Appendix A-6
Access Modification Report (AMR)
# Table of Contents

1. **INTRODUCTION** ............................................................................................................................................... 2  
   1.1. Purpose of the Investigation and Proposed Action .................................................................................. 3  
   1.2. Approach .................................................................................................................................................. 4  
   1.3. Policy Requirements ............................................................................................................................... 4  

2. **PROJECT SETTING** .................................................................................................................................... 5  
   2.1. Project Identification ............................................................................................................................... 5  
   2.2. Project Evolution ....................................................................................................................................... 7  
   2.3. Conditions and Needs ............................................................................................................................ 7  
      2.3.1. Transportation Conditions, Deficiencies and Engineering Considerations .................................. 7  
      2.3.2. Needs .............................................................................................................................................. 7  
       2.3.2.1. Project and Corridor Level Needs ............................................................................................... 8  
       2.3.2.2. Project Goals ............................................................................................................................... 7  
       2.3.2.3. Project Objectives ....................................................................................................................... 7  
       2.3.2.4. Transportation Plans ................................................................................................................ 7  
       2.3.2.5. Local Plans for the Project Area ................................................................................................ 7  
       2.3.2.6. Local Comprehensive Plans ("Master Plan") ........................................................................... 7  

3. **ALTERNATIVES** ....................................................................................................................................... 7  
   3.1. Design Criteria ......................................................................................................................................... 7  
   3.2. Summary of Interchange and Ramp Modifications for the Community Grid Alternative .................. 7  
   3.3. Reasonable Alternatives ........................................................................................................................ 9  
      3.3.1. Description ....................................................................................................................................... 9  
      3.3.2. Engineering Considerations .......................................................................................................... 20  
       3.3.2.1. Non-Standard Features and Non-Conforming Features .......................................................... 22  
       3.3.2.2. Safety Considerations ................................................................................................................. 20  
       3.3.2.3. Traffic Considerations ................................................................................................................ 20  
       3.3.2.4. Traffic Control Devices .............................................................................................................. 20  
       3.3.2.5. Construction Phase Mitigation .................................................................................................. 20  
       3.3.2.6. Right-Of-Way ............................................................................................................................... 20
3.4. Project Schedule and Costs ................................................................. 21

4. SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONSIDERATIONS .................. 21

5. POLICY REQUIREMENTS ........................................................................ 22

ATTACHMENT 1 - Evaluation of Full and Partial BL 81/I-690 Interchange Options

ATTACHMENT 2 – Conceptual Signing Plans
1. INTRODUCTION

1.1. Purpose of the Investigation and Proposed Action

The Access Modification Report (AMR) was prepared to document the proposed modifications to the interstate highways and associated ramps within the I-81 Viaduct Project Area. 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 is intended to present an evaluation of the proposed changes to the Federal Highway Administration (FHWA) by documenting how the changes implemented as part of this project will 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. The purpose of the Project is to address the structural deficiencies and non-standard 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 Project’s Draft Design Report/Draft Environmental Impact Statement (DDR/DEIS) describes the reasonable alternatives that were evaluated in the DDR/DEIS and the potential alternatives that were considered and dismissed from further consideration.

The AMR focuses on the interstate highway access changes that are proposed in the event the New York State Department of Transportation recommends the Community Grid Alternative, as the Preferred Alternative. Several of the proposed improvements under this alternative will require addition, modification, or removal of ramps that provide access to the interstate highways that traverse the I-81 Project Area. These changes include the re-designation of a portion of I-81 that extends through the City of Syracuse as Business Loop 81 (BL 81) and 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 (Exits 16A and 29, or the south and north interchanges), as well as other improvements along the existing I-481 corridor. The project will also include modifications to I-690 from Leavenworth Avenue to Beech Street, including reconfiguration of the I-690/BL 81 interchange, as well as the reconfiguration/construction of several other exit and entrance ramps in the downtown Syracuse area. Refer to Chapter 3 of the DDR/DEIS, Section 3.3.1 for a detailed description of the proposed modifications.
Based on the most recent FHWA guidance, the AMR must confirm that the proposed changes 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.

1.2. Approach

Due to the large number of interstate connections within the Project Area as shown in Figure 1-1, the changes in access will be discussed using a project wide approach. New access points and modifications to existing access points will be presented based on the totality of the area served (i.e., the project Study Area). To aid in evaluation of the existing conditions, the proposed alternatives, and the environmental considerations, the project Study Area was divided into four subareas. Each subarea encompasses a section of interstate highway(s) that would be impacted by reconstruction but is separated by a section of highway that would not be changed. The largest subarea is the I-81 Central Study Area. This area includes the section of I-81 between about Colvin Street and Hiawatha Boulevard and the portion of I-690 approximately between the West Street interchange (Leavenworth Avenue) and Beech Street. The three other subareas are identified as: the existing I-81/I-481 south interchange (I-481 South Study Area), a tangent section of existing I-481 north of I-690 (I-481 East Study Area), and the existing I-81/I-481 north interchange (I-481 North Study Area). Interchanges that would be modified, added, or removed under the Community Grid Alternative are described in detail in Chapter 3 of the DDR/DEIS, Section 3.3.1. 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 including geometrics, safety, traffic capacity, and ramp configuration, as well as the social and environmental issues are presented in the DDR/DEIS.

1.3. Policy Requirements

FHWA’s decision to approve a requested change in access to the interstate system is dependent on the proposal satisfying and documenting two requirements (policy points) as outlined in the updated Policy on Access to the Interstate System (May 22, 2017). The policy changes were made to ensure a focus on safety, operational, and engineering issues. Section 5 of this AMR report documents how this project complies with the two new policy points. Other concerns such as environmental impacts are addressed in the DDR/DEIS, which has been prepared in accordance with the National Environmental Policy Act (NEPA) and other applicable statutes.
Figure 1-1 – Existing Interstate Interchanges within Project Area
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 I-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.¹ 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 some of the major routes through this part of the city.

¹ The Central Study Area includes the section of I-81 between Colvin Street and Hiawatha Boulevard and the section of I-690 generally between Leavenworth Street interchange and Beech Street.
# TABLE 2-1

## EXISTING INTERSTATE INTERCHANGES WITHIN THE PROJECT AREA

### INTERSTATE 81 (FROM SOUTH TO NORTH)

<table>
<thead>
<tr>
<th>Interchange Name (Number)</th>
<th>Northbound Exit</th>
<th>Northbound Entrance</th>
<th>Southbound Exit</th>
<th>Southbound Entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-481 (16A)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The portion of I-81 between Interchanges 16A and 18 is outside the Project Area.

<table>
<thead>
<tr>
<th>Interchange Name (Number)</th>
<th>Northbound Exit</th>
<th>Northbound Entrance</th>
<th>Southbound Exit</th>
<th>Southbound Entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harrison Street/Adams Street (18)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Eastbound I-690</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Westbound I-690</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Clinton Street / Salina Street (19) /</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Franklin Street / West Street (20) / Butternut Street</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spencer Street / Catawba Street (21)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NY 298 / Court Street (22)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NY 298 / Bear Street (to I-690 West) (22)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NY 370 (Park Street) / Hiawatha Boulevard (23)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hiawatha Boulevard (23A)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Destiny USA Drive (23B)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Old Liverpool Road – Liverpool (24A)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NY370 (Onondaga Lake Parkway) (24B)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The portion of I-81 between Interchanges 24A and 29S/29N is outside the Project Area.

<table>
<thead>
<tr>
<th>Interchange Name (Number)</th>
<th>Northbound Exit</th>
<th>Northbound Entrance</th>
<th>Southbound Exit</th>
<th>Southbound Entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-481 (29S/29N)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### INTERSTATE 690 (FROM WEST TO EAST)

<table>
<thead>
<tr>
<th>Interchange Name (Number)</th>
<th>Eastbound Exit</th>
<th>Eastbound Entrance</th>
<th>Westbound Exit</th>
<th>Westbound Entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Street (11)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>West Genesee Street (NY 5) - Downtown Syracuse (12)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Northbound I-81</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Southbound I-81</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Townsend Street/McBride Street – Downtown Syracuse (13)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### INTERSTATE 481 (FROM SOUTH TO NORTH)

<table>
<thead>
<tr>
<th>Interchange Name (Number)</th>
<th>Northbound Exit</th>
<th>Northbound Entrance</th>
<th>Southbound Exit</th>
<th>Southbound Entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-81/I-481 south interchange</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Brighton Avenue/Rock Cut Road (1)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jamesville Road (2)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NY5 / NY92 – DeWitt, Fayetteville (3)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>I-690 (4)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Kirkville Road (5)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>I-90 (New York State Thruway) (6)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NY 298 – Bridgeport (7)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Northern Boulevard (8)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>I-81/I-481 north interchange</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
2.2. **Project Evolution** - Refer to Chapter 1 of the DDR/DEIS, Introduction, Section 1.5 for project background and history.

2.3. **Conditions and Needs**

2.3.1. Transportation Conditions, Deficiencies and Engineering Considerations - Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5-2, Transportation Plans and Land Use.

2.3.2. **Needs**

2.3.2.1. Project and Corridor Level Needs - Refer to Chapter 1 of the DDR/DEIS, Introduction, Section 1.3.

2.3.2.2. Project Goals - Refer to Chapter 1 of the DDR/DEIS, Introduction, Section 1.4.

2.3.2.3. Project Objectives - Refer to Chapter 1 of the DDR/DEIS, Introduction, Section 1.1.

2.3.2.4. Transportation Plans – Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5.2, Transportation Plans and Land Use.

2.3.2.5. Local Plans for the Project Area – Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, paragraph 5-2-1.

2.3.2.6. Local Comprehensive Plans ("Master Plan") – Refer to Chapter 6 of the DDR/DEIS, Social, Economic, and Environmental Considerations, Section 6-2-1, Land Use.

3. **ALTERNATIVES**

3.1. **Design Criteria, Critical Design Elements and Other Controlling Parameters** – refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5.4, Design Criteria for Reasonable Alternative(s).

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

The Community Grid Alternative would involve demolition of the existing I-81 viaduct between the New York, Susquehanna and Western Railway bridge and the I-81/I-690 interchange. The section of I-81 between the southern I-81/I-481 interchange (Exit 16A) and the northern I-81/I-481 interchange (Exit 29) would be de-designated as an interstate and would be re-designated as a Business Loop (BL 81). Existing I-481 would be re-designated as the new I-81. The portion of BL 81 (former I-81) south of Dr. Martin Luther King, Jr. East (MLK, Jr. East) to the former I-81/I-481 south interchange, and the portion of BL 81 north of Butternut Street to the former north I-81/I-481 interchange, would
I-81 VIADUCT PROJECT FREEWAY ACCESS MODIFICATION REPORT

remain as freeways. Between East Kennedy Street and MLK, Jr. East, the freeway would transition to an urban arterial, intersecting with MLK, Jr. East at grade. The roadway would then descend to pass beneath the New York, Susquehanna and Western Railway and return to street level at the intersection of Almond Street and Van Buren Street.

The portion of BL 81 between MLK, Jr. East and Butternut Street would be accommodated on surface streets with signalized intersections (“urban arterials”) and become integrated into the city street system. In addition, I-690 would be reconstructed between Leavenworth Avenue and Beech Street, including reconstruction of the BL 81/I-690 interchange.

The non-freeway portion of BL 81, including Almond Street, a portion of Erie Boulevard, Oswego Boulevard, and a portion of Pearl Street, would be classified as a Qualifying Access Highway, consisting of two 12-foot² 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.

The Community Grid Alternative would disperse traffic throughout the city street grid by promoting broader use of the existing street network. Vehicular traffic would be channeled through Almond Street, Oswego Boulevard, and parallel corridors, such as Crouse Avenue, Irving Avenue, State Street, and Salina Street, as well as other local streets that would have the capacity to accommodate this traffic. New interchanges would be constructed from I-690 at Crouse Avenue and Irving Avenue, as well as new entrance and exit ramps to/from BL 81 connecting with East Willow Street, James Street, and Erie Boulevard. A portion of Crouse Avenue, as well as Harrison Street and Adams Street west of Almond Street, would be converted from one-way streets to two-way streets. West Street would be lowered to intersect with Genesee Street at grade. By dispersing traffic to these other streets, the reconstructed Almond Street would maintain a narrow vehicular traffic footprint (with generally two lanes, as well as turn bays when needed, in each direction). Streets incorporated into the Community Grid Alternative would be designed to meet Federal, State, and local design standards consistent with their anticipated function.

The former I-481, once re-designated as the new I-81, would carry a minimum of four lanes (two in each direction) of through traffic. Interstate re-designation and associated numbering must meet American Association of State Highway Transportation Officials (AASHTO) protocols and receive approval from FHWA. The change in highway designation and associated changes in traffic volumes would require modifications to the new I-81. These modifications would include: reconstruction and reconfiguration of the existing south I-81/I-481 interchange, reconstruction and reconfiguration of the

² To clarify, these 12-foot lanes would have a one-foot curb offset, therefore, any lane adjacent to a curb would be 12 feet wide, and “interior lanes” (which would exist where there are two lanes plus turning lanes if needed) would be 12 feet wide.
existing north I-81/I-481 interchange, and miscellaneous corridor improvements along existing I-481. Refer to detailed description in Section 3.3.1 of this AMR report.

3.3. Reasonable Alternatives

3.3.1. Description

The Community Grid Alternative would involve demolition of the existing viaduct between the New York, Susquehanna and Western Railway bridge and the northern I-81/I-481 interchange (Exit 29). The section of I-81 between the southern I-81/I-481 interchange and the northern I-81/I-481 interchange would be de-designated as an interstate and re-designated as a Business Loop as described above. Existing I-481 would be re-designated as the new I-81. In addition, I-690 would be reconstructed between Leavenworth Avenue and Beech Street, including reconstruction of the I-81/I-690 interchange.

Conversion of I-481 to I-81

Once I-481 is 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. The project would include the following interstate and access modifications to the I-481 corridor:

- **I-81/I-481 South Interchange (Interchange 16A):** 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 to Chapter 3, Alternatives, Figure 3-35). The new I-81 mainline would meet 70 mph design standards. 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.

  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. Travelers on southbound BL 81 who want to head north on new I-81 would use a right-hand exit to relocated East Glen Avenue, which leads to Brighton Avenue. From Brighton Avenue, motorists would turn onto Rock Cut Road and use the existing Rock Cut Road ramp to access northbound I-81. Travelers on the re-designated southbound I-81 would access BL 81 via the existing exit ramp to Brighton Avenue, continuing straight onto relocated East Glen Avenue, and use a new on ramp to northbound BL 81. Finally, southbound travelers on BL 81 would remain on BL 81, which merges with southbound I-81.
- **Existing I-481 Interchange 1:** 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 exit ramp to Brighton Avenue would remain, with minor adjustments necessitated by the I-81 mainline realignment. The existing exit ramp to northbound I-81 would be removed and replaced by the Brighton Avenue exit 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.

- **Existing I-481 Interchanges 2 and 3:** The existing interchanges and associated ramps would not be physically modified, but the interchanges would be renumbered, and related interstate signing would be replaced.

- **Existing I-481/I-690 Interchange 4:** 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. In addition, as part of the conversion to I-81, a third southbound (auxiliary) lane would be constructed between the westbound I-690 (Interchange 4) exit ramp and the Kirkville Road (Interchange 5) southbound on-ramp, and a third northbound (auxiliary) lane would be constructed between the eastbound I-690 (Interchange 4) on-ramp and the Kirkville Road (Interchange 5) northbound off-ramp (refer to Chapter 3, Alternatives, Figure 3-37). The addition of the third lane in both directions will require the widening of the northbound and southbound bridges over the CSX railroad tracks.

- **Existing I-481 Interchange 5 (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 Interchange 4 and Interchange 5. In addition, a third northbound (auxiliary) lane between Kirkville Road (Interchange 5) northbound on-ramp and I-90 (Interchange 6) northbound off-ramp would be constructed.

- **Existing I-481 Interchange 6 (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 Kirkville Road (Interchange 5) northbound on-ramp and I-90 (Interchange 6) northbound off-ramp (refer to Chapter 3, Alternatives, Figure 3-37).
• **Existing I-481 Interchange 7 (Route 298):** 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.

• **Existing I-481 Interchange 8 (Northern Boulevard):** The existing I-481 interchange and associated ramps (except for the southbound exit ramp) would not be physically modified, but the interchange would be renumbered, and related interstate signing would be replaced. The existing southbound exit ramp would be slightly modified to facilitate the mainline adjustments necessitated by the reconstruction and reconfiguration of the I-481/I-81 north interchange (Interchange 9/Interchange 29).

• **Existing I-481/I-81 North Interchange (I-481 Interchange 9 and I-81 Interchange 9):** The existing interchange would be reconstructed/reconfigured to connect the re-designated I-81 (former 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. Refer to Chapter 3, Alternatives, Figure 3-36. In addition, the existing northbound I-81 to northbound I-481/State Route 481 ramp would be slightly realigned. The section of former 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. For more detailed description of each ramp at this interchange, refer to the discussion of Interchange 29 included below under the I-81 corridor discussion.

**I-81 Corridor**

As previously stated, the section of existing I-81 between the southern I-81/I-481 interchange (Exit 16A) and the northern I-81/I-481 interchange (Exit 29) would be de-designated as an interstate and re-designated as a Business Loop. This would also include removal of the section of freeway (former I-81) through southwest Downtown and University Hill and reconstruction of Almond Street. The implementation of the Community Grid 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.

• **I-81/I-481 South Interchange (Interchange 16A):** As described above, the existing I-81/I-481 interchange would be reconstructed and reconfigured (refer to Chapter 3, Alternatives, Figure 3-35) to support re-designation of I-481 as I-81 and the de-designation of I-81 between Interchanges 16A and 29. Upon de-designation, the existing segment of former I-81 to the north would be reclassified as 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 northbound BL 81. Travelers on southbound BL 81 who want to head north...
on the new I-81 would use a new right-hand exit to relocated East Glen Avenue, which then leads to Brighton Avenue. From Brighton Avenue, motorists would turn onto Rock Cut Road and use the existing Rock Cut Road ramp to access northbound I-81. Travelers on the re-designated southbound I-81 would access BL 81 via the existing exit ramp to Brighton Avenue, continuing straight onto relocated East Glen Avenue, then use a new ramp to access northbound BL 81. Finally, southbound travelers would remain on BL 81, which merges with southbound I-81.

- **Existing I-81 between Interchange 16A and I-690:** As described above, this section of I-81 between Interchanges 16A and I-690 would be de-designated and removed from the interstate system. As part of the de-designation, existing Interchange 17 (South Salina Street/Brighton Avenue) would be renumbered as an interchange on BL 81, Interchange 18 (Harrison Street/Adams Street) would be removed, and all related interstate signing would be replaced.

Under the Community Grid Alternative, BL 81 (the former I-81) would come to grade at MLK Jr., East (refer to Chapter 3, Alternatives, Figure 3-25). Traffic from the south destined for University Hill would travel along BL 81 and then turn right at Van Buren Street, which would serve as the main entrance from the south to University Hill. A traditional signalized intersection would be installed at Van Buren Street and MLK, Jr. East (a roundabout also could be considered at MLK, Jr. East in final design). 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, as 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 former I-81.

- **Reconstruction of Former I-81/I-690 Interchange:** The former I-81/I-690 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 Chapter 3, Alternatives, Figure 3-35). The portion of former I-81 north of the interchange would remain a freeway but be re-designated a part of BL 81. Two of the existing six freeway connector ramps between former I-81 and I-690 (southbound BL 81 to eastbound I-690, and westbound I-690 to northbound BL 81) would be reconstructed to include standard shoulders, longer acceleration and deceleration lanes, and improved stopping sight distance. The other four existing freeway ramps connecting to and from the southern segment of existing I-81 would be removed and no longer needed as a result of the
removal of the viaduct. The remaining two potential movements (southbound BL 81 to westbound I-690, and eastbound I-690 to northbound BL 81) are not provided for under the current interchange and would not be provided under the Community Grid Alternative. An evaluation of providing for a full interchange or a partial interchange at this location was conducted (refer to Attachment 1) and a partial interchange is recommended. As described in Attachment 1 and in Chapter 3, Section 3.4.3, motorists would continue to 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.

- Former I-81 Northern Segment between I-690 Interchange and Interchange 29: As described earlier, the section of former I-81 between I-690 and its northern interchange with I-481 (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 former I-81 northern segment between I-690 and Old Liverpool Road (existing Interchange 24) to address existing operational and safety considerations (refer to Chapter 3, Alternatives, Figures 3-26 and 3-27). The following summarizes the planned access modifications that are proposed for this section.

  o Route Re-Designation: As stated, 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.
  o Former 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 travel lanes northbound and 3 travel lanes southbound) 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.
  o Ramps: As described earlier, the portion of existing I-81 between Butternut Street and Hiawatha Boulevard has a number of partial interchanges, non-conforming ramp spacings, and non-conforming acceleration and deceleration lane lengths
that will be addressed by this project. A detailed description of these modifications follows.

- **Former I-81 Interchange 19 (Clinton Street/Salina Street) and Interchange 20 (Franklin Street/West Street):** Existing 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-standard ramp lengths and non-conforming ramp spacing issues. 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 (Interchange 20) and the existing southbound exit to Clinton Street/Salina Street (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. 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 (Interchange 19) and the existing on-ramp from Butternut Street/State Street (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.

- **Former I-81 Interchange 21 (Spencer Street/Catawba Street) and Interchange 22 (Route 298, Court Street, Bear Street):** Existing Interchanges 21 and 22 are both partial interchanges and would be combined into a single full interchange. 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. This modification would remove the existing non-conforming ramp spacing between the entrance ramp and exit ramp and improve connectivity to the city street grid.

In the northbound direction, the existing exit ramp to Route 298/Court Street and the existing entrance ramp from Court Street to northbound former I-81 (Interchange 22) would be reconstructed in the same approximate locations as the existing ramps but adjusted to accommodate the widening of the mainline. In addition, both ramp auxiliary lanes would be lengthened to meet current design standards.
• **Former I-81 Interchange 23 (Hiawatha Boulevard, Park Street):** Existing Interchange 23 is a partial interchange that would be adjusted slightly to accommodate the mainline widening work but would otherwise retain its current configuration and remain a partial interchange. 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. In addition, southbound Onondaga Lake Parkway and Old Liverpool Road merge into the ramp prior to any of the termination points (see Interchange 24 description). The existing southbound ramp termination points include Bear Street (Exit 22), Hiawatha Boulevard (Exit 23A), and Destiny USA Drive (Exit 23B). The existing southbound ramp would only be modified slightly to accommodate the mainline work and the ramp consolidation work associated with Interchange 24 (see description below). This interchange does not contain a southbound entrance ramp, which will not be addressed by this project.

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

• **Former I-81 Interchange 24 (Onondaga Lake Parkway, Old Liverpool Road):** Existing 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 I-81 would be consolidated into a single southbound former I-81 entrance ramp. Currently, the ramps parallel each other but are separated by a barrier. The existing barrier location means that Old Liverpool Road ramp can only access southbound I-81 and the existing Onondaga Lake Parkway ramp is allowed to mix with the southbound I-81 exit ramp leading to Exits 22, 23A, and 23B. A secondary ramp would provide for Onondaga Lake Parkway traffic as well as southbound I-81 traffic to merge left to access southbound I-81. The project includes removing the barrier separating the Old Liverpool Road ramp and the Onondaga Lake Parkway ramp, so the two ramps can merge together prior to accessing southbound I-81 on a single combined entrance ramp. To further reduce weaving, a new barrier would be installed between the Onondaga Lake Parkway/Old Liverpool Road ramp and the southbound I-81 exit ramp. This barrier will prevent Onondaga Lake Parkway traffic from a short merge right to access Hiawatha Boulevard via Exit 23A and prevent southbound I-81 traffic from a short merge left to try and re-enter southbound I-81. Once past the Exit 23 gore area, a connection ramp will allow traffic on the Onondaga Lake Parkway to merge to Hiawatha Boulevard.
Parkway/Old Liverpool Road ramp side of the barrier to merge right and access Exit 23B and Exit 22. This interchange does not contain a southbound I-81 Exit 24 ramp, which will not be addressed by this project.

In the northbound direction, a single exit ramp in the vicinity of Hiawatha Boulevard splits such that one branch becomes Exit 23 (see discussion above), one branch splits to become the Exit 24A ramp (Route 370, Onondaga Lake Parkway), and the other branch becomes the Exit 24B ramp (Old Liverpool Road). The existing exit ramp will remain unchanged except for minor adjustments near the exit ramp gore to accommodate the mainline widening improvements. This interchange does not contain a northbound I-81 entrance ramp, which will not be addressed by this project.

- **Former I-81 Interchanges 25 through 28:** Existing Interchanges 25 through 28 are all full interchanges that will not be physically impacted or modified by this project. The changes here would be limited to renumbering of exits and sign replacement associated with the re-designation as BL 81.

- **Former I-81 Interchange 29 (existing I-481/I-81 North Interchange and existing I-481 Interchange 9):** This interchange would be reconstructed and reconfigured to connect the re-designated I-81 (former I-481) with existing I-81, which would meet 70 mph design standards (refer to Chapter 3, Alternatives, Figure 3-36). As discussed, the existing segment of I-81 to the south would be re-designated as BL 81 and State Route 481 would remain integrated into this interchange. 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:
  
  - Northbound BL 81 to northbound I-81 – The existing alignment would be modified slightly to accommodate the I-81 conversion 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 I-81 conversion alignment, and BL 81 would diverge from I-81 through a high-speed split.
  - Southbound I-81 to southbound former I-481 – The existing exit ramp would be removed and replaced by the reconstructed southbound I-81 mainline.
  - Northbound former I-481 to northbound I-81 – The existing exit ramp would be removed and replaced by the reconstructed northbound I-81 mainline.
  - Northbound former I-481 to northbound State Route 481 – The existing alignment would be modified slightly to accommodate the I-81 conversion
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 (former I-481) – The existing alignment would be modified slightly to accommodate the I-81 conversion 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 (former 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 (former 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 I-81 northbound - The existing ramp would remain, with minor adjustments near the entrance gore to accommodate the BL 81 mainline alignment adjustments necessitated by the conversion.
I-690 Corridor

As previously stated, the section of I-690 between Leavenworth Avenue and Beech Street would be reconstructed as part of the project. The implementation of the Community Grid 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 Chapter 3, Alternatives, Figure 3-25).

- **I-690 Interchange 11 (West Street) and Interchange 12 (West Genesee Street):** Existing interchanges 11 and 12 would be combined into a single interchange. Interchange 11 is a full interchange with two fly-over ramps that connect to westbound I-690. Interchange 12 is a partial interchange with only the eastbound I-690 exit movement accommodated. As part of the Community Grid Alternative, the intersection would be reconstructed and reconfigured to replace the existing, free-flow Interchange with a new interchange, controlled by traffic signals at the ramp termini. 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.

  In the eastbound direction, the existing exit ramps for West Street (Exit 11) and West Genesee Street (Exit 12) would be consolidated into a single eastbound exit ramp that terminates 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 (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/West Street ramp would allow Evans Street to be realigned to connect with Webster’s Landing to provide for local street connectivity.

- **Reconstruction of I-690/Former I-81 Interchange:** As described above, the I-690/former 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. The reconstructed interchange will include reconstruction of two of the freeway connector ramps: the existing southbound BL 81 to eastbound I-690 ramp and the existing westbound I-690 to northbound BL 81 ramp. The other four existing freeway ramps connecting to and from the southern segment of existing I-81 would be removed and no longer needed as a result of the removal of the viaduct. The remaining two potential movements (southbound BL 81 to westbound I-690, and eastbound I-690 to northbound BL 81) are not provided for under the current interchange and would not be provided under the Community Grid Alternative. As described above, an evaluation of providing for a full interchange or a partial interchange at this location was conducted (refer to Attachment 1) and a partial interchange is recommended. As described in Chapter 3, Section 3.4.3, motorists would continue to 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.

- **I-690 Interchange 13 (Townsend Street):** Existing Interchange 13, a partial interchange, would be removed as part of the Community Grid Alternative. 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. The functionality of this interchange will be replaced by the improvements at the West Street Interchange (Interchange 11) and by the addition of the new interchange at Crouse and Irving Avenues (see next paragraph).

- **New I-690 Interchange at Crouse and Irving Avenues:** To provide a more direct connection to University Hill from I-690 and the northern segment of former I-81, and to optimize the use of the city street grid, a full interchange would be constructed at Crouse and Irving Avenues. 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 that is on the north side of I-690.
As part of this new interchange, 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 Street, 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 modifications described above. This new interchange would provide a new access point to I-690 and to the northern segment of BL 81 (former 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.

3.3.2. Engineering Considerations

3.3.2.1. Non-Standard and Non-Conforming Features - Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5-6-3, Infrastructure.

3.3.2.2. Safety Considerations – Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5-6-1, Operations (Traffic and Safety) and Maintenance.

3.3.2.3. Traffic Considerations - Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5-6-1, Operations (Traffic and Safety) and Maintenance.

3.3.2.4. Traffic Control Devices - Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5-6-1, Operations (Traffic and Safety) and Maintenance.

3.3.2.5. Construction Phase Mitigation – Refer to Chapter 4 of the DDR/DEIS, Construction Means and Methods.

3.3.2.6. Right-Of-Way - Refer to Chapter 6 of the DDR/DEIS, Social, Economic, and Environmental Considerations, Section 6-3-1, Land Acquisition, Displacement, and Relocation.
3.4. Project Schedule and Costs

3.4.1 Project Schedule – Refer to the Executive Summary of the DDR/DEIS, Table S-2.

3.4.2 Project Costs – Refer to Appendix A-5 of the DDR/DEIS, Alternative Cost Estimates.

4. SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONSIDERATIONS

The I-81 Viaduct Project is classified as a NEPA Class I project in accordance with 23 CFR 771. NEPA Class I projects require the preparation of an Environmental Impact Statement (EIS) to determine the likely impact that project alternatives would have on the environment. FHWA is the Lead Federal Agency and the New York State Department of Transportation (NYSDOT) is the Joint Lead Agency for this Project. Refer to the Executive Summary for further discussion.

The evaluation of the I-81 Viaduct Project’s impacts is ongoing and will be completed with the release of the Final Environmental Impact Statement and Record of Decision. Table 8-1 summarizes the alternatives’ environmental, social, and economic conditions (see Chapter 8, Summary of Alternatives).
5. POLICY REQUIREMENTS

This document was prepared in accordance with the FHWA *Policy on Access to the Interstate System (2017)* Projects that propose to change the existing Interstate System Access need to address the appropriate issues and provide the information necessary to allow the FHWA to make an informed decision considering the potential consequences of a change in access. FHWA’s decision to approve a requested change in access to the interstate system is dependent on the proposal satisfying and documenting two requirements (policy points) as outlined in the updated Policy on Access to the Interstate System (May 22, 2017). The updated policy states that:

“It is in the national interest to preserve and enhance the Interstate System to meet the needs of the 21st Century by assuring that it provides the highest level of service in terms of safety and mobility. Full control of access along the Interstate mainline and ramps, along with control of access on the crossroad at interchanges, is critical to providing such service. Therefore, the Federal Highway Administration’s (FHWA) decision to approve new or revised access points to the Interstate System under Title 23, United States Code (U.S.C.), Section 111, must be supported by substantiated information justifying and documenting that decision. The FHWA’s decision to approve a request is dependent on the proposal satisfying and documenting the following requirements:"

**Consideration and Requirement #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. 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, shall 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)).

The I-81 Corridor Study performed by the NYSDOT in July 2013 along with the DDR/DEIS 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 attribute to the higher than normal accident rates. In some segments the
accident rate is three times the statewide average for an interstate highway. Refer to Chapter 5, Transportation and Engineering Considerations, for further details.

Modifications such as lengthening turn bays or altering traffic control will 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.

In many places along I-81 and I-690 there is a lack of space for snow storage. During an average winter Syracuse receives over 100 inches of lake-effect snow. Without adequate shoulders and medians there is little room for snow storage, which hampers snow plowing operations. Without sufficient snow storage areas, the lake effect snows have a greater effect on traffic congestion and emergency access.

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. 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 local centers 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 the areas that are considered high traffic congestion areas. This alternative would improve the traffic operational conditions along the interstate system within the Project Area. These improvements slated would contribute to a system-wide decrease in crashes along the interstates within the Project Area. Refer to Chapter 5 of the DDR/DEIS, Transportation and Engineering Considerations, Section 5-6-1 for further details.

As described in Chapter 5 of the DDR/DEIS, Section 5-6-1, the results of the 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 accidents 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.
In addition, a safety cost and benefit analysis was performed. The analysis results indicate an annual crash cost of $38,282,833 for the Community Grid Alternative. Compared to the annual crash cost of $47,787,528 for the No Build Alternative, this represents an annual safety cost benefit of $9,504,695.

The accident analysis included in Appendix C-4 of the DDR/DEIS concentrated mainly on the interstate mainline and associated ramps within the Project Area. To facilitate the evaluation, the project study area was divided into four separate sub-areas. The accident analysis results for each sub-area are presented 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 superelevations, 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 and weather related crashes could be at least partially attributed to the non-standard/non-conforming geometric design features. Since the Community Grid Alternative alleviates the majority of the non-standard/non-conforming geometric design features that currently exists, it is expected that this alternative would improve the 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 NY481/I-481 and the corresponding adjacent approaches. There are no non-conforming design features identified within this portion of the area. However, various non-standard geometric design features have been identified, with inadequate superelevation the most common on both the mainline and the corresponding ramps. Approximately eight percent of the crashes that occurred within the area of the non-conforming 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-conforming condition. Since the Community Grid Alternative alleviates these non-conforming geometric design features that currently exist, 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 interchange with I-481 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 that exists 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 accidents 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 accidents cannot be solely attributed, some driver and weather related accidents could be partially attributed to the non-standard geometric design feature. Although the number of possible accident 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 the downtown Syracuse and comprises the I-481 mainline between the I-481/I-690 interchange and the I-481/I-90 interchange. Since this area is only being widened from two lanes in each direction to three lanes, a detailed accident analysis was not performed.

Additionally, a detailed traffic study was performed for the entire Project Area including intersection Level of Service (LOS) analysis at more than 260 intersections within the City of Syracuse downtown area. Refer to Chapter 5 of the DDR/DEIS and Appendix C-3 for the complete traffic analysis.

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 is a frequent occurrence 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). In particular, the I-81 and I-690 corridors accommodate heavy traffic volumes, with 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 the existing I-81 in the Study Area without complete reconstruction or diversion of a portion of the traffic onto another major highway such as I-481.

Based on a balanced consideration of the need for safe and efficient transportation; the social, economic, and environmental effects of the project alternatives; and national, state, and local environmental protection goals, NYSDOT recommends the Community Grid Alternative as the preferred alternative for the I-81 Viaduct Project and has developed the AMR for that alternative. FHWA and NYSDOT will confirm the preferred alternative in the Final EIS after consideration of comments received on the DDR/DEIS, including those received at the public hearing.
The Community Grid Alternative traffic analysis results are described in detail in Chapter 5 of the DDR/DEIS, Section 5-6-1 and 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. For the purposes of analyzing the intersection LOS for the Community Grid Alternative, this area was further divided into three sub-areas (the I-81 ramps, I-690 ramps and the Almond Street, former I-81) as discussed below.
  
  - The I-81 section comprises the entrance and exit ramps that exist between Onondaga Lake Parkway and I-690. The majority of the ramps in this area will only be slightly reconfigured under the I-81 Community Grid Alternative. The corresponding ramp intersections along with the adjacent nearby intersections would operate at LOS C or better for the 2020 and 2050 design years.
  
  - The I-690 section comprises the entrance and exit ramps along I-690 from the West Street ramps to the Teall Avenue ramps, including the new ramps to and from Irving Avenue and Crouse Avenue. The ramp intersections and nearby intersections would operate at LOS C or better in the 2020 and 2050 design years, except for the following intersections which would operate at LOS D:
    - West Street at the westbound I-690 Ramps (2020 AM)
    - West Street at the eastbound I-690 Ramps (2050 AM)
    - Crouse Avenue at the westbound I-690 Ramps (2020 AM)
    - Crouse Avenue at Burnet Avenue (2020 PM)
  
  - The former I-81 (Almond Street) section comprises the Almond Street corridor from I-690 to MLK, Jr. East. Under the Community Grid Alternative, this section of I-81 will be removed and the existing Almond Street corridor will be upgraded to a four-lane roadway with a variable-width raised median. The affected intersections along Almond Street would operate at LOS C or better, except for the following intersections which would operate at LOS D:
    - Almond Street at NY5/Erie Boulevard (2020 AM)
    - Almond Street at Washington Street (2020 AM)
    - Almond Street at Harrison Street (2020 PM)

- **North Interchange Area** – The I-81 north interchange area is located north of downtown Syracuse and comprises the cloverleaf interchange of I-81 with NY481/I-481 and the corresponding adjacent approaches. The majority of the mainline and associated ramps within this area would operate at LOS C or better, except for the following segments which would operate at LOS D:
Weave segment on northbound BL 81, between the on-ramp from southbound NY 481 and the off-ramp to northbound NY 481 (2020 PM, 2050 PM)

Basic freeway segment on northbound BL 81, between the off-ramp to southbound I-81 and the on-ramp from southbound NY 481 (2050 PM)

Basic freeway segment on southbound BL 81, between the on-ramp from southbound NY 481 and the off-ramp to Exit 28 (Taft Rd) (2050 AM). This segment of freeway is beyond the limits of the interchange reconstruction work and is therefore reflective of the existing configuration.

Southbound I-81/BL 81 diverge, where the two-lane section of BL 81 splits from the two-lane section of relocated southbound I-81 (2050 AM).

- 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. Under the Community Grid Alternative, the existing interchange will be reconfigured to provide direct connections from the south section of I-81 to the east section of I-481 (which will be re-designated as I-81). The mainline and associated ramps would operate at LOS C or better in the 2050 design year.

- 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/I-690 interchange and the I-481/I-90 interchange. Under the Community Grid Alternative, portions of I-481 will be widened from two to three lanes per direction and would operate at LOS C or better in the 2050 design year.

In summary, an operational and safety analysis for the Community Grid Alternative has concluded that the proposed changes in access would 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 crossroads) or on the local street network based on the 2020 and 2050 design year traffic projections. As stated above, the results of the FHWA SSAM traffic conflict evaluation found that with implementation of the Community Grid Alternative, the frequency of vehicle conflicts would decrease by 21 percent (all conflict types), and the crash cost analysis projects a decrease in crash cost of approximately 20 percent, indicating that a substantial safety benefit in the form of a reduction in the number and cost of crashes could be expected.

The Community Grid Alternative would comprehensively change how access is provided in the Project Area. The project needs being addressed by this request cannot be adequately satisfied by existing interchanges to the interstate. A primary feature of the Community Grid Alternative involves de-designating and removing a portion of existing I-81 and re-designating existing I-481 as I-81. Without implementation of all proposed modifications to the interstate system as described in Chapter 3 of the DDR/DEIS, Section 3.3.1, the remaining interchanges, local roads, and streets in
the corridor cannot provide the desired access, and they cannot be reasonably improved to satisfactorily accommodate the design-year traffic demands.

A conceptual signing plan for the Community Grid Alternative is provided in Attachment 2 of this report, to support the requested change in access.

**Consideration and Requirement #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.

The Community Grid Alternative would remove the downtown Syracuse portion of I-81 and divert interstate traffic (non-downtown through traffic) around the City of Syracuse via I-481. I-81 through the city of Syracuse would be de-designated as an interstate and re-designated as a Business Loop (BL 81), thereby removing all of the existing I-81 interchanges between Exit 16A and Exit 29 from the interstate system. The re-designation of I-481 to I-81 would require the following three interchanges to be modified/reconfigured:

- **I-81/I-481 South Interchange (Interchange 16A)** – The reconstruction of this interchange would involve the re-routing the existing I-81 to connect directly with existing I-481. The existing ramps that connect NB I-81 to NB I-481 and SB I-481 would be demolished and replaced with the realigned mainline lanes. The reconfiguration would also provide for modifications to the ramps connecting I-81 to BL 81. The resultant configuration would provide for all movements.

- **I-81/I-481 Interchange (Interchange 29)** – This interchange would be reconstructed to connect the re-designated portion of I-81 to existing I-81. The existing ramps that connect NB I-481 to NB I-81 and SB I-81 to SB I-481 would be demolished and replaced with the realigned mainline lanes. The reconfiguration would also provide for modifications to the ramps connecting I-81 to BL 81. The resultant configuration would provide for all movements.

Other modifications that are required to accommodate the additional traffic along the re-designated I-81 corridor (former I-481) is as follows:
• A third southbound (auxiliary) lane would be provided between Kirkville Road (Interchange 5 southbound on-ramp) and I-690 (Interchange 4 southbound off-ramp), requiring a widening of the bridge over the CSX railroad tracks.
• A third northbound (auxiliary) lane would be provided between I-690 (Interchange 4 northbound on-ramp) and Kirkville Road (Interchange 5 northbound off-ramp), requiring a widening of the bridge over the CSX railroad tracks.
• A third northbound (auxiliary) lane would be added between the northbound Kirkville Road on-ramp (Interchange 5) and the northbound I-90 off-ramp (Interchange 6).

In addition to the modifications mentioned above, modifications to existing I-690 interchanges would include:

• West Street (Exits 11 and 12) would be reconfigured but remain a full interchange.
• BL 81/I-690 interchange would be reconstructed but would remain a partial interchange. The reconstructed interchange will include reconstruction of two of the freeway connector ramps: the existing southbound BL 81 to eastbound I-690 ramp and the existing westbound I-690 to northbound BL 81 ramp. The other four existing freeway ramps connecting to and from the southern segment of existing I-81 would be removed and no longer needed as a result of the removal of the viaduct. The remaining two potential movements (southbound BL 81 to westbound I-690, and eastbound I-690 to northbound BL 81) are not provided for under the current interchange and would not be provided under the Community Grid Alternative. As described above, an evaluation of providing for a full interchange or a partial interchange at this location was conducted (refer to Attachment 1) and a partial interchange is recommended. As described in Chapter 3, Section 3.4.3, motorists would continue to 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.
• Exit 13, Townsend Street and McBride Street is an existing partial I-690 interchange that will be removed as part of the Community Grid Alternative.
• Crouse-Irving, a new, full interchange would be constructed on I-690 as part of the Community Grid Alternative. This new interchange would provide for more direct connections to the University Hill area, a major destination within the city.

In summary, all new and modified ramps will either connect to interstate highways or to public roads only. As described in Section 3.3.1 of this AMR report, several existing partial interchanges will be removed, consolidated, or retrofitted to full interchanges and provide for all traffic movements except for the existing I-481 partial interchange at Rock Cut Road (existing I-481 Exit 1) and the reconfigured BL 81/I-690 interchange described above. Except as noted in Section 3.3.2.1 of this AMR report, all
new and updated highways and associated access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)).