Rehabilitation

- Rehabilitation option would implement a long-term capital program to address the deterioration of I-81.
- A total of 42 bridges would be repaired or replaced.
- Nonstandard and nonconforming features would remain, including narrow shoulders, insufficient distance between on- and off-ramps, and sharp curves.

New Viaduct that Fully Meets Current Standards

- Designed to meet all current federal and state highway requirements.
- Full reconstruction of I-81/I-690 interchange.
- Full reconstruction of all bridges on I-81 between MLK East and Hiawatha Blvd.
- Reconfiguration and reconstruction of ramps to local streets.
- Reconstruction and improvements along Almond St. below the viaduct.
- Urban design treatments could be provided on Almond St. to improve its appearance below the viaduct.
- Local street and pedestrian improvements near the viaduct.
- Viaduct structure could be reconstructed at the same or slightly higher height through Southside and University Hill to improve visual connections and clearances along local streets.
- Modern materials and architectural treatments could improve the aesthetics of the viaduct.
- Viaduct structure would be wider and therefore closer to residential and commercial buildings along Almond St.
- Will require building acquisitions.

New Viaduct with Substantial Design Improvements

- This option would be the same as V-2 (New Viaduct that Fully Meets Current Design Standards) except that some curves would be sharper.
- Traffic would need to slow down slightly to navigate the curves.
- Tighter curves would reduce horizontal stopping sight distance—the minimum distance needed for a motorist, driving through a curve, to see an object and still have time to stop.
- Would need to acquire about 25 percent fewer buildings than would be needed under Option V-2.

New Viaduct with Considerable Design Improvements

- This option would be the same as Option V-3 (New Viaduct with Substantial Design Improvements) except that at five curves (see above) the horizontal stopping sight distance—the minimum distance needed for a motorist, driving through a curve, to see an object and still have time to stop—would be further reduced.
- Would need to acquire about 40 percent fewer buildings than would be needed under Option V-2.

New Stacked Viaduct

- This option was suggested by a member of the public during scoping.
- Would remove the existing viaduct and construct a new, two-level viaduct.
- Northbound and southbound vehicles would travel on separate stacked decks.
- Would need to acquire only about 15 percent fewer buildings than would be needed under Option V-2.
Three street-level options are under consideration:

- **Option SL-1: Boulevard**
- **Option SL-2: One-way Traffic on Almond Street and Other Local Street(s)**
- **Option SL-3: Two-way Traffic on Almond Street and Other Local Street(s)**

**Overview**

- Designed to meet all current federal and state highway requirements
- Would remove the I-81 viaduct and rebuild Almond Street
- I-481 would be designated as I-81 and interstate traffic redirected
- Urban design improvements such as landscaping and trees, wider sidewalks and park-like medians, open space, aesthetic treatments, pedestrian and bicycle enhancements on Almond St. and the other local streets
- Full interchange between former I-81 and I-690
- Jackson Street would become a dead-end at Almond St.
- No through traffic on McBride St. between Burnet Ave. and Water St.

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**Option SL-1: Boulevard**

- Almond Street would serve as the primary north-south route through Downtown/University Hill
- Boulevard, carrying two-way traffic, would begin around Monroe St. and continue to connection with I-690
- One option would extend the Boulevard at Erie Blvd. (shown) and the other around McBride St.

**Option SL-2: One-way Traffic on Almond Street and Other Local Street(s)**

- Northbound traffic would be carried on a one-way Almond St. Almond would be one-way from Harrison St. to connection with I-690, and two-way south of Harrison St.
- Southbound traffic would be carried on another one-way local street(s) (e.g., West, Clinton, State, Townsend, or University), which also would be enhanced
- Because some traffic would be routed to other local streets, Almond St. would carry fewer lanes than under the Boulevard Option
- No new connection to highway at Burt St.

**Option SL-3: Two-way Traffic on Almond Street and Other Local Street(s)**

- Option SL-3 is the same as Option SL-2 except it would keep traffic running in both directions (two-way) on Almond and other local streets

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**Improvements to I-481 under All Street-level Options**

- Two existing I-81/I-481 interchanges would be slightly enlarged to fully meet design standards
- Auxiliary lanes would be added along three stretches of I-481

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**Sample view of the Boulevard**

**Sample view of the Boulevard from street level**

**Sample section showing travel lanes and pedestrian enhancements (Option SL-1 shown)**

**Possible southbound Townsend St. (above) with northbound Almond St. (below)**
Four tunnel option are under consideration:

1. **T-1: Almond Street Tunnel from MLK East to Butternut Street**
   - Designed to meet all current federal and state highway requirements.
   - Would maintain north-south highway access to and from Downtown Syracuse.
   - Potential urban design improvements on surface street above tunnel.
   - Two-mile-long tunnel beneath Almond Street beginning at MLK East and following the existing 1-81 footprint under Almond Street to about Butternut Street.
   - The tunnel would be approximately 80 feet wide, and its roof would be about 15 to 20 feet below the street.
   - New surface street would serve northbound and southbound traffic with two lanes in each direction. Parking lanes, bicycle lanes, and widened sidewalks could be provided along the curbsides of the surface street.
   - Tunnel would have two lanes in each direction with shoulders and medians that meet design standards.

2. **T-2: Almond Street Tunnel from MLK East to East Genesee Street**
   - One-mile-long tunnel beneath Almond Street beginning at MLK East and following the existing 1-81 footprint under Almond Street to about East Genesee Street.
   - The tunnel would be approximately 66 feet wide, and its roof would be about 15 to 20 feet below the street.
   - New surface street would serve northbound and southbound traffic with two lanes in each direction. Parking lanes, bicycle lanes, and widened sidewalks could be provided along the curbsides of the surface street.
   - Tunnel would have two lanes in each direction with shoulders and medians that meet design standards.
   - Would sever traffic on five local streets as they pass through the 1-690 interchange: Fayette, Washington, Water, McBride, and Townsend Streets.

3. **T-3: Townsend Street Tunnel**
   - New tunnel would be constructed under Oakwood Avenue and Townsend Street from about MLK East to Butternut Street.
   - The tunnel would be approximately 66 feet wide, and its roof would be about 61 feet below the street.
   - New surface street would be constructed atop the Townsend Street tunnel between about MLK East and East Genesee Street.
   - Several local streets would be severed, possibly similar to Option T-2.
   - New tunnel would have two lanes in each direction with shoulders and medians that meet design standards.

4. **T-4: Tunnel on an Eastern Alignment (81’ Below Syracuse)**
   - Concept was proposed by a member of the public during scoping.
   - The tunnel would be located about 81 feet below the surface.
   - This depth would allow tunnel to be constructed in bedrock with a tunnel-boring machine.
   - New interchange with I-690, I-81, and former I-81 near Bear Street would be reconstructed.
   - New tunnel would have two lanes in each direction with shoulders and medians that meet design standards.
   - Tunnel section between about MLK East and Evergreen would be removed and replaced with a surface street or other use.

**Overview**

- Designed to meet all current federal and state highway requirements.
- Would maintain north-south highway access to and from Downtown Syracuse.
- Potential urban design improvements on surface street above tunnel.
- New surface street would serve northbound and southbound traffic with two lanes in each direction. Parking lanes, bicycle lanes, and widened sidewalks could be provided along the curbsides of the surface street.
- Tunnel would have two lanes in each direction with shoulders and medians that meet design standards.
Two depressed highway options are under consideration:
- Option DH-1: Depressed Highway from Adams Street to Butternut Street: A 6,500-foot-long depressed highway
- Option DH-2: Depressed Highway from Adams Street to East Genesee Street: A 3,000-foot-long depressed highway between Adams Street and East Genesee Street

Overview
- Both depressed highways would follow the current I-81 route and be about 25 feet below street level
- Designed to meet all current federal and state highway requirements
- Full reconstruction of I-81/690 interchange
- Would maintain north-south interstate highway access to and from Downtown Syracuse
- Would provide overpasses at key streets for east-west connectivity, with potential for urban design improvements
- Would sever traffic on five local streets—Fayette, Washington, Water, Willow and McBride Streets—as they pass through the I-690 interchange
- Jackson Street would become a dead-end street
- Construction of the open highway would need to consider the geological conditions beneath Almond St., which include a high water table, saline groundwater, and weak soils

Nearly the same as Option T-1 (Tunnel from MLK East to Butternut Street) except that the existing viaduct would be replaced by a sunken highway in an open-air trench (depressed highway) rather than a tunnel, and Interchange 18 (Harrison Street/Adams Street) would be reconstructed
- I-81 traffic would use the new depressed highway
- Local north-south traffic would use service roads flanking the depressed highway

Nearly the same as Option T-2 (Tunnel from MLK East to East Genesee Street) except that the existing viaduct would be replaced by a depressed highway rather than a tunnel, and Interchange 18 (Harrison Street/Adams Street) would be reconstructed
- I-81 traffic would use the new depressed highway
- Local north-south traffic would use service roads flanking the depressed highway

Above, this section shows a possible arrangement of lanes between Cedar and East Genesee Streets, with exit ramps and high-speed connective ramps on the west side, and service/local streets on the east

Bird's-eye view of what a depressed highway could look like with urban design improvements

This view shows a large overpass over the depressed highway at Harrison Street
These two options would reroute I-81 to the west

**Western Bypass**
- Emerged during the I-81 corridor study
- New highway would be routed around the western side of Syracuse
- Existing highway through Downtown would be removed

**West Street**
- Concept presented in the corridor study
- Also raised by a member of the public, who called it the Salt City Circuit
- Routes I-81 along the New York and Susquehanna Railroad property line to West Street and then along West Street to I-690
- Existing section of I-81 between the railroad and I-690 would be replaced by a boulevard or surface street
### ALTERNATIVES SCREENING

**Develop Alternatives**
- Explore and engineer multiple alternatives including concepts presented at the November 2013 Initial Scoping Meeting and those suggested by the public

**Screening of Alternatives**
- Examine and screen each alternative to determine if it is more likely or unlikely to:
  - Meet the purpose and need
  - Be constructed without substantial property acquisition, difficult construction practices, or substantial duration.
  - Have a reasonable cost

**RESULT**
- Alternatives to be Studied in DEIS

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### NEXT STEPS: HOW WILL WE SCREEN THE PROJECT ALTERNATIVES?

**Alternatives Screening Criteria**

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
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<tbody>
<tr>
<td><strong>Purpose and Need</strong></td>
<td></td>
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<tr>
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<td>Structural Condition Will the alternative eliminate structural deficiencies and improve bridge safety and provide at least 30 years of service life in the I-81 Viaduct Project limits?</td>
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<td>Traffic safety and mobility Will the alternative address identified geometric and operational deficiencies in the I-81 Viaduct Project limits and related interchanges?</td>
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<td>Consistency with adopted local and regional plans Will the alternative create transportation infrastructure that is consistent with the long-range plans of the Syracuse Metropolitan Planning Area?</td>
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<td>Connectivity Will the alternative improve local traffic, bicycle, and pedestrian connections along and across the existing I-81 right-of-way?</td>
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<td>Visual quality Will the alternative improve the visual and aesthetic character of transportation infrastructure to minimize the perceived barrier between downtown Syracuse and adjoining neighborhoods?</td>
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<td></td>
<td>Accessibility Will the alternative maintain or enhance vehicle access to the regional highway network and key destinations (i.e., 1-690, central business district, hospitals, and institutions)?</td>
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<tr>
<td><strong>Constructability</strong></td>
<td>Impacts to property Can the alternative be built without unreasonable property acquisitions?</td>
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<td>Construction Impacts Can the alternative be constructed without difficult means and methods, a long duration, or an inability to maintain adequate traffic flow?</td>
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<tr>
<td><strong>Cost</strong></td>
<td>Construction cost Is the projected construction cost reasonable?</td>
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</tbody>
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**Screening Steps**

Assign a rating for each criterion:
- "✓" for an alternative that *likely* meets the criterion
- "✗" for an alternative that is *unlikely* to meet the criterion

Assign a ✓ or ✗ for each category—purpose and need, constructability, and cost.
- If an alternative meets *all* the category's criteria, it *meets* (✓) the category
- If an alternative does not meet one or more of the category's criteria, it *does not meet* (✗) the category and is eliminated from further consideration

Assign an overall rating (✓ or ✗):
- A ✓ means the alternative *meets all* criteria and will be carried forward for further study in DEIS
- A ✗ means the alternative *does not meet* one or more criteria and will not be carried forward

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*Image Source: Federal Highway Administration*