Route 11, 220, 220A
Access Management Project At I-81, Exit 150
Project Update
Fall 2014

From: 0.30 Mi. South of Route 220
To: 0.74 Mi. North of Route 220
Botetourt, Virginia
In the 1990s, there were preliminary plans to completely rebuild I-81’s exit 150 interchange at an estimated cost of $220 million. Funding was not available to completely rebuild the interchange.

Since the late 90s, VDOT has implemented some spot improvements at the interchange to improve safety and traffic flow. These included:

- Added right turn lane from NB Route 11 onto SB Route 220A
- Created dual left turn lanes from SB Route 220 onto NB Route 11
- Created dual right turn lanes from SB Route 11 onto NB Route 220
- Changed signal phasing
- Widened exit 150B ramp to create dual right lanes onto SB Route 11
- Installed improved signage
- Repaved 11/220/220A intersection
- Placed new line markings
- Installed improved guardrail
Project Background

• Funding was identified in the mid-2000s to pursue a lower cost project to provide interim safety improvements to Route 11, the Route 11 intersection with Routes 220 and 220A, and the connecting ramps with I-81.

• An advisory committee was formed in summer 2008 to develop alternatives for this project.

• The project that resulted from the committee’s input will improve safety, increase capacity and better manage access within the corridor.
Project Advisory Committee Members

- Mr. Kevin Baird, Plant Manager, Titan America
- Mr. Ken Morrow, Plant Manager, JTEKT Automotive
- Mr. Steve Helgeson, Plant Manager, Metalsa Roanoke
- Mr. Robert Arritt, VP & CFO, New River Electric Corporation
- Mr. Steve Painter, General Manager, Travel Centers of America
- Mr. Jay Patel, Holiday Inn Express/Relax Investment Group, Inc.
- Mr. Don Assaid, Valley District, Botetourt County Board of Supervisors
- Mr. Terry Austin, Buchanan District, Botetourt County Board of Supervisors
- Mr. Greg Sleboda, Chief, Troutville Volunteer Fire Department
- Deputy Greg Marshall, Botetourt County Sheriff’s Department
- Dr. Tony Brads, Superintendent, Botetourt County Schools
Project Milestones

• Citizen’s Information Meeting – Summer 2009 held at Lord Botetourt High School

• Alternative study finalized with recommended preferred alternative – Summer 2010

• Public Hearing – Spring 2012 held at Lord Botetourt High School

• Conceptual design approved by Federal Highway Administration – Summer 2012

• Right of Way acquisition start – Spring 2013

• Final design complete – Summer 2014

• Advertisement for construction – December 2014

• Anticipated project construction to begin in spring 2015
The Final Design

Route 11, 220, 220A Access Management Project at Exit 150

Alternative #4A
Why this Alternative?

• Costs less than a complete interchange rebuild ($46.7 million)
• Improves traffic flow and eliminates congestion
• Enhances safety on Route 11, Route 220, and Route 220A
• Implements better access management on Route 11 to reduce congestion
• Creates a direct connection from I-81 NB onto Route 220A to relieve pressure on the 11/220/220A intersection
• Provides a new controlled access road, Gateway Crossing, to accommodate future development in Botetourt County
The Final Design

- Provides a roundabout instead of a traffic signal to enhance traffic flow and increase capacity at the Exit 150B/Route 11 intersection.
- Creates a dedicated Exit 150B off-ramp with NB Route 220 to accommodate the heaviest traffic movement at the Route 11/220/220A intersection. This will improve traffic flow.
The Final Design

- Modifies Exit 150A to allow right turns onto Route 11 southbound only and eliminate hazardous merge/weaves.
- Creates a new NB I-81 on-ramp adjacent to Exit 150B to provide safer access. Existing NB I-81 on-ramp closed.
The Final Design

- Replaces Route 11 center turn lane with a raised median with no left turns allowed between Exit 150B and the Route 11/220/220A intersection. Right in/right out access improves safety and traffic flow.

- Constructs Gateway Crossing, a new connection between Route 11 and 220A that will enhance traffic flow.
The Final Design

- Provides landscaping opportunities within the roundabout to serve as a gateway into Botetourt County.
- Allows access to additional area of approximately 21 acres of property for future development.
Travel Center America Property

- Only two business properties are being purchased for the project.
  - Travel Center America property
  - Portion of the Painter parcel requiring relocation of Gene’s Trading Post

- Why not just close the truck stop?
  - Traffic analysis showed only slight short-term improvement, but not long-term operational improvements through year 2036.
  - Based on traffic counts, heavy trucks account for at most 10.2 percent of vehicles at 11/220/220A intersection during peak hours.
  - Of all the vehicles (cars and trucks) passing through the intersection at peak times, a maximum of 4.2 percent were accessing the truck stop.
  - Constructing a new NB I-81 off-ramp onto NB Route 220 for the heaviest traffic movement at the intersection was the reason for VDOT to acquire the truck stop property. VDOT legally cannot just acquire property to reduce congestion.
Staged Construction
Future Milestones

• Right of Way acquisition Complete – Fall 2014
• Project advertisement – Winter 2014
• Begin construction – Spring 2015
  ✓ Stage I – 10-12 months
  ✓ Stage II – 10 months
  ✓ Stage III – 7 months
• Estimated project completion (open to all traffic) – Fall 2017
• Remaining incidental work completed – Summer 2018
Staged Construction – All Stages

Route 11, 220, 220A Access Management Project At I-81, Exit 150
Stage I Phases and Impacts

- Construction of the new intersection of Gateway Crossing with Route 220A to include turn lanes and a traffic signal
  - Shoulder closures on Route 220A with short-term nighttime lane closures, Sunday-Thursday, 10 pm-6 am

- Construction of Gateway Crossing and half of new roundabout
  - No traffic impacts on new location
  - Shoulder closure and short-term nighttime right lane closures on NB Route 11 for new intersection tie-in
Stage I Phases and Impacts

- Construction of the majority of the new NB 150B off-ramp and widening along Route 11
  - Short-term, nighttime right lane closures on SB Route 11 for new intersection tie-in
  - Possible narrowing during nighttime hours on NB 150B off-ramp

- Construction of 500 feet of new frontage road along Route 11 at Kangaroo Express and Country Cookin'
  - Flaggers to control traffic on SB Route 11 during night time hours
Stage II Phases and Impacts

- Exit 150B with access to NB Route 11 (left turn onto Route 11) will be closed to through traffic.

- NB I-81 traffic exiting to NB Route 11 will be detoured through exit 150A during the project for the majority of Stage II.

- NB Route 11 starting at the 220/220A intersection will be closed to through traffic. NB Route 11 will be reduced to one lane to local traffic only. NB Route 11 through traffic will be rerouted to Route 220A onto Gateway Crossing to return to NB Route 11.
Stage II Phases and Impacts

- Construction of the remainder of new NB 150B off-ramp and construction of the majority of the NB 150B on-ramp. Construction of approximately half of the roundabout.
Stage II Phases and Impacts

- SB Route 11 is reduced to one lane and re-routed onto the new Gateway Crossing to connect to 220A. SB Route 11 closed to through traffic (approximately an 8-month duration). Additional turn lanes will be provided as needed for entry into businesses.
Stage II Phases and Impacts

- Although there will be impacts to local business traffic, access to businesses will remain open. Businesses along Route 11 between the roundabout and the Route 220 intersection will have access from the 220/220A intersection.

- Periodic short-term lane and shoulder closures during nighttime hours Sunday – Thursday, 10pm-6am may occur on Route 11 and 220/220A.

- Concrete traffic barrier and barrels will be used to narrow 150B off-ramp. A vehicle width restriction of 12 feet will be in place for approximately two months. Wider vehicles will be re-routed to either exit 146 or exit 156.
Stage III Phases and Impacts

- Installation of new barrier wall on exit 150A off-ramp to allow right turn only onto SB Route 11
  - Nighttime SB Route 220 right lane closures and exit 150A off-ramp narrowed
  - Current SB Route 220 through lane reconfigured as shared through and right lane to SB Route 11.

- Construction of raised right-in/right-out raised median along Route 11 between the Route 11/220/220A intersection and the roundabout
  - Nighttime lane closures on NB or SB Route 11 for work in current center turn lane
  - SB Route 11 left turns into businesses on Route 11 will be prohibited.
Stage III Phases and Impacts

- Roundabout open to traffic and Route 11 through traffic closure removed.

- New NB I-81 from Route 11 on-ramp open. Old NB I-81 on-ramp from Route 220 closed. Extend NB Route 220 right lane to access SB I-81
  - *Nighttime lane closures on NB Route 220, Sunday – Thursday, 10 pm-6 am*

- Mill and overlay Route 11, 220, and 220A
  - *Nighttime lane closures on Route 11 and Route 220 for final paving Sunday – Thursday, 10pm-6am.*
Final Construction

Completed Project
Open to traffic in fall 2017
Anatomy of the Proposed Roundabout

- Two lanes from 150B Exit Ramp to Gateway Crossing
- Geometry designed for truck traffic
- Enhanced safety
- Easy access to and from I-81
- Additional lighting and landscaping
- Gateway into Botetourt County
Why a Roundabout?

- **Enhanced Safety**
  - 35% Reduction in Crashes
  - 76% Reduction in Injuries
  - Reduction in severity of crashes
  - Slower speeds are generally safer for pedestrians

- **Intersection Efficiency**
  - Increased Traffic Capacity with the elimination of left turns
  - Reduced delay with no stopping at a traffic signal

- **Environmental**
  - Reduction of air pollution
  - Decrease in fuel consumption

- **Low Construction and Maintenance Costs**
- **Improved Aesthetics**
- **U-Turns are Allowed**
How to Drive in a Roundabout

Right Turns

- Slow down and prepare to yield to traffic as you approach the roundabout.
- On the approach, if it is a dual lane roundabout, you must be in the right lane.
- You must yield to the traffic already in the roundabout.
- Stay to the right as you approach your turn.
- Place your right turn signal on until you have exited the roundabout.
How to Drive in a Roundabout

Straight Ahead

• Slow down and prepare to yield as you approach the roundabout.

• Unless signs or lane markings indicate an exclusive right turn, approach in the right lane and stay in that lane through the roundabout.

• If this is a two-lane roundabout and the right lane is blocked by dense traffic or a road obstruction, approach and continue through the roundabout in the left lane.

• You must yield to traffic already in the roundabout.

• Signal to turn just before the turn you plan to use.
How to Drive in a Roundabout

Left Turn or U-turn

- Slow down and prepare to yield as you approach the roundabout.

- Enter the roundabout in the left lane (if it is a two-lane approach) and stay in that lane throughout the roundabout.

- You must yield to traffic already in the roundabout.

- Signal to turn just before the turn you plan to use.
How to Drive in a Roundabout

**Turn Signals**

In a roundabout, turn signals are important. Signal to turn just before the turn you plan to use.

**Yield**

Yielding to traffic creates a free flow of traffic entering, moving through and exiting the roundabout. Yield when approaching entrance into roundabout. Traffic will continue to move through the roundabout as you attempt to enter.
Existing Interchange with Future Traffic
Exit 150, Routes 11/220/220A
After Project Completion
Route 11, 220, 220A Access Management Project At I-81, Exit 150 Project Update Fall 2014

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