



I-91 Hartford

BRIDGES PROJECT

Hartford IM 091-2(79)

Informational Meeting

February 3, 2015

Ambulance Service Providers

VA Medical Center

White River Junction, Vermont

Kristin Higgins, P.E Project Manager

Jill Barrett, Project Outreach Coordinator

Meeting Outline

- Hartford IM 091-2(79) Project Planning Overview
- Project Construction
- Traffic Management
- Project Outreach Coordination
- Questions

1-91 Hartford Bridges Project Project Planning - Overview



Project Location

- Located on Interstate 91 in Hartford, Vermont – WRJ
- MM 70 just north of Exit 11
- Less than 0.5 miles north of I-89/I-91 interchange
- Over US Route 5
- Located in a high traffic area



US 5 looking Southwest
towards VA Cutoff Road

Existing Bridge Conditions

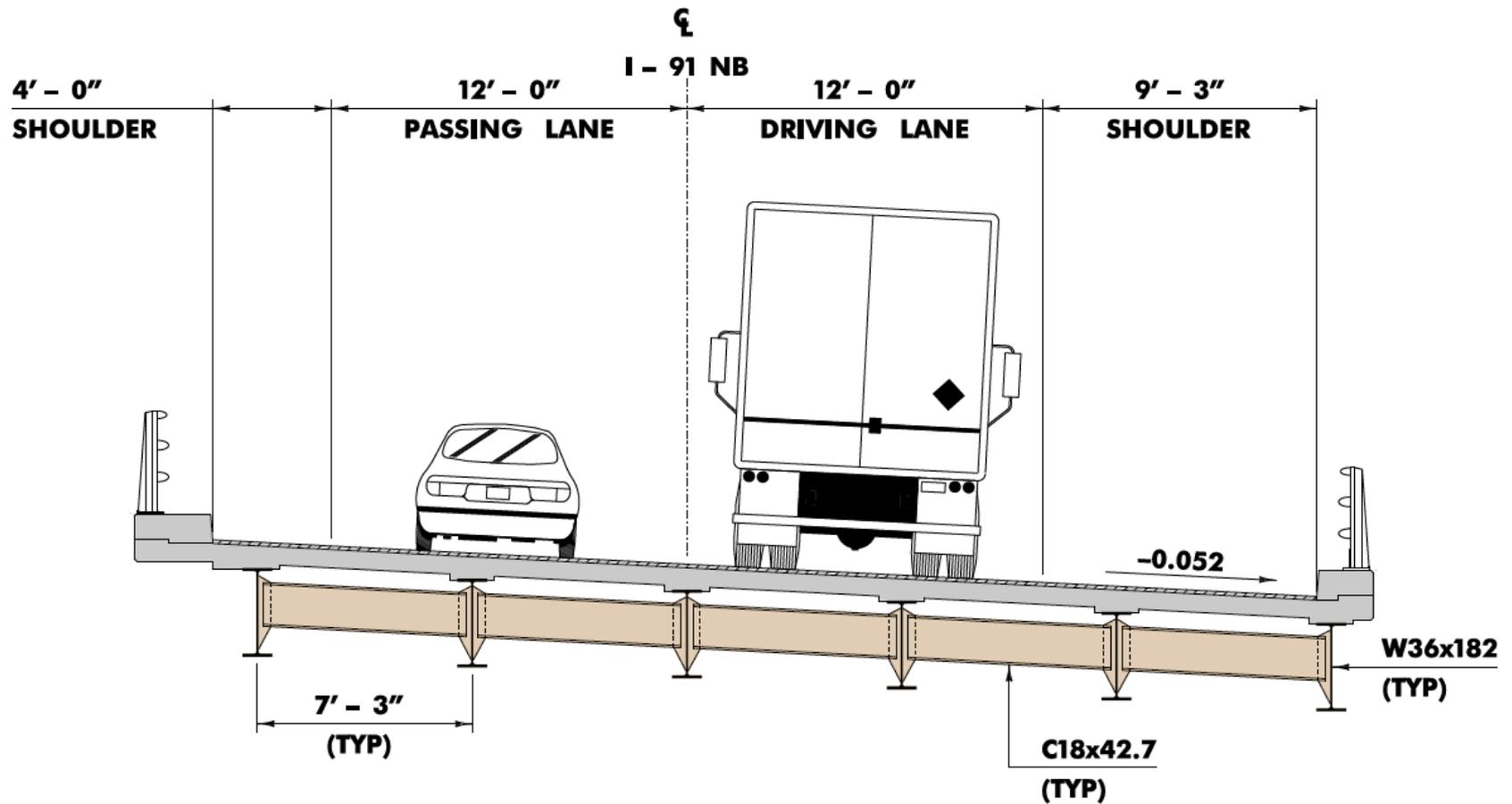
- Suspended Span Construction
- Fracture Critical
- Maintenance Critical & Costly
- Project Programmed in 2012
- Construction April – October 2015



New Bridge Features

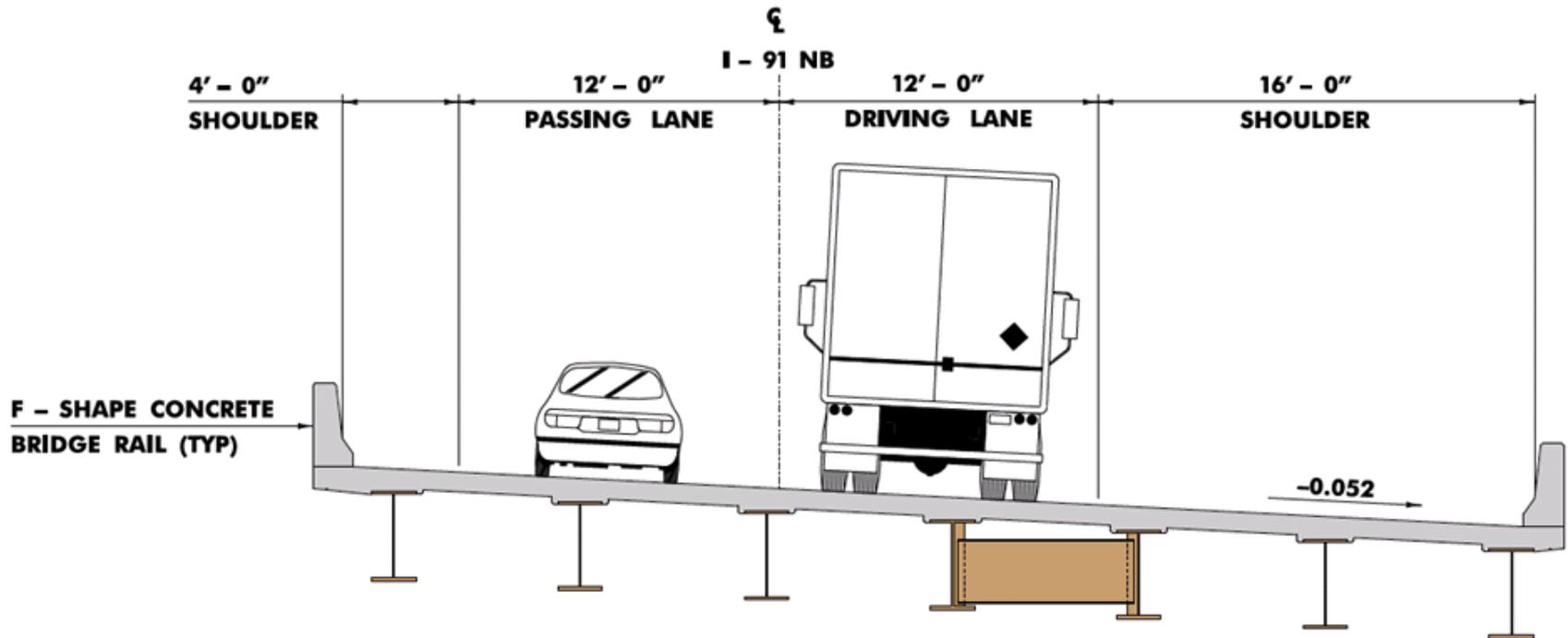
- Wider Bridges
 - Safer for the Traveling Public
 - Better for Maintenance

Existing Northbound Bridge Geometry



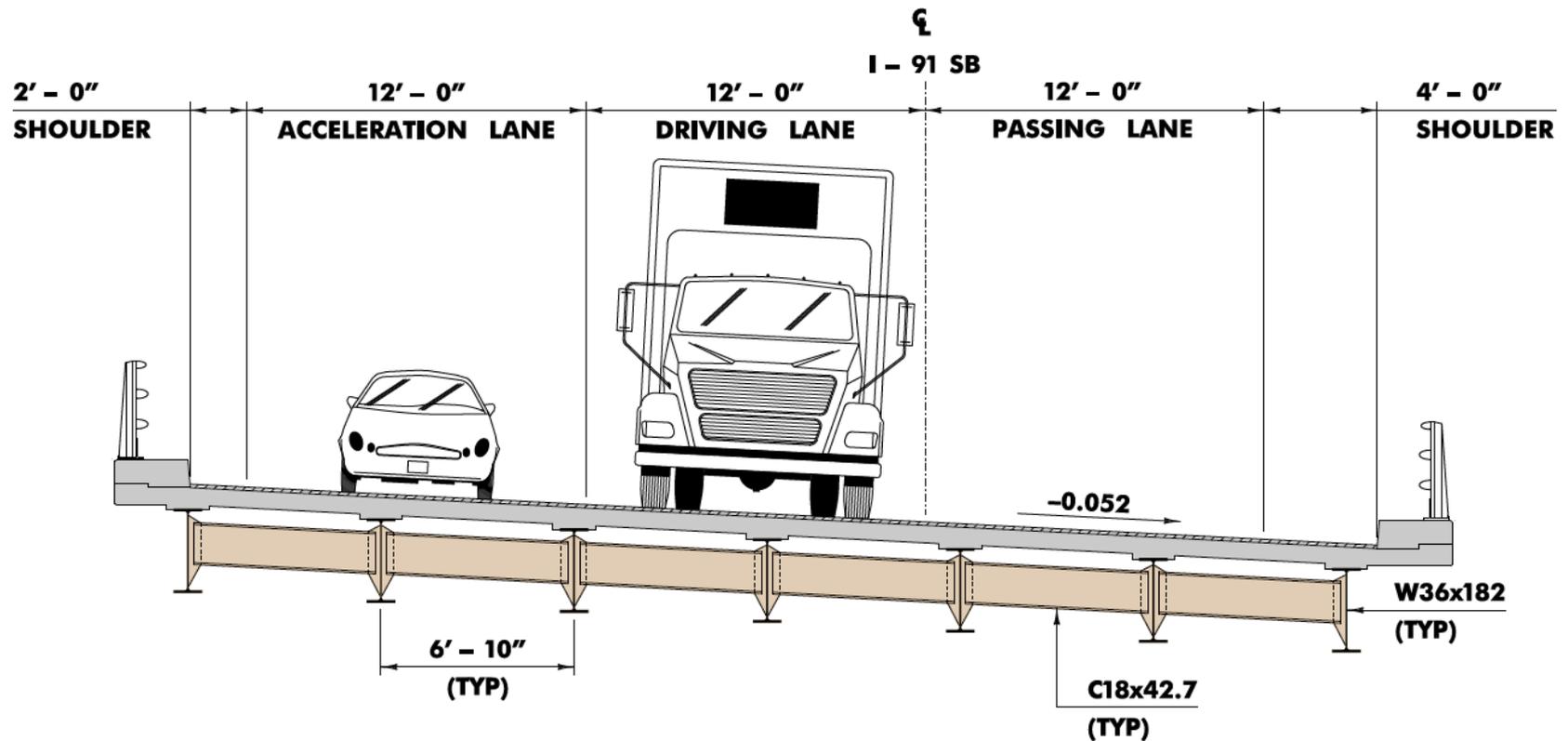
Bridge 43N = 37' - 3" Curb to Curb

New Northbound Bridge Width



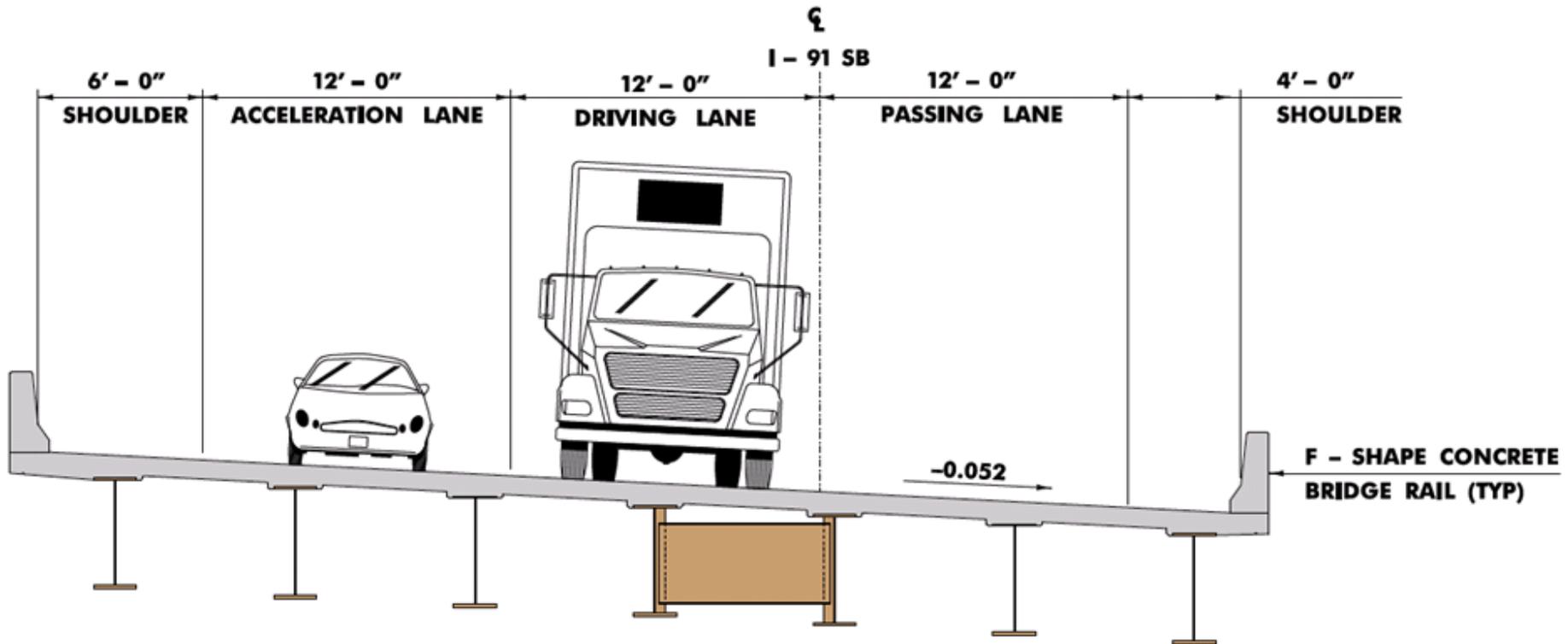
44'-0" Rail to Rail (Widened 6.75' to the East)

Existing Southbound Bridge Geometry



BR 43S = 42' - 0" Curb to Curb

New Southbound Bridge Width



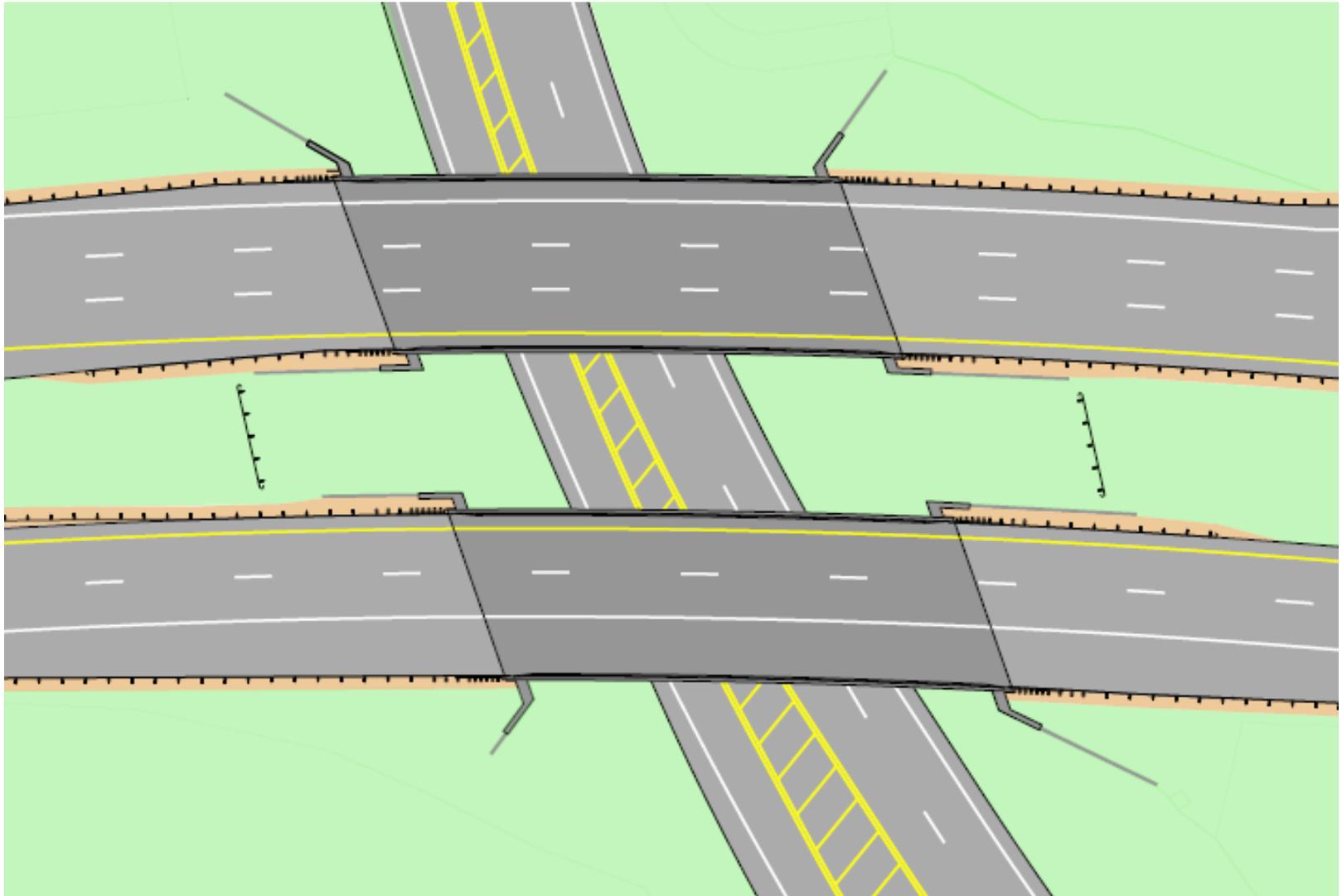
46'-0" Rail to Rail (Widened 4' to the West)

New Bridge Features

- Wider Bridges
 - Safer for the Traveling Public
 - Better for Maintenance

- Single Span Structures
 - Eliminate two piers
 - Reduced Maintenance

New Bridge Layout



Route 5 Improvements



1 1 10 5 AM

Route 5 Improvements

- Removal of Southbound Ramp A (“On” ramp from Route 5 South to I-91)

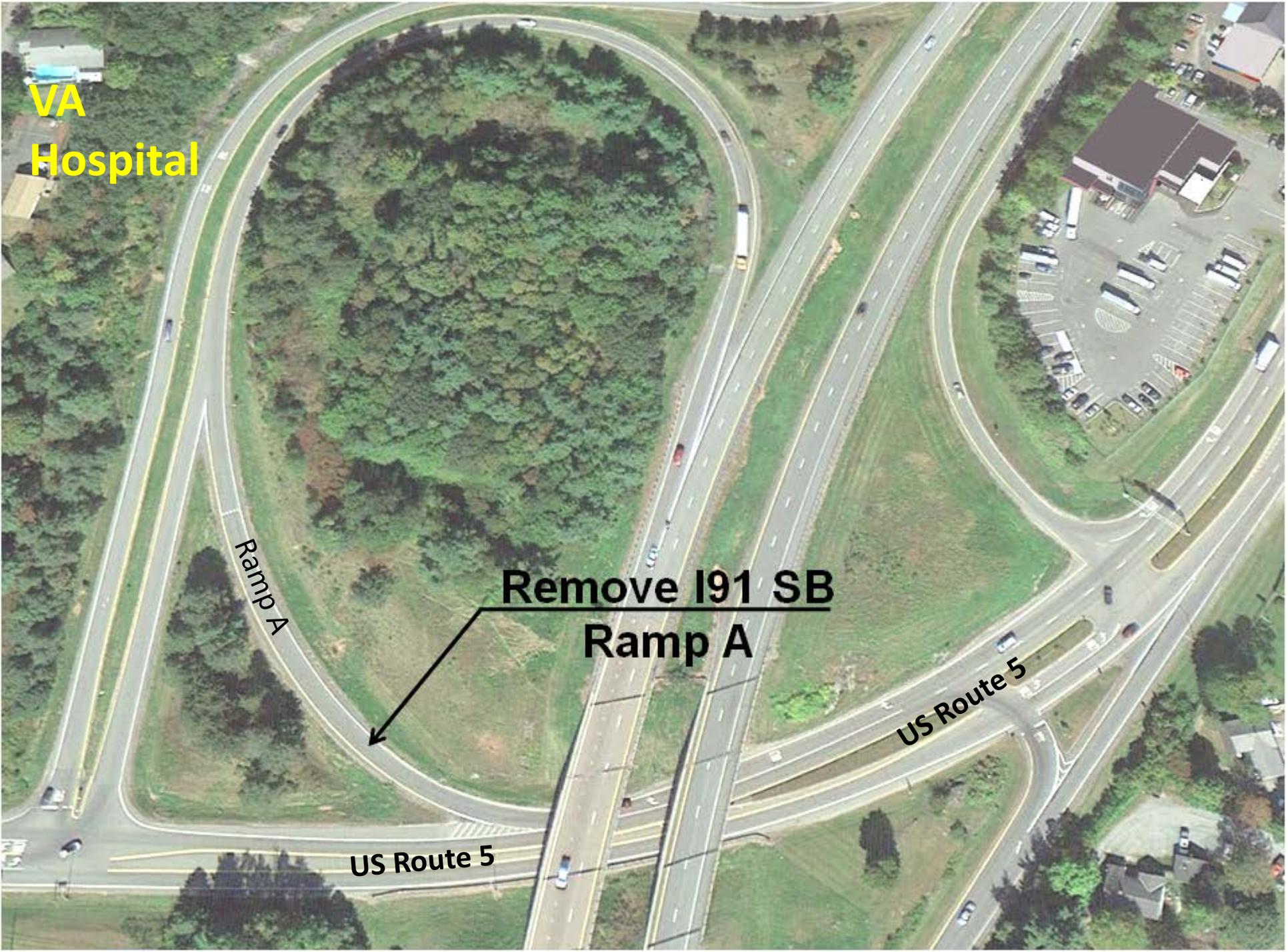
**VA
Hospital**

Ramp A

**Remove I91 SB
Ramp A**

US Route 5

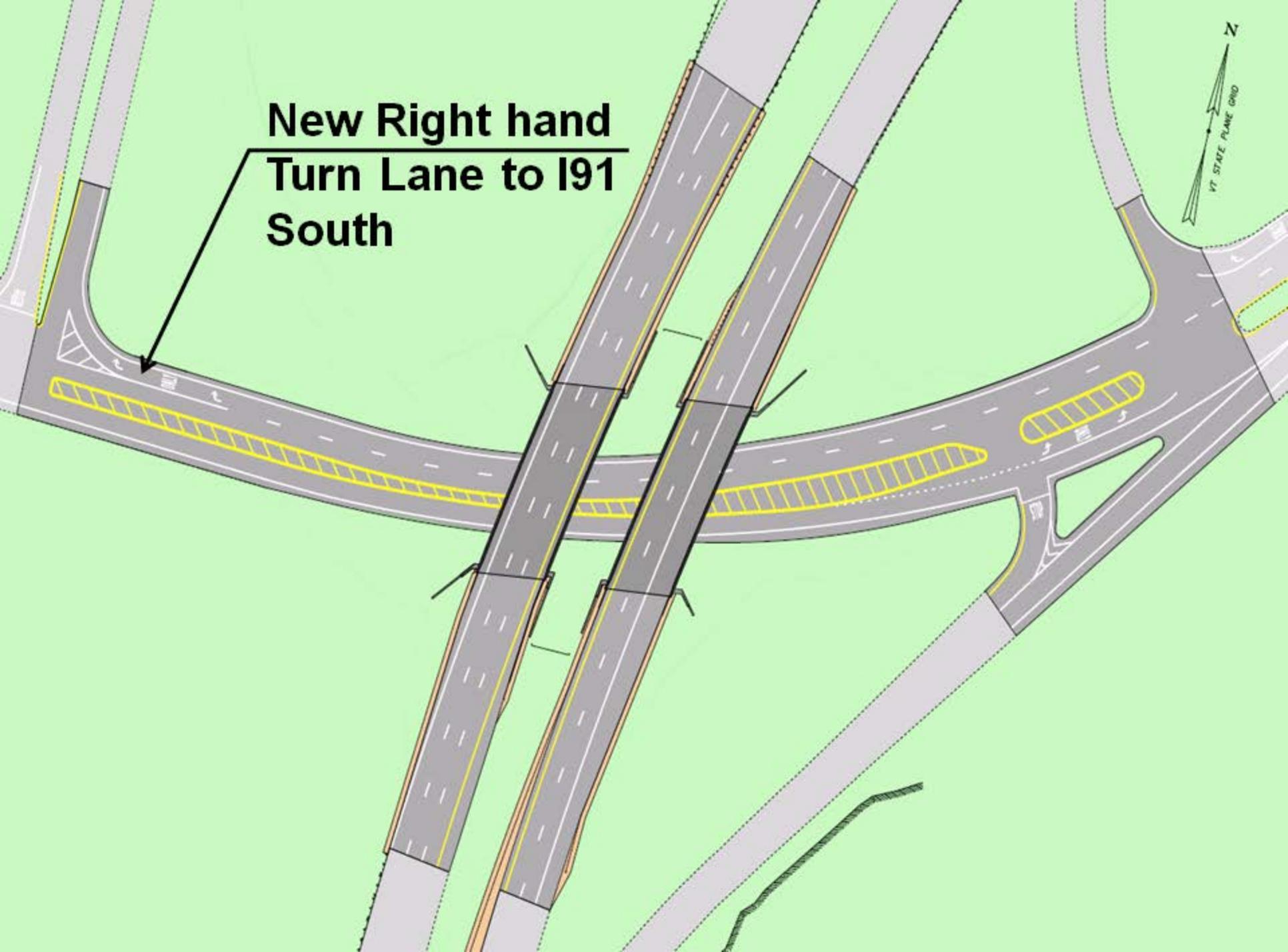
US Route 5



Route 5 Improvements

- Removal of Southbound Ramp A
- New right hand turn lane on Route 5 at I-91
South on ramp

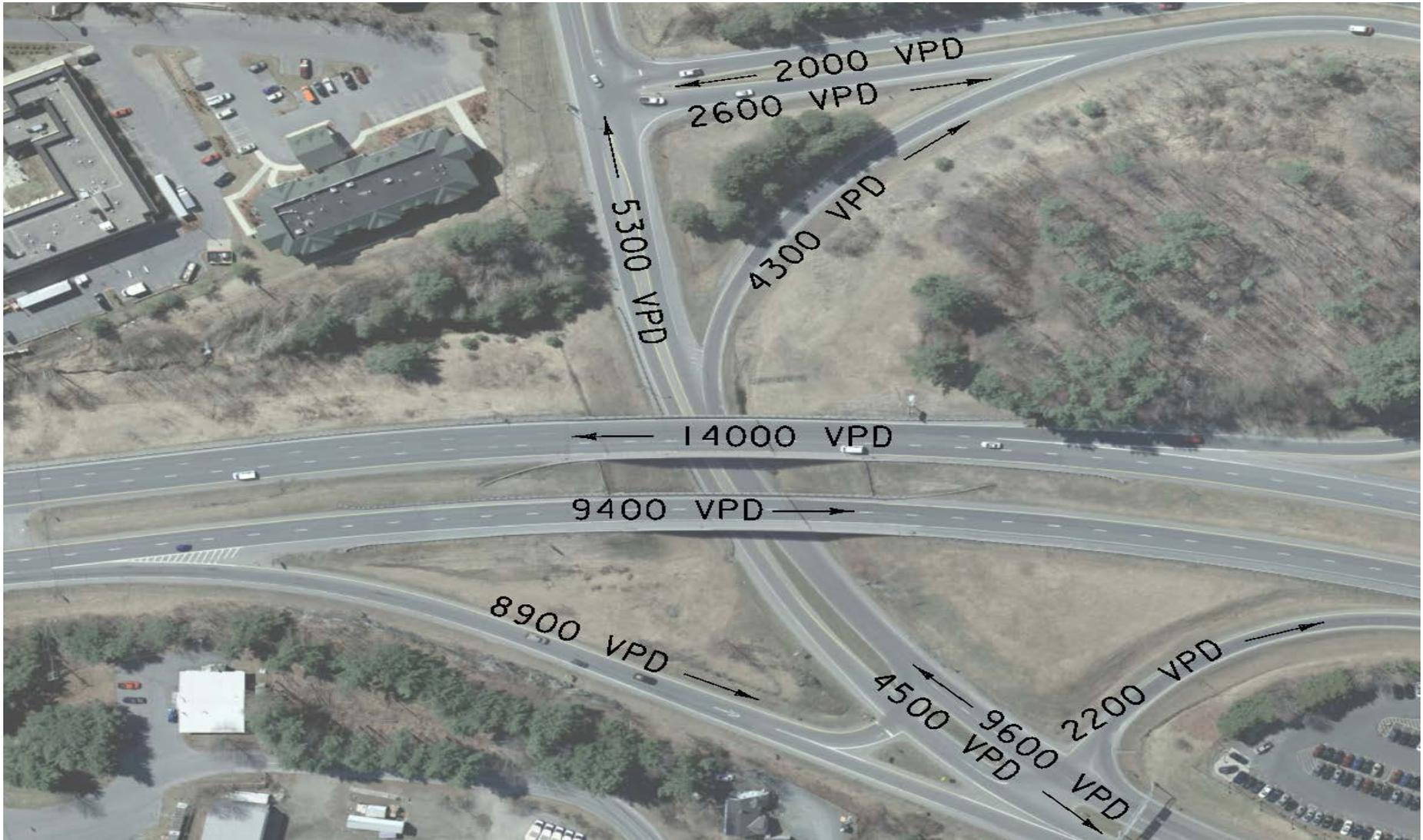
**New Right hand
Turn Lane to I91
South**



Project Challenges

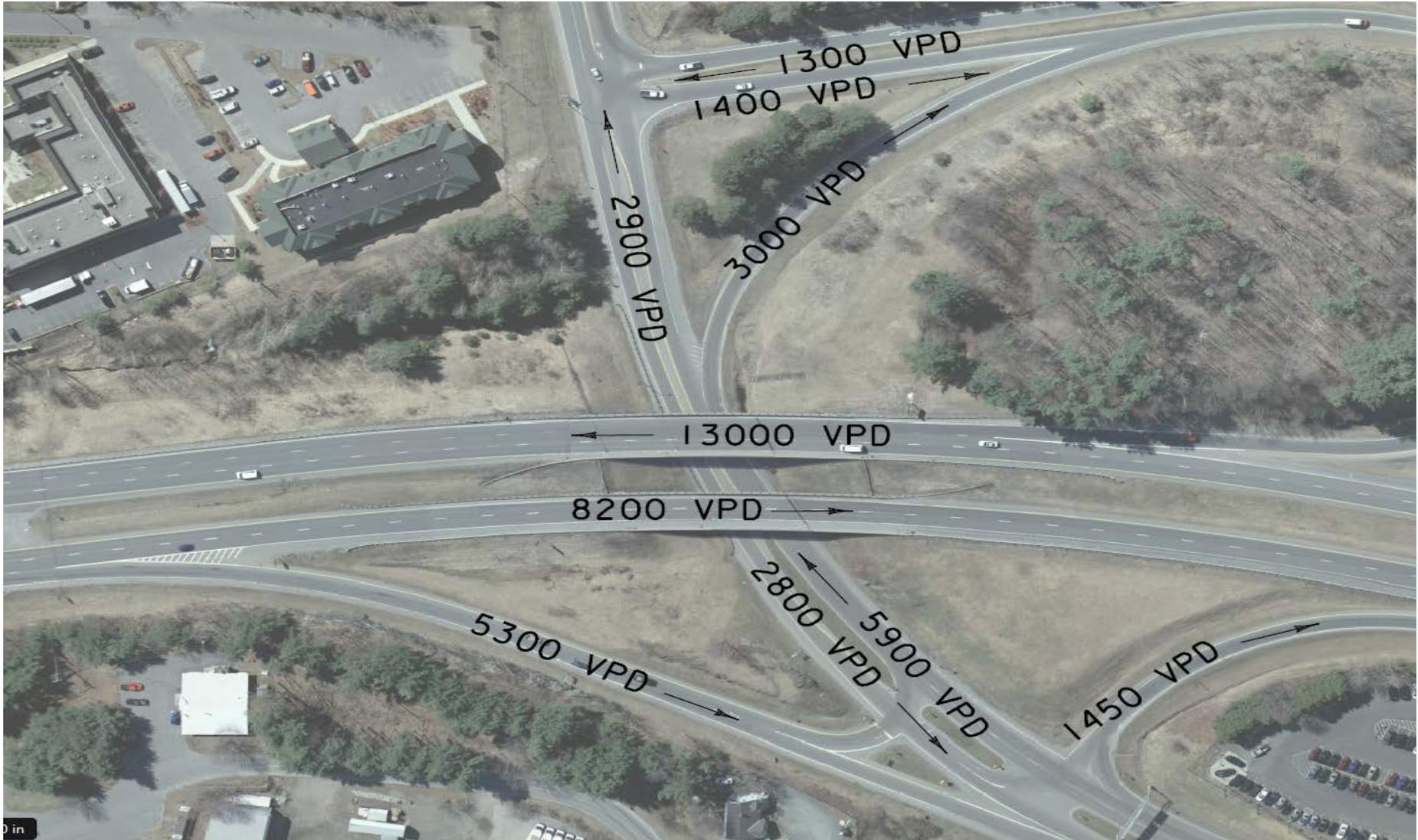


Traffic Volume – During the Week



VPD = Vehicles Per Day

Traffic Volume – Weekends



VPD = Vehicles Per Day

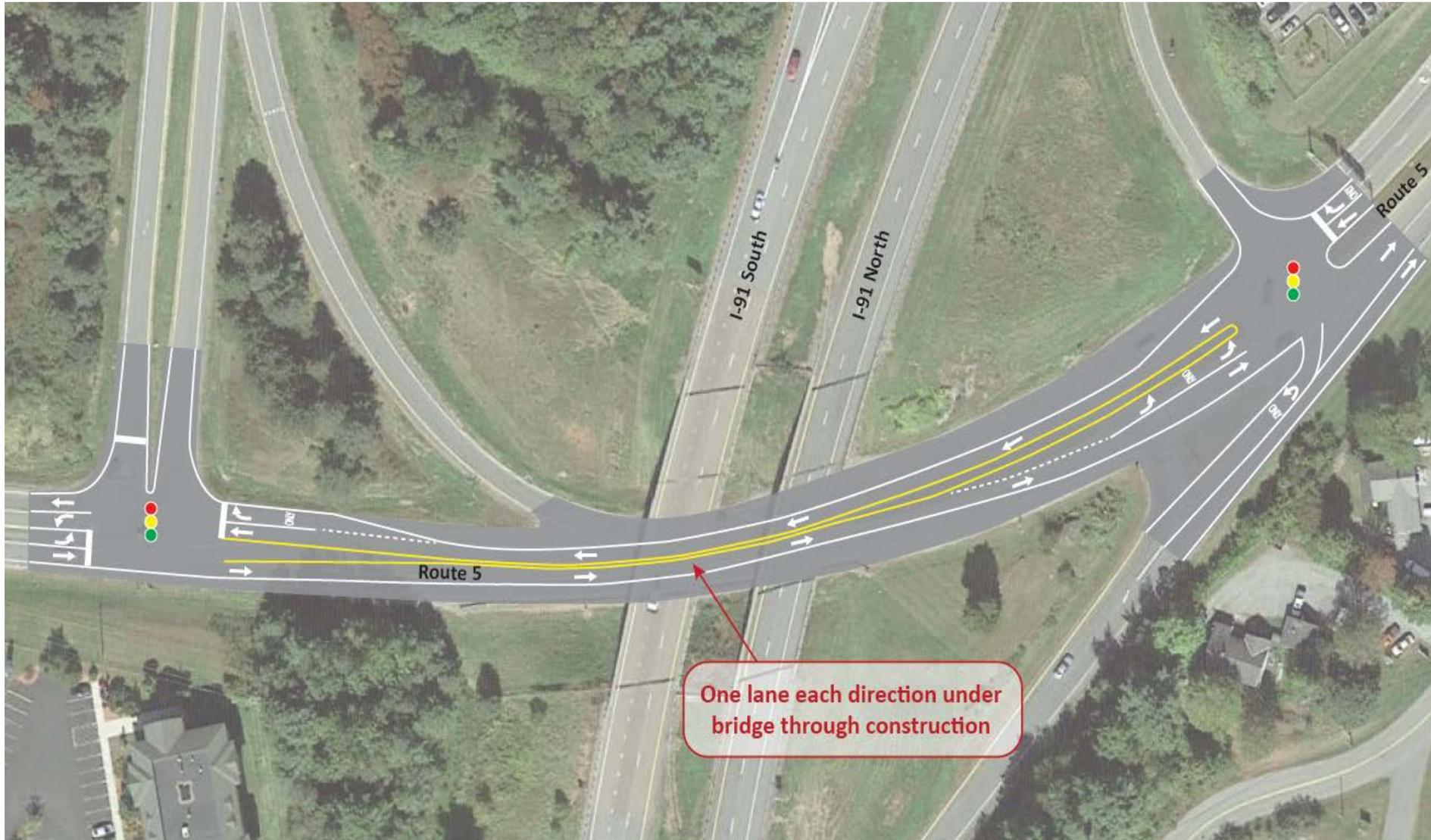
Construction & Maintenance of Traffic



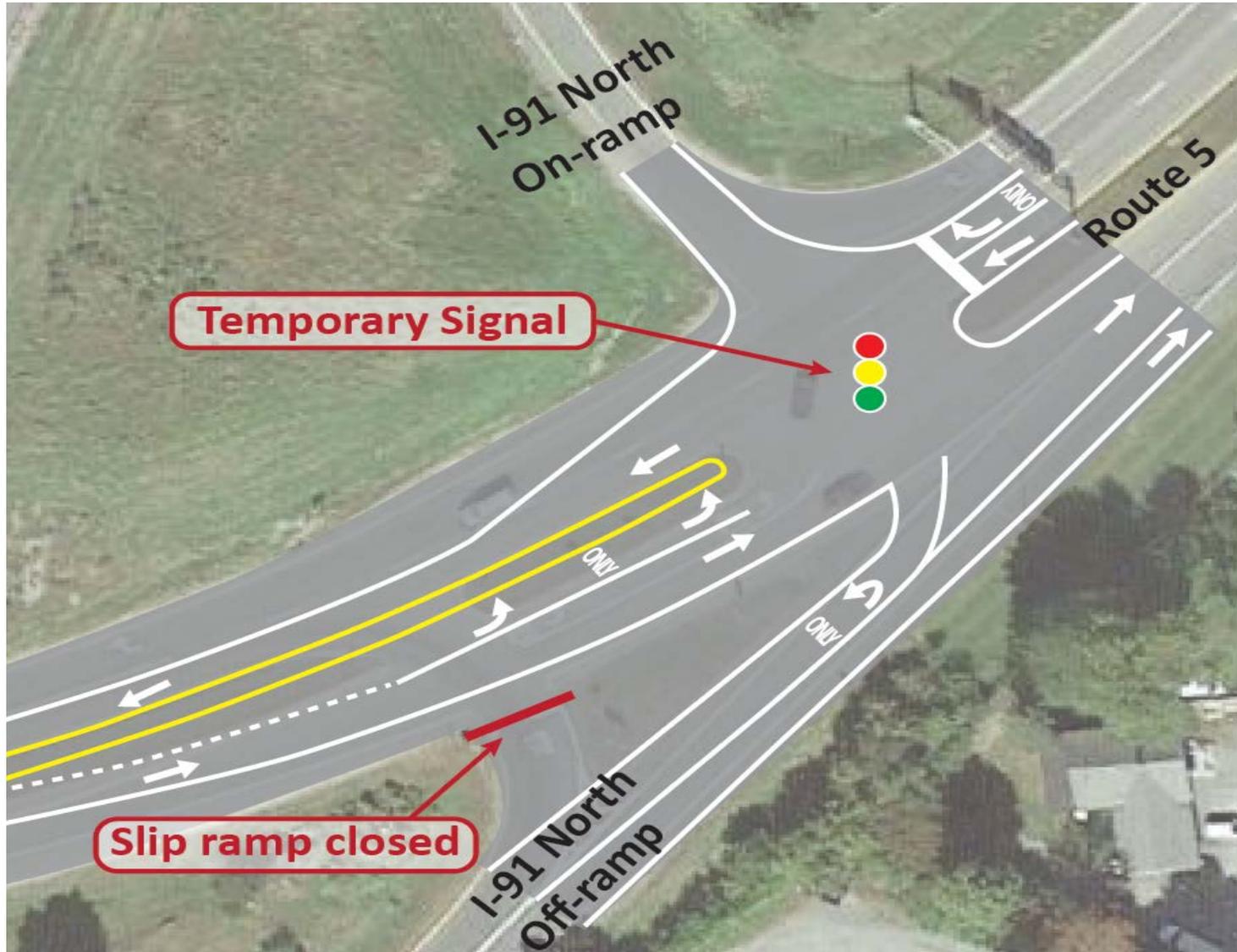
Route 5 Traffic Control Through Project

- Traffic reduced to 2 lanes on Route 5 to provide construction access
 - Remove raised Island north of bridges
 - Island will be reconstructed at the end of the project
 - Transition two Lanes to one lane (Rt. 5 South)
 - Sykes Mountain Avenue to I-91 Northbound Ramp
 - Single Lane in both directions through project area
 - Room for Contractor to work on new bridge supports
 - Provide safe pedestrian passage through project area

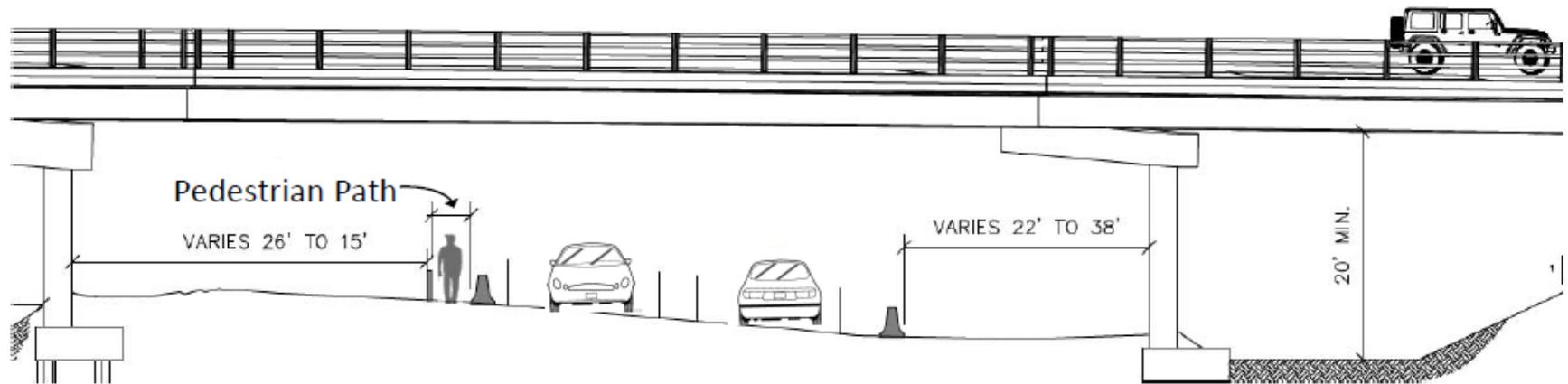
Route 5 Traffic Control Plan (April – October)



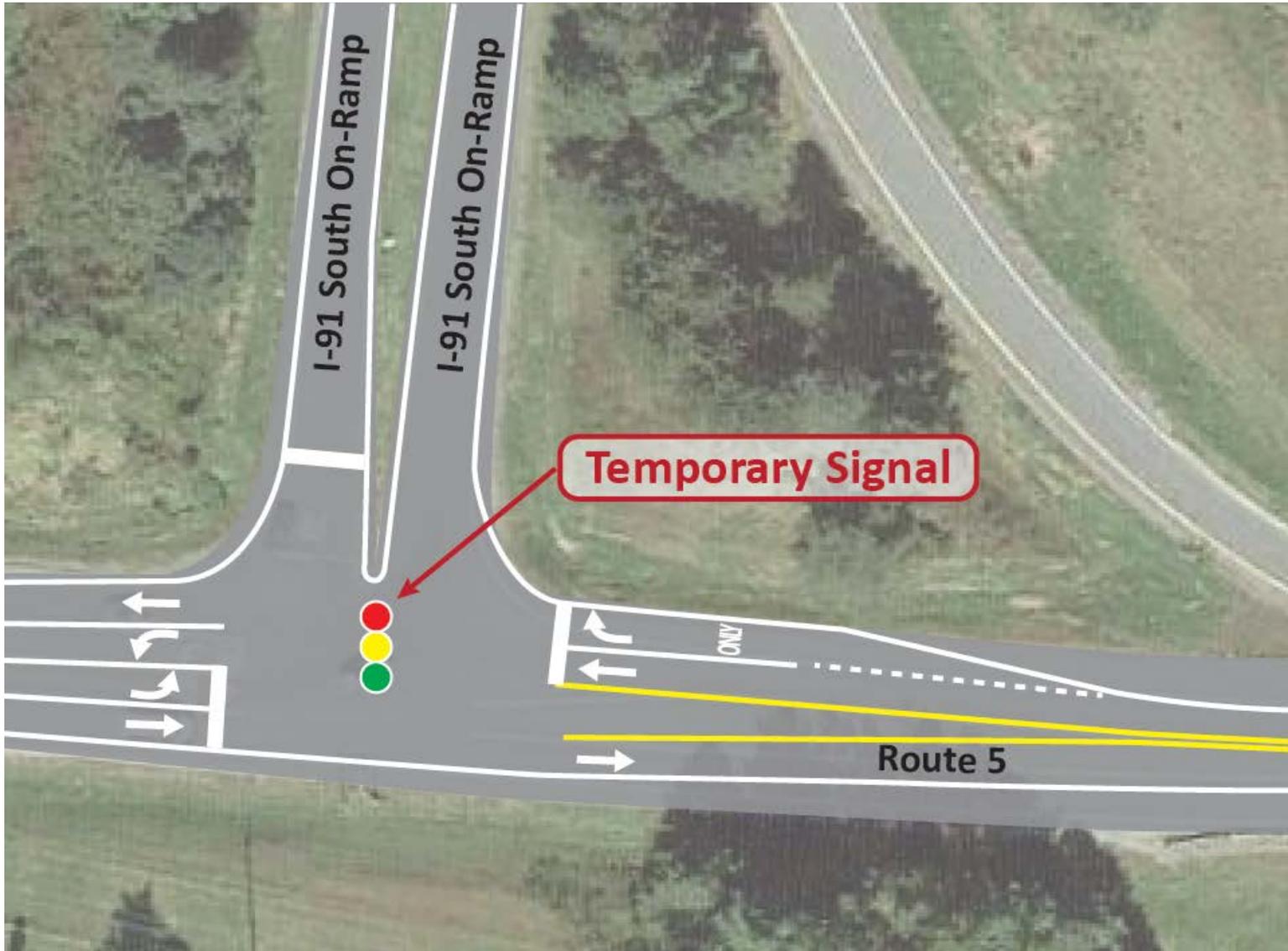
I-91 NB Ramp/Route 5 Intersection



Traffic & Pedestrian Passage Through Project



I-91 SB Ramps/Route 5 Intersection



Accelerated Bridge Construction

- Construct new abutments (supports) under existing Bridges

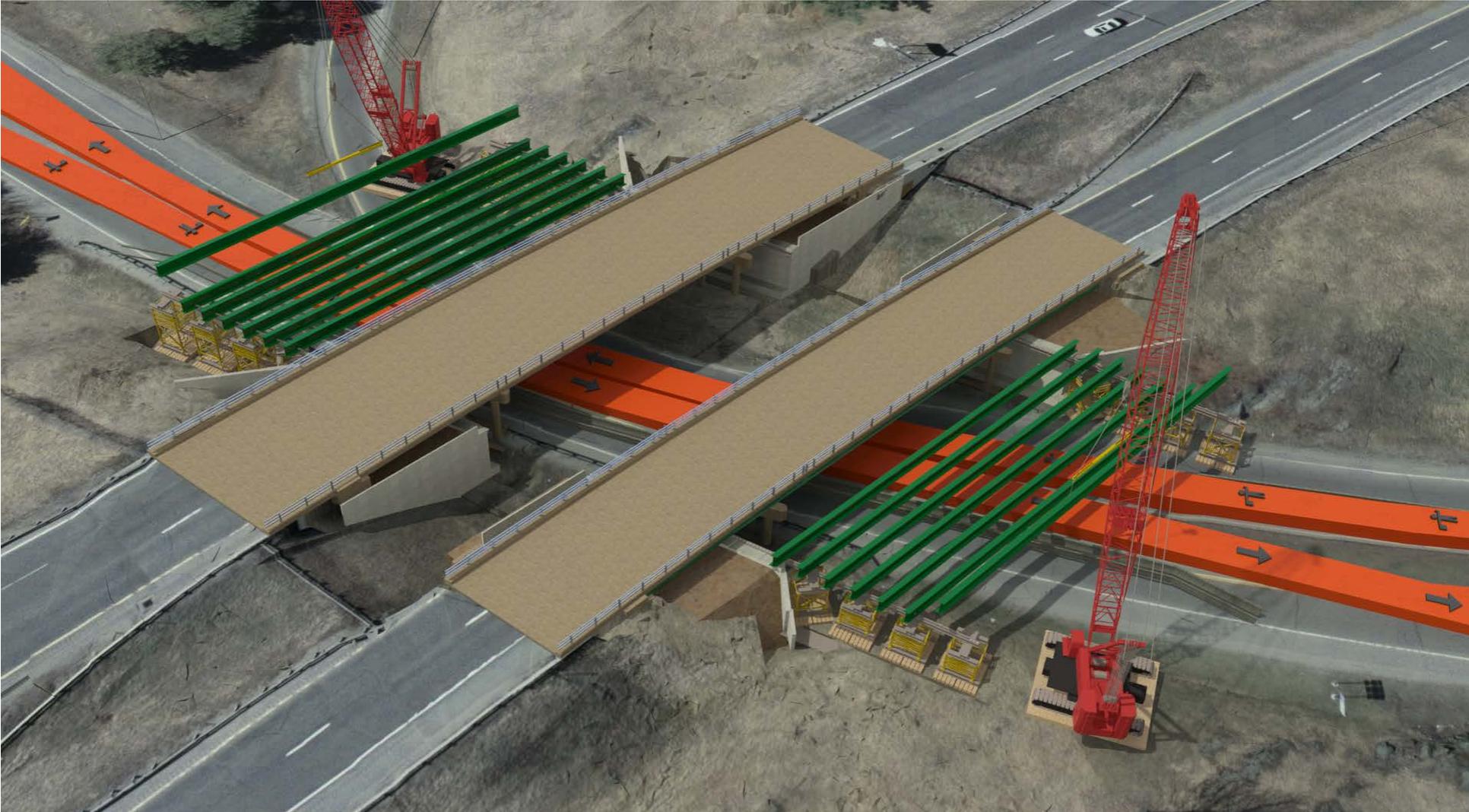
New Bridge Supports



Accelerated Bridge Construction

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures

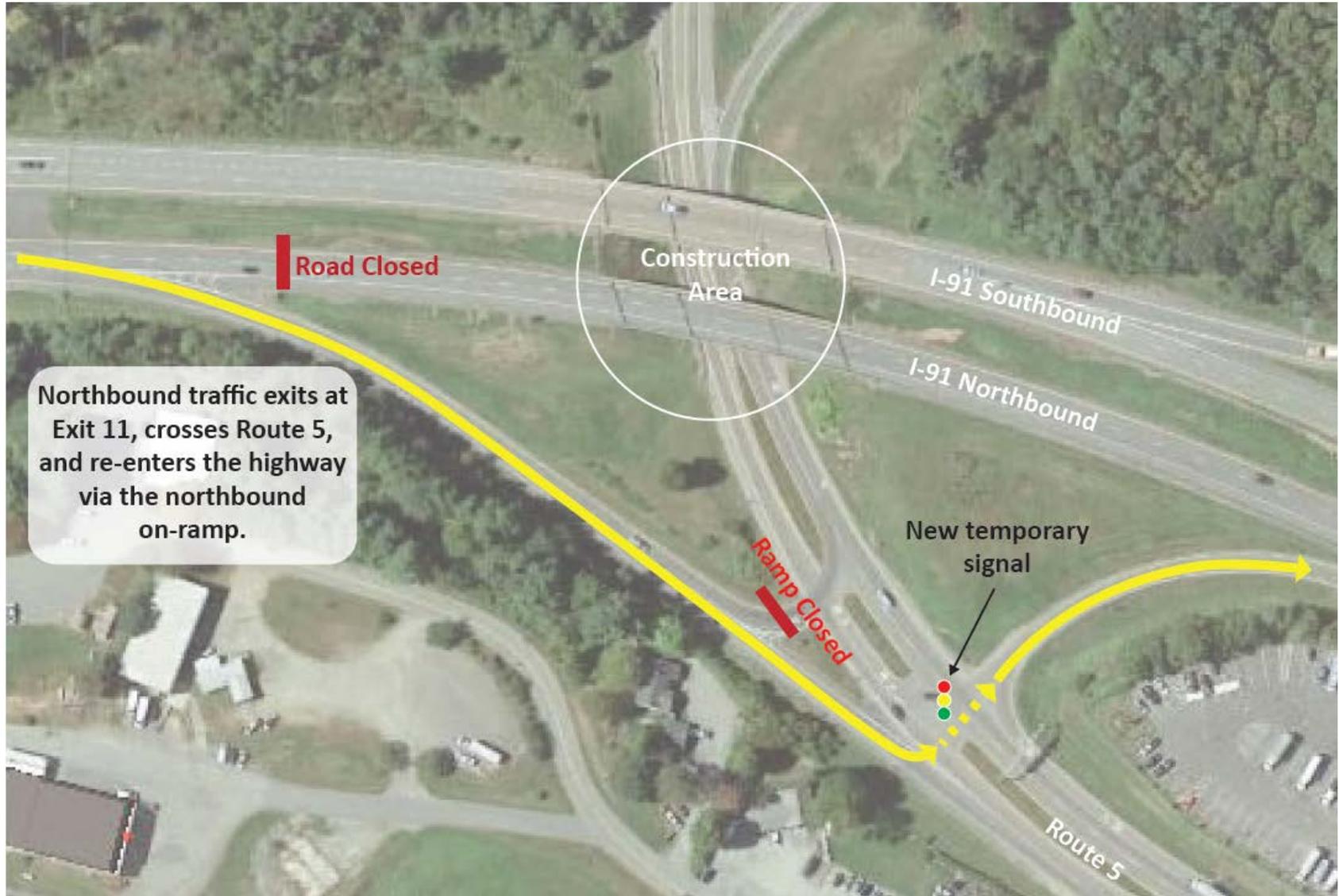
Setting Beams on Temporary Supports



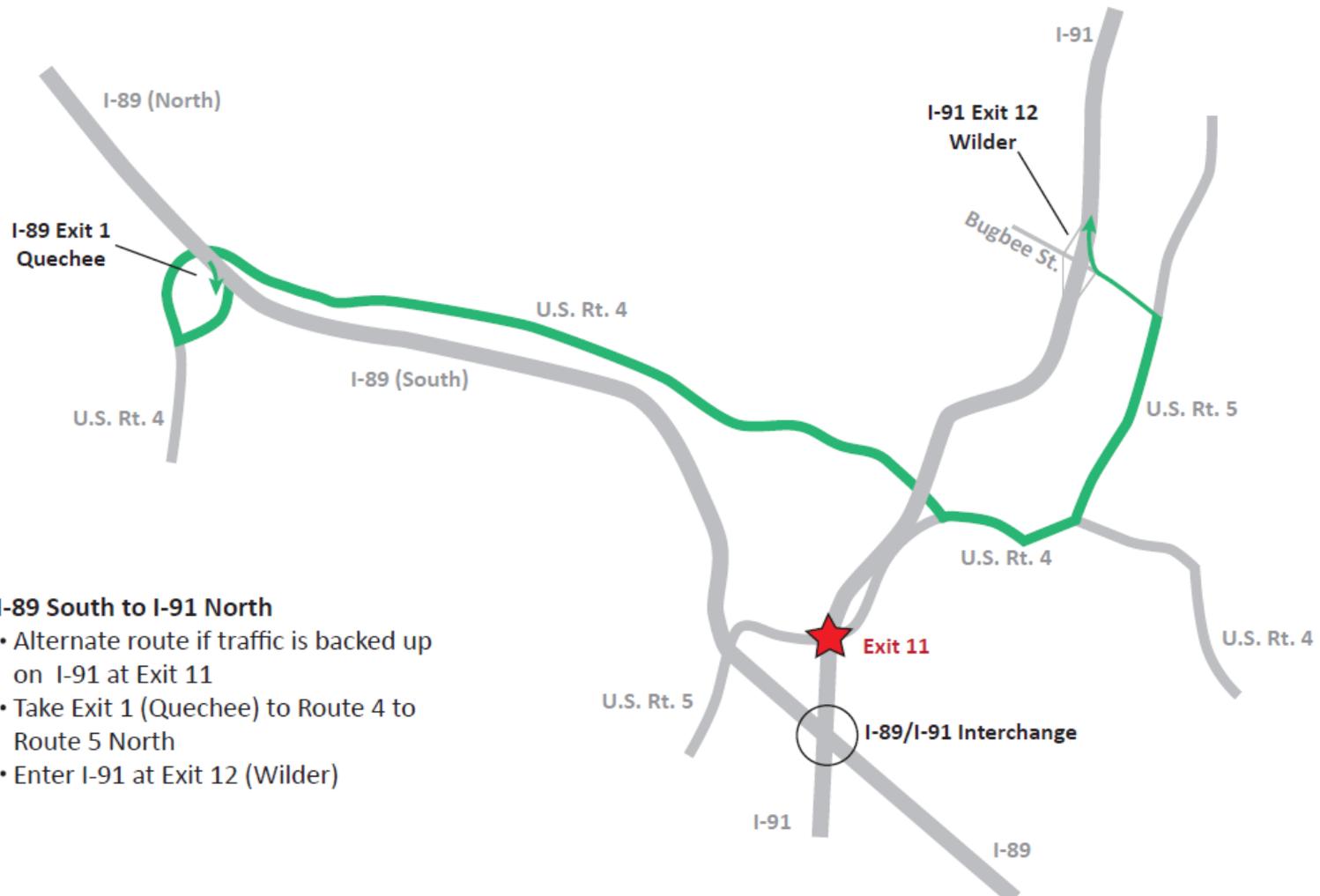
Accelerated Bridge Construction

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- **Activate I-91 NB Detour (Close Bridge Friday evening 6:00 PM)**

I-91 Northbound Detour



I-89 South heading for I-91 North



I-89 South to I-91 North

- Alternate route if traffic is backed up on I-91 at Exit 11
- Take Exit 1 (Quechee) to Route 4 to Route 5 North
- Enter I-91 at Exit 12 (Wilder)

Accelerated Bridge Construction

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 NB Detour (Close Bridge Friday evening 6:00 PM)
- **Demolish Bridge**
 - Pedestrian Walkway closed during I-91 weekend closure

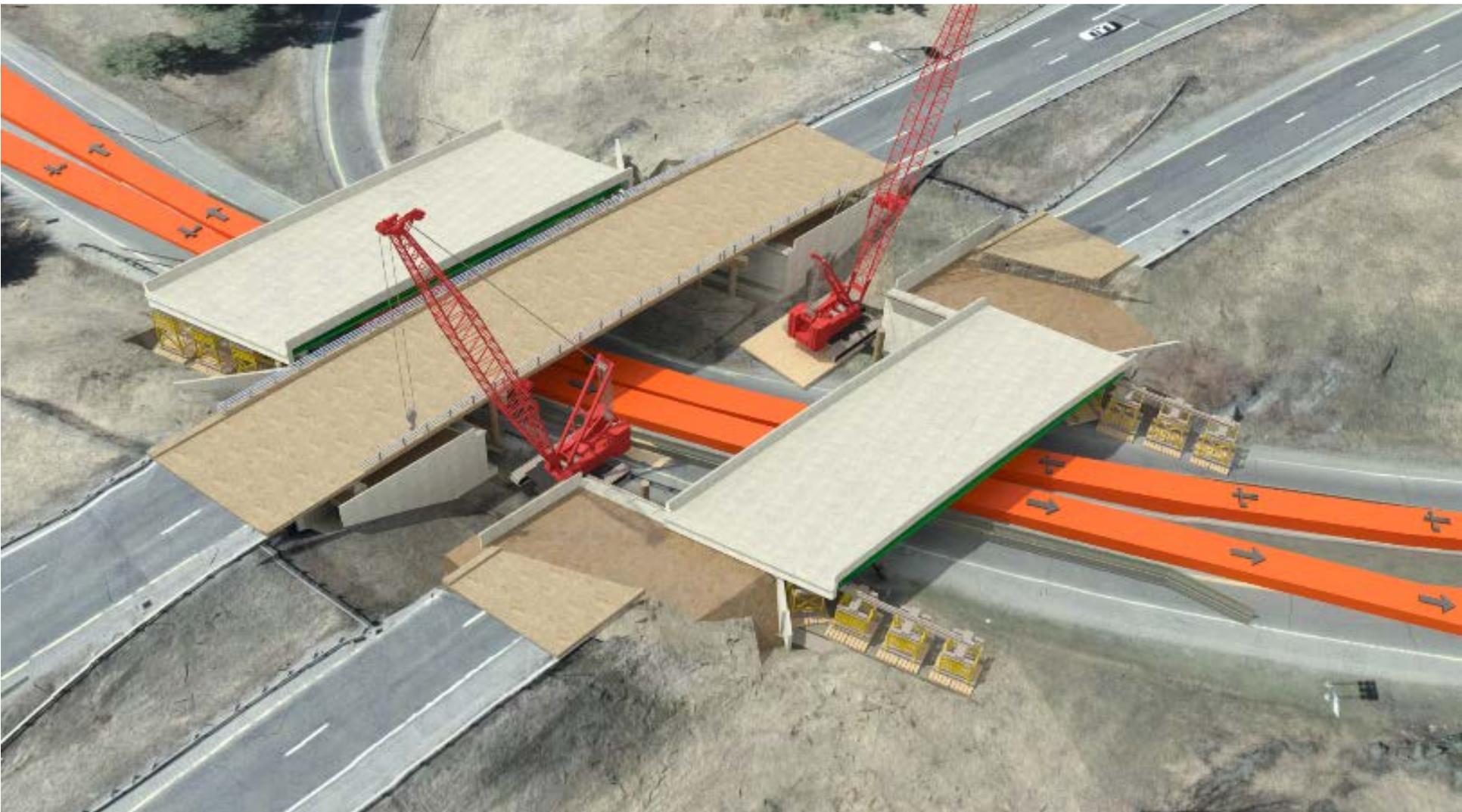
Bridge Removal



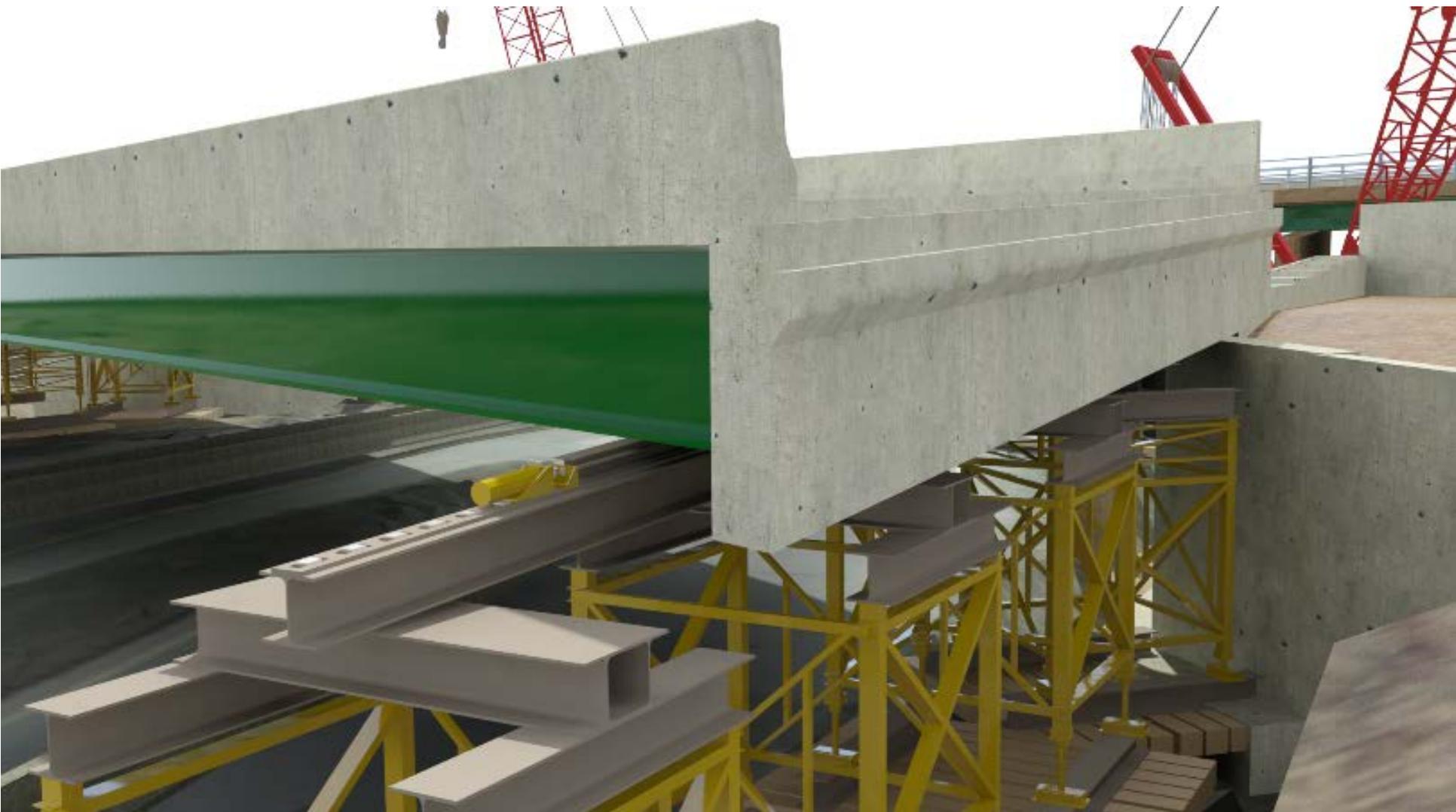
Accelerated Bridge Construction

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 Detour (Close Bridge Friday evening 6:00 PM)
- Demolish Bridge
 - Pedestrian Walkway closed during I-91 weekend closure
- **Slide new Bridge into place**

Move Bridge into Place



Moving Bridge into Place



Accelerated Bridge Construction

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 Detour (Close Bridge Friday evening 6:00 PM)
- Demolish Bridge
- Slide new Bridge into place

- Complete approaches to bridge
- Open Bridge
- Route 5 under bridges open to traffic but with delays during critical activities (demolition and bridge slide)

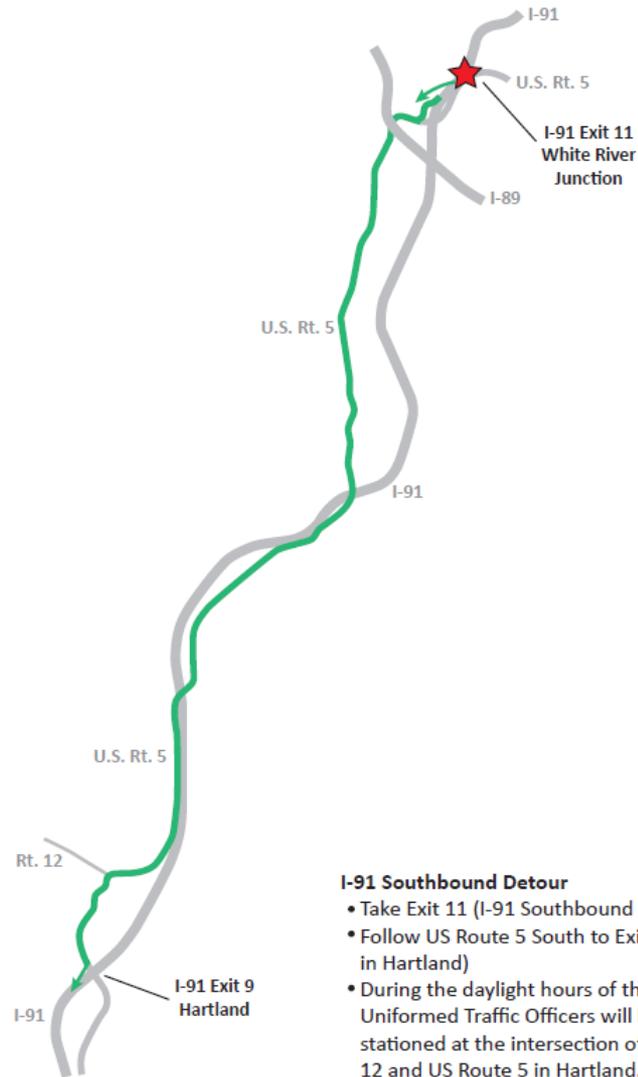
Approach and Roadway Work



Bridge Construction

- Repeat process for Southbound Bridge Replacement
- Southbound Bridge will be replaced on a separate weekend (one weekend closure for each structure)
- Different traffic control plan

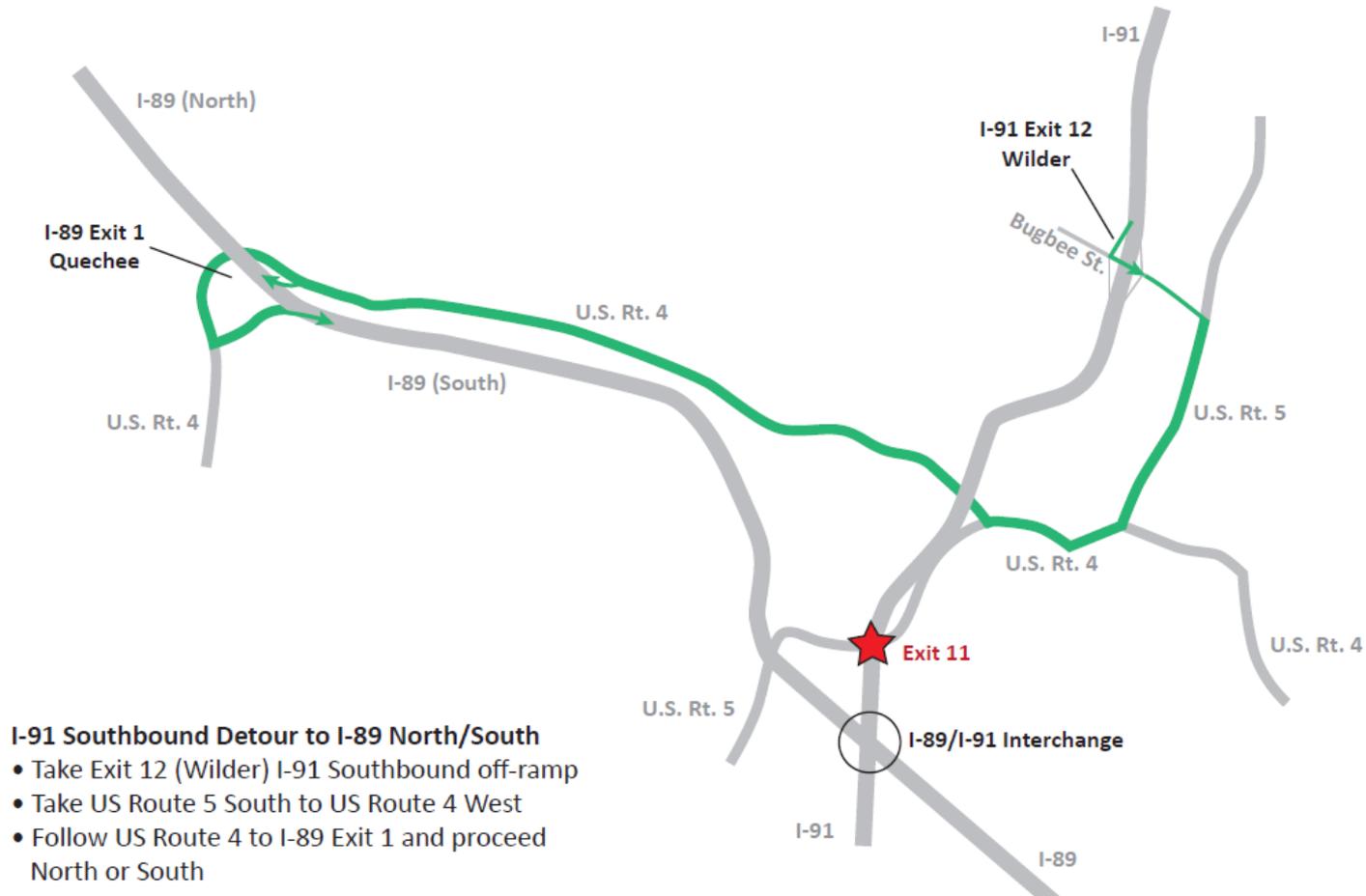
I-91 Southbound Detour



I-91 Southbound Detour

- Take Exit 11 (I-91 Southbound off-ramp)
- Follow US Route 5 South to Exit 9 (I-91 in Hartland)
- During the daylight hours of the closure, Uniformed Traffic Officers will be stationed at the intersection of VT Route 12 and US Route 5 in Hartland.

I-91 Southbound Detour to I-89 N/S



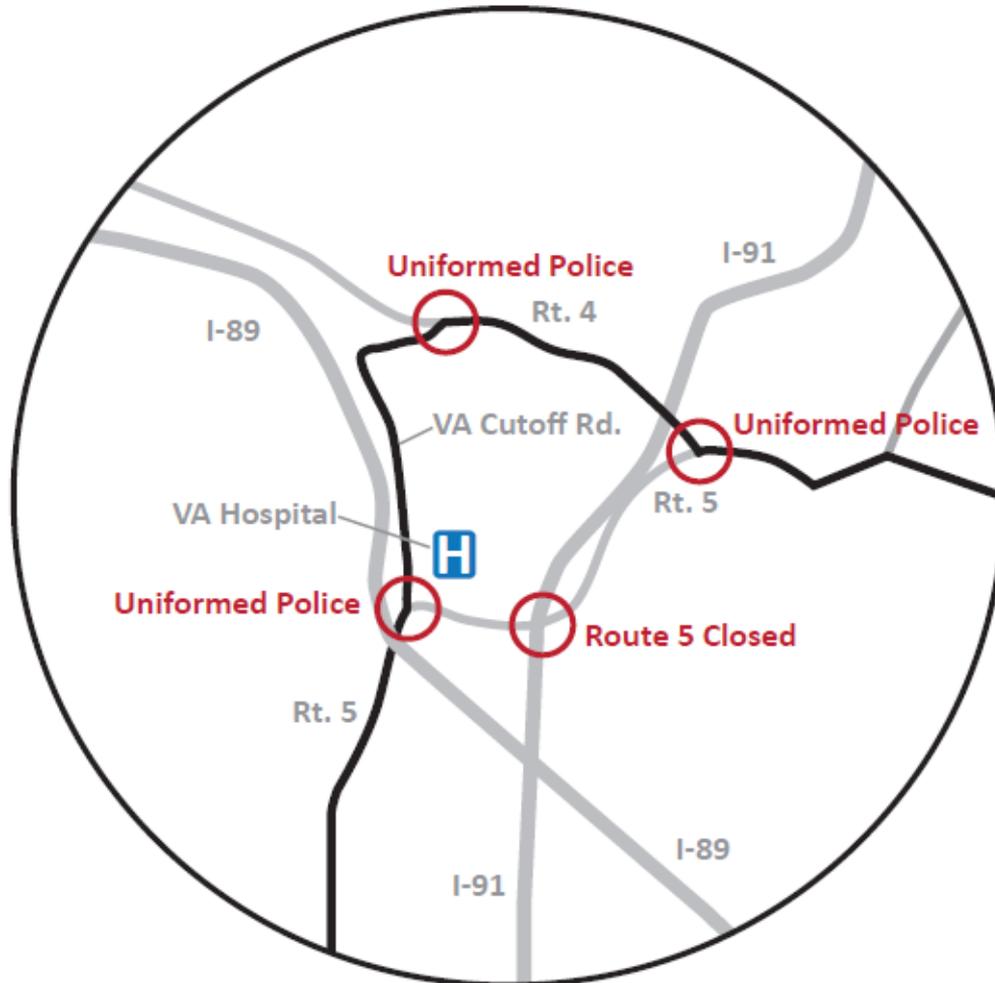
Final Condition



“What if” Scenarios for Traffic Planning:

- What if something happens at the bridge site and Route 5 is forced to close?
 - Traffic will be rerouted around the bridges using uniformed traffic officers.
 - 5 South will use US 4 to VA cutoff road
 - 5 North will use VA Cutoff Road to US 4

“What if” Scenarios for Traffic Planning:



“What if” Scenarios for Traffic Planning:

- What if something happens at the bridge site and Route 5 is forced to close?
 - Traffic will be rerouted around the bridges using uniformed traffic officers.
 - 5 south will use US 4 to VA cutoff road
 - 5 North will use VA Cutoff Road to US 4
- What if a vehicle breaks down or there is an accident in the North bound detour?
 - Tow truck will be stationed in the median of I-91 to clear any mishap that occurs during the closure weekend

Maintenance of Traffic Summary

- Maintain traffic through construction site on Route 5
- Reduce travel lanes from 3 to 2 along Route 5
- Construct protected pedestrian walkway
- Use VA Cutoff road in case of unexpected emergency
- Use signs on highway to divert traffic away from exit 11
- Limit traffic delays on Route 5

Limit traffic delays on Route 5

- Two way traffic always during peak hours
 - 6:00 AM – 9:00 AM
 - 3:00 PM – 6:00 PM
- Periodic one-way traffic on non-peak hours, not to exceed 10 minutes*
 - 9:00 AM – 3:00 PM
 - 6:00 PM – 9:00 PM
- Periodic night time work, delays exceed 10 minutes but less than 20 minutes*
 - 9:00 PM – 6:00 AM

*Specified by VTrans contract

Bridge Construction:

- Construct New Abutments Under Existing Bridges
- Construction New Superstructures next to the Existing Bridges
- Close I-91 at Bridges for one weekend for each Bridge (Closure from Friday Evening to Monday Morning)
- Laterally slide bridges into place
- Complete approach work on I-91
- Open I-91
- Restore US Route 5

Project Schedule

- Begin Construction – March 23, 2015
- Bridge Closures Scheduled for:
 - Northbound August 21 - 24, 2015
 - Southbound August 28 - 31, 2015
- Back up closure dates:
 - Northbound September 11 - 14, 2015
 - Southbound September 18 - 21, 2015
- End Construction – October 30, 2015

Night Time Traffic Delays on Route 5

- New Bridge Construction over Route 5
 - 10-20 minute delays between 9 pm and 6am
 - June 8 – 26 (Setting Beams, Placing form work)
 - July 20 – August 15 (Pouring Concrete Deck and Rails)
- Existing Bridge Demolition and Bridge Slide
 - August 17 – August 31
 - Includes I-91 Closure weekends
- Route 5 Paving and reconstruction
 - Night time Paving Operations

Public Outreach Coordination

- Project Web Address

www.i91wrj.vtransprojects.vermont.gov

- Public Outreach Coordinator

Jill Barrett

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