B	14.4	B	18.2	B	15.9	B
SEB	14.8	B	15.1	B	17.3	B	15.9	B
SWB	14.0	B	12.1	B	8.2	A	19.6	B
ALL	10.8	B	10.6	B	14.6	B	14.6	B
N-27 **Dewitt St & James St**								
NEB	7.6	A	4.3	A	21.6	C	6.6	A
NWB	11.6	B	18.4	B	14.6	B	14.9	B
SEB	16.4	B	18.4	B	16.7	B	18.2	B
SWB	2.8	A	15.3	B	4.1	A	25.9	C
ALL	6.1	A	11.3	B	11.0	B	17.2	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
N-28								
Sedgwick Dr & James St								
NEB	0.9	A	0.5	A	1.0	A	0.9	A
SEB	7.6	A	7.7	A	7.5	A	8.0	A
SWB	1.7	A	0.8	A	2.6	A	2.7	A
ALL	1.9	A	1.2	A	2.5	A	2.4	A
N-29								
Wilson St & James St								
NEB	5.9	A	11.0	B	4.5	A	14.6	B
NWB	12.8	B	14.6	B	12.3	B	16.4	B
SWB	11.3	B	3.8	A	9.1	A	6.4	A
ALL	9.3	A	7.5	A	7.5	A	10.5	B
N-30								
Teall Av & James St								
NB	27.5	C	24.6	C	27.7	C	25.8	C
NEB	17.2	B	20.1	C	14.4	B	36.3	D
SB	17.5	B	16.9	B	20.6	C	16.9	B
SWB	28.8	C	26.9	C	28.0	C	59.1	E
ALL	23.2	C	22.3	C	23.2	C	34.9	C
University Hill								
U-1								
N. Crouse Av & Burnet Av								
NB	14.5	B	14.7	B	17.2	B	17.0	B
SB	28.5	C	35.9	D	26.7	C	42.5	D
EB	21.9	C	39.3	D	28.2	C	18.5	B
WB	13.4	B	37.3	D	14.7	B	51.0	D
ALL	17.8	B	32.5	C	20.9	C	32.7	C
U-2								
Lodi St & Oak St								
NWB	0.4	A	0.9	A	1.0	A	1.5	A
SB	15.6	C	12.1	B	17.0	C	12.6	B
SEB	1.1	A	1.0	A	1.2	A	1.1	A
ALL	6.4	A	3.9	A	6.9	A	3.8	A
U-3								
Teall Av & Burnet Av								
NB	7.8	A	9.9	A	9.3	A	10.6	B
SB	17.2	B	29.8	C	15.3	B	42.0	D
EB	16.7	B	49.8	D	17.5	B	103.7	F
WB	13.7	B	19.2	B	15.0	B	18.3	B
ALL	12.8	B	24.8	C	13.3	B	36.2	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-4								
Westmoreland Av & Burnet Av								
NB	9.9	A	34.0	D	9.1	A	11.1	B
EB	15.5	C	1.0	A	18.6	C	28.4	D
WB	23.5	C	50.2	F	27.9	D	35.6	E
ALL	19.2	C	25.3	D	22.6	C	28.0	D
U-7								
Teall Av & Canal St								
NB	0.9	A	53.9	F	0.9	A	6.0	A
SB	0.6	A	0.9	A	1.2	A	3.6	A
EB	7.9	A	7.1	A	8.9	A	29.4	D
WB	8.2	A	27.4	D	9.8	A	39.7	E
ALL	1.3	A	28.7	D	1.8	A	11.0	B
U-8								
Teall Av & Lynch St								
NB	0.3	A	51.7	F	0.6	A	5.2	A
SB	0.2	A	0.2	A	0.3	A	0.2	A
EB	7.3	A	15.8	C	7.1	A	8.0	A
WB	7.0	A	152.3	F	7.6	A	21.3	C
ALL	0.3	A	31.6	D	0.5	A	3.7	A
U-9								
Forman Av & Erie Blvd E.								
NEB	23.3	C	20.5	C	23.2	C	19.6	C
NWB	34.4	D	39.2	E	34.0	D	45.7	E
SEB	11.9	B	23.1	C	13.7	B	24.4	C
SWB	31.2	D	31.0	D	31.6	D	30.8	D
ALL	24.1	C	29.0	D	26.0	D	31.1	D
U-10								
N./S. Crouse Av & Erie Blvd E.								
NB	12.6	B	12.8	B	11.9	B	13.2	B
SB	11.5	B	13.8	B	15.9	B	11.2	B
EB	8.9	A	7.7	A	10.5	B	8.3	A
WB	21.5	C	30.0	C	20.3	C	28.3	C
ALL	13.9	B	16.6	B	14.4	B	15.6	B
U-11								
University Av & Erie Blvd E.								
NB	7.2	A	9.6	A	7.8	A	10.2	B
SB	12.5	B	9.7	A	16.0	C	10.3	B
EB	2.6	A	1.1	A	3.8	A	1.3	A
WB	0.4	A	0.5	A	0.6	A	0.5	A
ALL	3.8	A	3.8	A	5.5	A	4.3	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-12 **Walnut Av & Erie Blvd E.**								
NB	19.8	B	14.7	B	15.0	B	15.2	B
SB	15.2	B	9.3	A	17.1	B	10.0	B
EB	10.1	B	11.1	B	7.0	A	9.2	A
WB	15.1	B	9.5	A	13.0	B	10.2	B
ALL	15.0	B	12.2	B	12.1	B	11.8	B
U-13 **Lodi St & Erie Blvd E.**								
SB	15.5	B	18.7	B	16.0	B	19.0	B
EB	6.2	A	4.8	A	0.3	A	7.5	A
WB	5.0	A	5.0	A	4.1	A	4.8	A
ALL	7.3	A	8.8	A	6.3	A	8.7	A
U-14 **Pine St & Erie Blvd E.**								
NB	6.9	A	6.7	A	6.4	A	7.2	A
EB	0.4	A	0.2	A	0.2	A	0.1	A
WB	1.0	A	7.9	A	1.1	A	1.5	A
ALL	0.9	A	4.8	A	1.0	A	2.5	A
U-15 **Beech St & Erie Blvd E.**								
NB	19.1	B	18.1	B	24.7	C	19.1	B
SB	11.4	B	15.0	B	12.4	B	13.4	B
EB	10.5	B	11.9	B	12.7	B	14.6	B
WB	12.8	B	12.2	B	13.1	B	12.5	B
ALL	12.7	B	13.8	B	15.1	B	14.7	B
U-16 **Teall Av & Erie Blvd E.**								
NB	49.6	D	57.3	E	30.2	C	50.9	D
SB	39.1	D	40.9	D	37.1	D	38.6	D
EB	63.1	E	72.8	E	61.9	E	63.3	E
WB	36.0	D	55.2	E	44.2	D	48.7	D
ALL	43.6	D	55.5	E	42.4	D	49.1	D
U-17 **Westmoreland Av & Erie Blvd E.**								
NB	41.1	D	39.5	D	38.6	D	39.1	D
SB	26.5	C	38.1	D	26.2	C	39.7	D
EB	41.4	D	45.5	D	29.4	C	45.1	D
WB	30.2	C	34.0	C	30.7	C	34.4	C
ALL	33.3	C	39.1	D	29.5	C	38.9	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-18 **Forman Av & E. Water St**								
NB	0.0	A	8.4	A	0.0	A	7.0	A
SB	6.5	A	5.7	A	6.2	A	5.9	A
EB	6.3	A	10.7	B	7.2	A	9.0	A
WB	11.0	B	13.8	B	9.4	A	7.3	A
ALL	8.9	A	11.5	B	8.1	A	7.8	A
U-19 **S. Crouse Av & E. Water St**								
NB	13.1	B	26.8	D	14.3	B	25.8	D
SB	3.3	A	1.2	A	6.2	A	1.3	A
EB	6.4	A	19.8	C	7.8	A	21.2	C
WB	21.4	C	26.6	D	25.4	D	22.9	C
ALL	8.6	A	18.9	C	13.2	B	18.5	C
U-20 **University Av & E. Water St**								
NB	15.5	C	31.0	D	16.0	C	30.5	D
SB	8.3	A	6.8	A	9.3	A	7.1	A
EB	5.3	A	14.9	B	5.5	A	18.1	C
WB	3.5	A	3.5	A	0.0	A	3.4	A
ALL	9.9	A	20.7	C	11.0	B	20.0	C
U-21 **Walnut Av & E. Water St**								
NB	17.5	C	60.0	F	21.3	C	30.2	D
SB	8.0	A	7.2	A	0.3	A	0.5	A
WB	5.9	A	9.9	A	6.8	A	6.1	A
ALL	12.5	B	36.5	E	12.3	B	18.0	C
U-22 **Pine St & E. Water St**								
NB	6.7	A	11.2	B	6.7	A	11.1	B
SB	6.8	A	9.2	A	6.6	A	6.4	A
EB	5.3	A	7.3	A	4.9	A	6.3	A
WB	6.4	A	6.7	A	0.0	A	6.7	A
ALL	6.3	A	9.8	A	6.2	A	9.4	A
U-23 **Pine St & E. Washington St**								
NB	6.8	A	9.6	A	7.0	A	9.7	A
SB	7.0	A	8.2	A	7.0	A	6.8	A
EB	0.0	A	0.7	A	0.1	A	0.7	A
WB	0.1	A	0.7	A	0.2	A	0.7	A
ALL	5.7	A	7.6	A	5.6	A	7.5	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-24 **Irving Av & E. Fayette St**								
NB	5.6	A	12.5	B	10.7	B	20.4	C
SB	2.6	A	2.6	A	4.3	A	3.0	A
EB	23.1	C	28.9	C	21.1	C	28.7	C
WB	32.0	C	21.2	C	17.1	B	17.5	B
ALL	11.6	B	14.3	B	9.6	A	16.8	B
U-25 **S. Crouse Av & E. Fayette St**								
NB	8.7	A	5.5	A	11.2	B	8.8	A
SB	5.4	A	3.4	A	3.0	A	3.5	A
EB	3.3	A	17.6	B	3.9	A	17.2	B
WB	20.1	C	22.4	C	22.5	C	22.4	C
ALL	7.1	A	9.3	A	12.0	B	11.0	B
U-26 **University Av & E. Fayette St**								
NB	35.3	D	38.0	D	33.3	C	36.1	D
SB	23.6	C	21.4	C	24.5	C	21.7	C
EB	8.8	A	8.7	A	8.5	A	9.4	A
WB	4.6	A	8.0	A	6.0	A	7.5	A
ALL	22.3	C	21.6	C	18.3	B	20.0	C
U-27 **Walnut Av & E. Fayette St**								
NB	21.5	C	25.7	C	20.7	C	15.2	B
SB	10.7	B	11.9	B	24.7	C	12.8	B
EB	7.0	A	4.4	A	9.0	A	3.9	A
WB	6.1	A	7.6	A	7.8	A	7.8	A
ALL	13.4	B	14.4	B	14.8	B	10.6	B
U-28 **Pine St & E. Fayette St**								
NB	7.2	A	10.7	B	7.6	A	10.9	B
SB	6.9	A	8.1	A	6.9	A	7.2	A
EB	9.7	A	9.1	A	9.5	A	9.8	A
WB	7.3	A	17.0	C	21.0	C	18.0	C
ALL	8.0	A	12.7	B	16.6	C	13.5	B
U-29 **Columbus Av & E. Fayette St**								
NB	15.2	B	53.1	D	11.7	B	4.1	A
SB	18.7	B	17.3	B	17.3	B	15.4	B
EB	17.0	B	59.7	E	15.8	B	20.1	C
WB	7.8	A	25.1	C	7.1	A	10.0	B
ALL	14.4	B	33.6	C	14.0	B	11.1	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-30								
Westcott St & E. Fayette St								
NB	8.7	A	9.7	A	8.7	A	10.8	B
SB	0.0	A	12.0	B	9.9	A	12.4	B
EB	8.6	A	12.6	B	8.4	A	12.5	B
WB	14.5	B	9.7	A	9.9	A	10.1	B
ALL	11.8	B	11.0	B	9.3	A	11.4	B
U-31								
Irving Av & NY 92/E. Genesee St								
NB	20.8	C	11.9	B	14.2	B	19.8	B
SB	17.9	B	12.3	B	21.6	C	10.3	B
EB	22.6	C	19.4	B	27.1	C	26.8	C
WB	14.2	B	40.6	D	14.2	B	44.4	D
ALL	17.9	B	20.1	C	19.7	B	23.9	C
U-32								
S. Crouse Av & NY 92/E. Genesee St								
NB	10.8	B	16.2	B	16.7	B	11.4	B
SB	3.4	A	22.2	C	9.1	A	28.6	C
EB	9.2	A	22.2	C	9.1	A	24.2	C
WB	15.6	B	18.2	B	30.8	C	29.4	C
ALL	12.2	B	19.0	B	21.2	C	20.7	C
U-33								
University Av & NY 92/E. Genesee St								
NB	37.6	D	24.1	C	38.2	D	24.5	C
SB	4.2	A	14.4	B	10.2	B	14.0	B
EB	6.8	A	10.3	B	7.0	A	9.7	A
WB	16.2	B	14.5	B	15.0	B	6.3	A
ALL	13.7	B	14.9	B	14.4	B	12.1	B
U-34								
Walnut Av & NY 92/E. Genesee St								
NB	14.1	B	24.1	C	19.5	B	23.0	C
SB	39.9	D	18.9	B	38.1	D	2.4	A
EB	16.1	B	21.6	C	15.6	B	8.8	A
WB	9.8	A	9.6	A	11.2	B	9.0	A
ALL	14.5	B	17.3	B	17.0	B	10.7	B
U-35								
Comstock Av & NY 92/E. Genesee St								
NB	8.2	A	30.6	D	31.5	D	94.5	F
EB	0.8	A	1.9	A	0.9	A	1.9	A
WB	1.5	A	1.0	A	2.4	A	1.0	A
ALL	3.5	A	11.2	B	11.6	B	33.3	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-36								
Pine St & NY 92/E. Genesee St								
SB	7.5	A	8.3	A	13.3	B	8.2	A
EB	0.3	A	0.8	A	4.1	A	0.9	A
WB	1.7	A	1.0	A	2.8	A	0.9	A
ALL	1.4	A	1.8	A	3.6	A	1.7	A
U-37								
Lexington Av/ & NY 92/E. Genesee St								
NWB	0.9	A	0.5	A	1.2	A	0.5	A
EB	2.7	A	8.5	A	3.5	A	12.0	B
WB	7.1	A	7.5	A	7.7	A	7.9	A
ALL	2.0	A	5.7	A	2.6	A	7.8	A
U-38								
Westcott St & Lexington Av								
NB	10.3	B	13.0	B	11.2	B	13.9	B
SB	6.8	A	8.4	A	7.7	A	8.5	A
EB	7.6	A	9.4	A	7.6	A	10.0	B
WB	7.4	A	7.1	A	7.5	A	7.3	A
ALL	9.0	A	10.0	B	9.0	A	10.5	B
U-39								
Columbus Av & NY 92/E. Genesee St								
NB	30.2	C	27.3	C	27.3	C	28.5	C
NWB	15.2	B	17.9	B	20.1	C	16.7	B
SB	21.1	C	34.1	C	28.7	C	35.7	D
SEB	12.6	B	25.3	C	16.3	B	28.3	C
ALL	15.6	B	24.5	C	20.2	C	25.7	C
U-40								
Westcott St & NY 92/E. Genesee St								
NB	16.2	B	18.3	B	16.4	B	18.6	B
SB	15.1	B	16.9	B	15.7	B	16.8	B
EB	6.6	A	11.9	B	7.1	A	12.8	B
WB	13.7	B	10.6	B	18.8	B	10.9	B
ALL	12.1	B	13.4	B	15.2	B	13.9	B
U-41								
Sarah Loguen Dr & Harrison St								
NB	11.2	B	32.8	C	28.3	C	33.7	C
EB	8.6	A	8.2	A	9.4	A	16.8	B
WB	10.8	B	10.9	B	12.4	B	15.9	B
ALL	10.2	B	16.3	B	13.2	B	21.0	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-42 **Elizabeth Blackwell Dr & Harrison St**								
NB	6.3	A	7.9	A	6.3	A	33.1	D
SB	8.4	A	11.6	B	8.4	A	39.9	E
EB	1.3	A	2.9	A	1.1	A	19.7	C
WB	0.9	A	1.0	A	1.1	A	1.3	A
ALL	1.2	A	1.8	A	1.3	A	8.2	A
U-43 **Irving Av & Harrison St**								
NB	12.6	B	10.8	B	29.5	C	13.2	B
SB	11.0	B	7.2	A	28.1	C	5.5	A
EB	19.8	B	32.6	C	22.6	C	63.5	E
WB	14.4	B	28.9	C	20.4	C	27.5	C
ALL	12.7	B	19.2	B	25.8	C	21.4	C
U-44 **S. Crouse Av & Harrison St**								
NB	21.1	C	13.9	B	20.8	C	15.5	B
SB	2.7	A	13.3	B	5.6	A	15.0	B
EB	4.0	A	26.1	C	3.9	A	26.0	C
WB	16.7	B	32.3	C	19.5	B	22.4	C
ALL	16.5	B	21.7	C	17.2	B	19.1	B
U-45 **University Av & Harrison St**								
NB	18.9	B	40.4	D	18.9	B	44.1	D
SB	30.1	C	27.2	C	50.0	D	26.4	C
EB	8.7	A	8.7	A	7.6	A	9.5	A
WB	9.6	A	9.7	A	11.3	B	10.1	B
ALL	21.4	C	24.8	C	30.8	C	25.8	C
U-46 **Walnut Av & Harrison St**								
NB	9.2	A	12.9	B	9.6	A	12.6	B
SB	10.7	B	8.8	A	15.0	C	8.2	A
EB	1.1	A	1.0	A	1.5	A	1.0	A
WB	0.3	A	0.5	A	0.4	A	0.5	A
ALL	3.5	A	5.3	A	5.5	A	5.2	A
U-47 **Comstock Av & Harrison St**								
NB	11.5	B	7.7	A	13.8	B	43.3	E
SB	4.6	A	2.9	A	5.0	A	3.0	A
EB	0.6	A	0.6	A	0.8	A	3.8	A
WB	0.1	A	0.1	A	0.3	A	3.3	A
ALL	6.4	A	5.7	A	7.8	A	29.5	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-48 **Beech St & Canal St**								
NB	7.7	A	8.5	A	9.8	A	8.7	A
SB	10.3	B	9.2	A	11.3	B	8.9	A
EB	6.2	A	6.7	A	7.0	A	6.5	A
WB	9.7	A	6.9	A	10.5	B	8.3	A
ALL	9.2	A	8.0	A	10.2	B	8.3	A
U-49 **Sarah Loguen Dr & E. Adams St**								
NB	16.1	B	17.1	B	27.1	C	25.2	C
SB	17.7	B	20.2	C	52.4	D	33.8	C
EB	9.6	A	8.0	A	8.8	A	8.2	A
ALL	11.1	B	9.9	A	13.7	B	14.4	B
U-50 **Elizabeth Blackwell Dr & E. Adam St**								
NB	0.0	A	0.0	A	0.0	A	0.0	A
EB	1.2	A	0.8	A	1.7	A	1.4	A
ALL	1.2	A	0.8	A	1.7	A	1.4	A
U-51 **Irving Av & E. Adams St**								
NB	28.5	C	12.9	B	26.5	C	13.8	B
SB	24.9	C	7.1	A	59.7	E	8.0	A
EB	11.2	B	24.7	C	19.7	B	33.0	C
ALL	20.0	B	15.4	B	38.1	D	17.0	B
U-52 **S. Crouse Av & E. Adams St**								
NB	6.4	A	19.8	B	8.2	A	19.4	B
SB	6.4	A	28.2	C	9.2	A	23.3	C
EB	28.2	C	10.1	B	21.3	C	9.8	A
ALL	17.0	B	16.5	B	14.5	B	14.6	B
U-53 **University Av & E. Adams St**								
NB	19.8	B	26.1	C	19.5	B	26.4	C
SB	33.8	C	25.7	C	33.6	C	25.5	C
EB	9.5	A	11.4	B	9.7	A	12.4	B
ALL	24.8	C	17.7	B	23.1	C	17.5	B
U-54 **Walnut Av & E. Adams St**								
NB	17.3	B	25.8	C	20.5	C	22.3	C
EB	5.0	A	3.3	A	5.0	A	6.1	A
ALL	10.2	B	8.3	A	9.1	A	8.9	A

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-55								
Comstock Av & E. Adams St								
NB	31.1	C	18.5	B	32.1	C	22.3	C
EB	2.4	A	1.5	A	1.9	A	23.7	C
ALL	25.7	C	9.6	A	22.5	C	23.1	C
U-56								
Irving Av & Waverly Av								
NB	16.7	B	21.5	C	15.7	B	17.9	B
SB	12.3	B	16.0	B	13.5	B	60.7	E
WB	13.1	B	13.7	B	19.2	B	28.9	C
ALL	14.9	B	16.8	B	16.4	B	44.8	D
U-57								
S. Crouse Av & Waverly Av								
NB	17.0	B	17.6	B	18.1	B	11.4	B
EB	17.1	B	11.0	B	10.7	B	12.3	B
WB	20.4	C	13.8	B	22.5	C	10.0	A
ALL	19.7	B	13.4	B	20.7	C	11.1	B
U-58								
University Av & Waverly Av								
SB	23.2	C	43.2	D	26.5	C	18.9	B
EB	28.7	C	22.0	C	31.8	C	28.4	C
WB	42.8	D	15.1	B	35.4	D	28.0	C
ALL	33.3	C	24.9	C	31.0	C	25.2	C
U-59								
Walnut Pl & Waverly Av								
SB	26.5	C	22.7	C	18.6	B	21.1	C
EB	18.9	B	85.9	F	25.8	C	23.2	C
WB	22.2	C	18.1	B	16.0	B	8.7	A
ALL	24.1	C	42.7	D	18.5	B	19.0	B
U-60								
Walnut Av & Waverly Av								
NB	6.7	A	15.5	B	8.3	A	16.3	B
EB	12.8	B	5.9	A	17.0	B	6.8	A
WB	32.5	C	16.5	B	39.0	D	10.7	B
ALL	22.5	C	9.8	A	27.9	C	8.8	A
U-61								
Comstock Av & Waverly Av								
NB	21.1	C	33.2	C	25.4	C	47.2	D
EB	16.4	B	8.9	A	20.0	B	18.2	B
WB	27.6	C	6.9	A	28.2	C	37.7	D
ALL	21.8	C	16.6	B	24.8	C	31.6	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-62 **Irving Av & University Pl**								
NB	12.2	B	11.3	B	13.9	B	41.4	D
SB	9.2	A	7.4	A	10.8	B	13.0	B
EB	18.0	B	15.1	B	17.4	B	31.2	C
WB	26.7	C	16.8	B	24.8	C	29.2	C
ALL	13.8	B	10.2	B	14.4	B	24.1	C
U-63 **Irving Av & Van Buren St**								
NB	12.1	B	3.2	A	26.1	C	14.4	B
SB	8.1	A	6.1	A	26.9	C	13.0	B
EB	21.5	C	34.4	C	11.8	B	36.2	D
ALL	16.3	B	10.1	B	19.1	B	18.0	B
U-64 **Comstock Av & University Pl**								
NB	5.6	A	7.0	A	8.6	A	9.4	A
SB	1.1	A	7.5	A	2.3	A	4.1	A
EB	19.7	B	21.3	C	17.2	B	23.3	C
WB	19.9	B	25.8	C	18.3	B	26.9	C
ALL	7.4	A	10.7	B	9.3	A	11.5	B
U-65 **Comstock Av & Euclid Av**								
NB	8.5	A	12.8	B	2.9	A	8.8	A
SB	17.4	B	13.4	B	2.5	A	20.3	C
EB	15.7	B	24.6	C	8.4	A	28.3	C
WB	27.0	C	31.9	C	2.9	A	23.9	C
ALL	16.5	B	19.3	B	3.4	A	19.2	B
U-66 **Westcott St & Euclid Av**								
NB	15.8	B	15.9	B	15.4	B	16.0	B
SB	13.0	B	17.9	B	14.5	B	17.5	B
EB	4.3	A	9.0	A	5.3	A	7.9	A
WB	11.1	B	9.7	A	11.8	B	10.0	B
ALL	11.8	B	13.4	B	12.6	B	13.1	B
U-67 **Comstock Av & Stratford St**								
NB	74.2	F	25.6	D	50.2	F	22.0	C
SB	13.0	B	1.9	A	11.1	B	75.4	F
EB	8.5	A	5.6	A	4.7	A	0.6	A
WB	7.6	A	5.2	A	2.8	A	5.3	A
ALL	50.6	F	11.8	B	31.2	D	42.4	E

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
U-68								
Crouse Av & Westbound I-690								
NB	5.0	A	6.2	A	15.9	B	8.4	A
SB	10.6	B	11.9	B	12.9	B	14.6	B
WB	26.7	C	22.1	C	2.6	A	25.9	C
ALL	20.8	C	15.0	B	14.5	B	16.8	B
U-69								
Crouse Av & Eastbound I-690								
NB	1.3	A	0.7	A	1.9	A	1.3	A
SB	20.2	C	15.2	C	1.7	A	14.5	B
ALL	12.0	B	5.3	A	1.8	A	5.1	A
U-70								
Irving Av & Erie Blvd								
NB	16.6	B	14.9	B	22.4	C	12.2	B
SB	16.8	B	13.5	B	25.3	C	15.9	B
EB	29.3	C	16.6	B	15.0	B	20.3	C
WB	43.5	D	47.2	D	48.4	D	39.7	D
ALL	25.3	C	22.0	C	24.9	C	19.9	B
U-71								
Irving Av & Water St								
NB	17.1	B	21.0	C	15.7	B	26.2	C
SB	2.7	A	3.8	A	2.2	A	4.1	A
EB	7.7	A	26.4	C	11.5	B	20.4	C
WB	8.9	A	7.9	A	8.5	A	7.8	A
ALL	6.9	A	13.9	B	5.7	A	17.0	B
U-72								
Teall Ave & WB I-690 Ramps								
NB	12.8	B	16.3	B	11.0	B	13.9	B
SB	9.8	A	13.3	B	8.5	A	20.1	C
WB	14.0	B	23.0	C	16.0	B	19.1	B
ALL	12.1	B	16.4	B	11.9	B	16.9	B
U-73								
Tealle Ave & EB I-690 Ramps								
NB	5.9	A	20.9	C	5.9	A	16.1	B
SB	9.6	A	7.8	A	10.6	B	8.3	A
SEB	3.1	A	3.1	A	4.4	A	12.5	B
EB	15.6	B	30.6	C	15.5	B	79.9	E
ALL	11.0	B	18.8	B	11.0	B	29.7	C
Valley								
V-1								
E.Brighton Av & Rock Cut Rd								
NB	5.0	A	14.3	B	7.9	A	14.6	B
SB	2.4	A	9.3	A	7.9	A	9.8	A
WB	23.0	C	14.1	B	3.5	A	13.5	B
ALL	5.3	A	11.7	B	7.6	A	12.0	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
V-2 **Rock Cut Rd & Northbound I-481 Ramps**								
NWB	28.1	C	29.5	C	29.0	C	30.7	C
SEB	14.6	B	20.0	B	14.3	B	19.5	B
SWB	14.4	B	13.4	B	10.2	B	10.3	B
ALL	16.4	B	18.2	B	16.3	B	19.7	B
V-3 **S. State St & E. Brighton Av**								
NWB	10.5	B	31.9	C	10.8	B	45.7	D
SB	16.5	B	4.6	A	15.9	B	4.3	A
EB	11.1	B	18.4	B	11.2	B	19.6	B
ALL	12.2	B	17.6	B	12.2	B	23.7	C
V-4 **S. State St & McClure Av**								
NB	29.4	C	28.2	C	34.2	C	29.9	C
SB	29.1	C	31.3	C	34.5	C	31.9	C
SWB	13.3	B	8.1	A	8.6	A	8.1	A
EB	58.6	E	34.8	C	49.2	D	36.3	D
ALL	31.4	C	16.8	B	28.1	C	19.9	B
V-5 **S. State St & E. Calthop Av**								
SB	3.2	A	8.8	A	3.7	A	4.6	A
EB	1.7	A	16.3	B	19.9	B	19.0	B
WB	2.7	A	22.1	C	19.0	B	18.2	B
ALL	2.4	A	16.8	B	14.0	B	10.6	B
V-6 **E. Glenn Ave & Brighton Ave**								
NB	17.8	B	19.6	B	17.5	B	19.3	B
SEB	16.0	B	15.9	B	17.6	B	17.0	B
EB	34.7	C	19.3	B	35.6	D	18.4	B
WB	14.1	B	18.6	B	17.5	B	19.3	B
ALL	19.0	B	18.3	B	20.2	C	18.6	B
V-7 **E. Glenn Ave & SB I-481 off Ramp**								
NWB	40.6	D	7.0	A	38.9	D	39.2	D
SEB	9.7	A	0.9	A	13.7	B	0.0	A
EB	45.8	D	104.0	F	50.0	D	86.6	F
WB	19.1	B	30.5	C	20.0	B	37.0	D
ALL	23.4	C	21.5	C	27.4	C	53.4	D

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westside and Lakefront								
W-1								
I-81 South On-Ramp/Genant Dr & Bear St								
NEB	23.3	C	20.5	C	23.2	C	19.6	B
NWB	34.4	C	29.2	C	24.0	C	35.7	D
SEB	11.9	B	23.1	C	13.7	B	24.4	C
SWB	31.2	C	21.0	C	21.6	C	30.8	C
ALL	25.1	C	22.2	C	14.1	B	29.2	C
W-4								
Solar St & Hiawatha Blvd W.								
NEB	14.9	B	36.1	D	15.1	B	49.2	D
NWB	18.2	B	33.3	C	17.3	B	37.0	D
SEB	19.1	B	25.9	C	20.1	C	31.4	C
SWB	17.8	B	31.6	C	19.0	B	34.6	C
ALL	16.3	B	32.9	C	16.9	B	40.3	D
W-5								
Spencer St & Hiawatha Blvd W.								
NEB	15.7	B	23.1	C	17.3	B	24.5	C
SWB	22.3	C	32.6	C	23.4	C	32.5	C
EB	23.1	C	25.0	C	20.9	C	25.3	C
WB	30.5	C	33.0	C	32.7	C	34.6	C
ALL	19.0	B	27.6	C	20.6	C	28.4	C
W-6								
I-690 East Off-Ramp & Hiawatha Blvd W.								
NEB	15.0	B	24.6	C	15.7	B	27.2	C
SEB	14.0	B	13.1	B	16.8	B	14.0	B
SWB	17.0	B	28.2	C	19.3	B	28.2	C
ALL	15.3	B	23.4	C	17.2	B	24.6	C
W-7								
Solar St & Bear St								
NEB	43.0	D	20.6	C	43.4	D	19.9	B
NWB	61.8	E	27.8	C	66.9	E	28.8	C
SEB	42.2	D	23.4	C	40.7	D	24.3	C
SWB	35.3	D	26.2	C	36.7	D	27.2	C
ALL	40.5	D	25.3	C	41.5	D	26.1	C
W-8								
Van Rensselaer St & Bear St								
NEB	8.0	A	7.0	A	8.0	A	7.0	A
NWB	3.2	A	10.2	B	7.9	A	8.1	A
SEB	11.9	B	13.5	B	11.8	B	15.0	B
SWB	10.6	B	12.1	B	11.5	B	12.8	B
ALL	8.9	A	11.2	B	9.9	A	11.7	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-9								
Spencer St & Bear St/I-690 Ramps								
NEB	17.2	B	7.6	A	17.9	B	17.9	B
SEB	1.4	A	2.9	A	1.5	A	2.7	A
SWB	21.9	C	18.1	B	22.6	C	17.8	B
EB	11.3	B	13.0	B	11.8	B	12.6	B
WB	10.7	B	14.4	B	12.7	B	14.0	B
ALL	16.2	B	15.7	B	17.1	B	15.2	B
W-10								
N. Geddes St & Van Rensselaer St								
NEB	1.6	A	25.3	D	1.9	A	14.4	B
NWB	0.1	A	0.0	A	0.4	A	0.0	A
SEB	0.2	A	0.1	A	0.2	A	0.1	A
ALL	1.0	A	19.1	C	1.4	A	10.6	B
W-11								
N. Geddes St & W. Kirkpatrick St								
NB	9.2	A	52.9	D	28.8	C	8.1	A
SB	26.3	C	19.5	B	20.1	C	22.1	C
SWB	42.1	D	36.8	D	31.9	C	45.6	D
EB	10.4	B	11.9	B	14.4	B	14.8	B
ALL	19.1	B	39.8	D	25.0	C	18.2	B
W-12								
N. Geddes St & I-690 West Off-Ramp								
NB	18.4	B	44.2	D	24.5	C	19.3	B
SB	20.5	C	14.5	B	33.1	C	19.1	B
WB	11.1	B	28.2	C	42.1	D	10.7	B
ALL	15.7	B	28.8	C	36.0	D	15.3	B
W-13								
N. Geddes St & Edison St								
NB	1.2	A	9.1	A	2.3	A	3.6	A
SB	5.5	A	1.5	A	28.7	D	1.5	A
EB	7.0	A	6.9	A	10.4	B	6.9	A
ALL	3.8	A	5.4	A	17.9	C	2.7	A
W-14								
N. Geddes St & W. Belden Av								
NB	8.1	A	19.8	B	11.1	B	7.6	A
SB	16.9	B	11.0	B	28.7	C	10.6	B
EB	30.0	C	30.5	C	27.1	C	30.2	C
WB	22.9	C	35.5	D	21.7	C	25.1	C
ALL	13.6	B	18.5	B	21.2	C	11.4	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-15								
N. Geddes St & NY 5/W. Genesee St								
NB	25.4	C	39.9	D	29.6	C	42.4	D
SB	28.4	C	21.7	C	28.4	C	24.6	C
EB	15.2	B	20.1	C	16.8	B	13.3	B
WB	16.1	B	24.2	C	18.5	B	22.2	C
ALL	22.3	C	26.6	C	24.5	C	26.5	C
W-16								
N. Geddes St & Park Av								
NB	10.4	B	32.2	C	10.5	B	31.5	C
SB	26.5	C	28.5	C	19.0	B	27.9	C
EB	16.5	B	15.4	B	17.8	B	14.1	B
WB	16.7	B	16.1	B	17.3	B	16.1	B
ALL	18.0	B	28.5	C	14.9	B	28.0	C
W-17								
N. Geddes St & Wilkinson St								
NB	3.0	A	20.0	C	2.5	A	19.3	C
SB	4.7	A	0.9	A	4.5	A	1.5	A
EB	10.2	B	109.3	F	11.9	B	15.8	C
WB	11.8	B	309.5	F	12.2	B	208.5	F
ALL	4.0	A	16.4	C	3.6	A	14.7	B
W-18								
N. Geddes St & Richmond Av								
NB	9.7	A	30.8	C	9.1	A	24.8	C
SB	5.5	A	4.0	A	5.5	A	3.4	A
EB	17.0	B	14.5	B	16.0	B	13.2	B
WB	21.4	C	21.8	C	22.1	C	20.6	C
ALL	8.3	A	18.4	B	8.0	A	15.4	B
W-19								
N./S. Geddes St & Erie Blvd W.								
NB	77.2	E	93.1	F	73.0	E	51.9	D
SB	5.1	A	34.3	C	4.1	A	27.8	C
EB	25.3	C	20.5	C	25.3	C	33.7	C
WB	30.1	C	34.9	C	16.7	B	23.3	C
ALL	41.3	D	53.3	D	38.4	D	37.0	D
W-20								
S. Geddes St & W. Fayette St								
NB	61.2	E	61.0	E	44.0	D	25.0	C
SB	27.8	C	35.3	D	27.1	C	8.0	A
EB	14.1	B	29.8	C	85.8	F	24.8	C
WB	15.4	B	20.7	C	18.9	B	38.7	D
ALL	37.7	D	37.8	D	45.2	D	24.1	C

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-21 **S. Geddes St & Marcellus St**								
NB	42.9	E	30.0	D	14.6	B	2.2	A
SB	2.9	A	3.7	A	1.4	A	2.2	A
WB	24.2	C	32.5	D	13.1	B	12.3	B
ALL	25.5	D	14.7	B	9.1	A	2.5	A
W-22 **S. Geddes St & Otisco St**								
NB	35.8	D	29.5	C	18.7	B	8.1	A
SB	14.2	B	10.9	B	10.0	B	11.6	B
WB	23.8	C	29.9	C	18.6	B	17.1	B
ALL	27.1	C	18.8	B	15.4	B	10.3	B
W-23 **S. Geddes St & Gifford St**								
NB	40.2	D	22.5	C	19.7	B	4.3	A
SB	16.7	B	6.3	A	12.5	B	6.5	A
WB	31.1	C	26.6	C	26.2	C	19.4	B
ALL	31.2	C	14.2	B	17.6	B	6.3	A
W-24 **S. Geddes St & Seymour St**								
NB	20.6	C	11.7	B	6.9	A	7.3	A
SB	16.0	B	17.6	B	10.4	B	20.3	C
EB	34.4	C	19.6	B	30.3	C	18.6	B
WB	49.8	D	26.5	C	37.4	D	19.6	B
ALL	21.9	C	16.6	B	11.9	B	15.5	B
W-25 **S. Geddes St & Grand Av/Shonnard St**								
NB	55.6	E	8.7	A	23.1	C	6.0	A
NEB	36.6	D	66.5	E	17.4	B	71.0	E
SB	18.0	B	6.9	A	16.7	B	6.9	A
WB	10.2	B	25.1	C	3.4	A	33.8	C
ALL	37.3	D	18.1	B	19.4	B	18.2	B
W-26 **S. Geddes St & Fitch St**								
NB	2.0	A	0.5	A	0.7	A	0.5	A
NWB	6.9	A	6.8	A	7.0	A	6.9	A
SB	2.2	A	3.2	A	1.9	A	3.2	A
EB	6.7	A	6.6	A	6.6	A	6.6	A
ALL	2.2	A	2.2	A	1.3	A	2.2	A
W-27 **Van Rensselaer St & NY 5/W. Genesee St**								
NB	21.6	C	17.4	B	20.7	C	18.6	B
SB	23.4	C	18.4	B	23.1	C	18.3	B
EB	10.5	B	10.0	B	12.9	B	10.1	B
WB	13.8	B	6.7	A	11.4	B	13.5	B
ALL	14.4	B	11.0	B	14.7	B	14.2	B

Approach	CG 2026				CG 2056			
	AM		PM		AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
W-28								
Leavenworth Av & NY 5/W. Genesee St								
NB	14.6	B	18.7	B	15.1	B	14.6	B
SB	15.9	B	15.1	B	17.2	B	16.2	B
EB	11.2	B	2.7	A	13.1	B	2.8	A
WB	7.3	A	16.0	B	4.7	A	8.2	A
ALL	9.9	A	11.1	B	10.4	B	7.5	A
W-29								
Plum St & NY 5/W. Genesee St								
NB	4.5	A	16.7	B	28.7	C	26.8	C
SB	9.4	A	16.2	B	31.4	C	16.7	B
EB	21.5	C	4.5	A	7.1	A	2.8	A
WB	19.1	B	7.1	A	3.9	A	6.5	A
ALL	19.2	B	6.9	A	7.8	A	6.2	A
W-30								
N. Clinton St & Southbound I-81 Ramps								
NWB	9.1	A	11.9	B	8.6	A	12.3	B
SB	11.7	B	23.2	C	12.0	B	34.6	C
SEB	15.2	B	12.0	B	15.4	B	12.9	B
ALL	12.6	B	17.9	B	12.7	B	24.5	C
W-31								
Hiawatha Blvd & Van Rensselaer St								
NEB	20.2	C	27.4	C	23.7	C	29.5	C
NWB	20.7	C	16.8	B	24.1	C	20.4	C
SEB	1.1	A	0.0	A	1.6	A	0.0	A
SWB	23.8	C	28.3	C	24.6	C	31.0	C
ALL	21.4	C	27.8	C	24.0	C	30.0	C
W-32								
Hiawatha Blvd & Pulaski St								
NEB	24.4	C	29.2	C	25.4	C	37.8	D
NWB	20.2	C	15.4	B	19.5	B	17.6	B
SEB	24.0	C	16.6	B	24.9	C	17.9	B
SWB	20.5	C	22.0	C	25.0	C	24.3	C
ALL	23.0	C	25.3	C	25.1	C	30.6	C
W-33								
Bear St & Pulaski St								
NEB	18.5	B	16.8	B	18.7	B	16.3	B
NWB	0.0	A	0.0	A	0.0	A	0.0	A
SEB	27.4	C	20.8	C	29.7	C	17.2	B
SWB	19.8	B	23.2	C	20.0	B	21.9	C
ALL	19.1	B	22.3	C	19.4	B	21.1	C