

IMPROVE 81

Fall 2022

81 INSIDER

More Projects Cross the Finish Line

The Interstate 81 Corridor Improvement Program (CIP) includes 34 ramp-extension projects with a common purpose: to enhance safety and traffic flow at interchanges. All of them extend acceleration or deceleration lanes to minimize conflicts between vehicles traveling at different speeds.

The largest and most challenging of these projects opened to traffic in late July at exit 47 (Marion) in Smyth County. Under a \$7 million design-build contract, A & J Development and Excavation Inc. added 0.8-mile to the acceleration lane from Route 11 onto northbound I-81. Commercial trucks and other vehicles had struggled to reach highway speed from this interchange due to a long, steep grade.

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Exit 47 during construction



Exit 47 after completion

More Projects Cross the Finish Line (continued)

Construction required crews to excavate roughly 78,000 cubic yards of earth and rock with carefully controlled blasting. “The work was confined between traffic barriers and a mountain side, creating restricted width. I-81 experienced a minor shift to allow for extra work area, but still the tight work area created many production challenges,” explained Marty Holloway, VDOT Bristol District engineer for mega projects.

Bristol District Design Engineer Robert Leonard added, “We utilized ‘slow roll roadblocks’ during blasting and the contractor monitored the blasting effects and adjusted blast size so that material would not escape the work zone.”

VDOT traffic engineers estimate that the project could reduce crashes by up to 77 percent, making it well worth the cost and construction challenges. “The opportunity to provide an extended acceleration lane that also can assist trucks in this very steep area

was just simply too good to pass up,” said Gene Holley, I-81 CIP coordinator for the VDOT Bristol District. “The ‘bang for the buck’ was two-fold and that provides quite a bit of satisfaction to all involved in delivering this project.”

VDOT chose to deliver the northbound exit 47 improvements through a single-phase design-build method, which expedited the project and allowed the contractor to be involved in the design process.

“Exit 47 was a good candidate for that type of contract, due to the size of the project and need to perform complex rock excavation while minimizing impacts to the traveling public and surrounding properties and facilities,” said I-81 Program delivery director Dave Covington. Covington added the project could serve as a model for VDOT to collaborate with contractors and consultants on future improvements along the I-81 corridor.



Exit 47 northbound acceleration lane

More Projects Cross the Finish Line (continued)

Three more ramp extensions, also in Smyth County, were completed in summer 2022. They include the northbound and southbound deceleration lanes at exit 39 (Seven Mile Ford), and the southbound acceleration lane at exit 44 near the town of Marion. A fourth project, the southbound acceleration lane at exit 47 near Marion, is scheduled to go under construction in fall 2022. W-L Construction & Paving is handling all four ramp extensions under a \$3.9 million construction contract.

W-L also recently finished safety enhancements on southbound I-81 between mile markers 39 and 38 in Smyth County. The \$1.1 million project includes animal control fencing along the right shoulder, and an epoxy pavement overlay to improve wet-weather traction.



In Rockbridge County, a series of improvements at exit 205 (Raphine) were completed in late September. They are designed to enhance safety and traffic flow at a busy interchange with several truck stops and other businesses. Improvements include extensions of the northbound and southbound acceleration lanes, wider off-ramps and new turn lanes. The projects were funded by the I-81 CIP and Virginia's SMART SCALE program, and constructed by A & J Development and Excavation Inc. under a single \$4.7 million contract.





The People Behind the Projects: Duane Mann

Meet some of the team members who offer expertise, dedication and innovative thinking to the Interstate 81 Corridor Improvement Program.

Duane Mann is an area construction engineer for VDOT and is managing the first I-81 CIP widening project, currently under construction in Roanoke County and Salem. With 33 years of experience in transportation engineering, 19 of which are at VDOT, Duane brings a wealth of experience to this major project.

What I-81 CIP projects are you currently involved in?

I am the construction manager for the I-81 CIP project that will add a third northbound and southbound lane from mile markers 137 to 141. The project includes replacing six bridges, widening two bridges and installing more than two miles of noise barrier walls along northbound I-81. Right now, a lot of work is being done to improve the southbound exit 137 off-ramp intersection at Wildwood Road which is included in this project.

This is the second project I have been involved in for the Corridor Improvement Program. The first one was a couple years ago and included an acceleration ramp extension at exit 89 in Pulaski County.

How will this project benefit the I-81 CIP and the drivers on the interstate?

With the increased growth of Virginia and the increased movement of goods and services along I-81, we see a lot of traffic on this part of the corridor. When this project is complete, this section of I-81 will be much safer for everyone. This is of particular interest to me because my family and I live just off the interstate and travel this section of the corridor a lot. I have a 13-year-old daughter who will be driving soon, and I am looking forward to this road being safer for her. I am glad I can be a part of such an important project that will benefit so many people.

Has working on an I-81 CIP project been different or unique compared to other projects?

Yes, this is a design-build project which means the contractor is responsible for both the design and construction. I usually work on design-bid-build projects which is when VDOT or a VDOT-selected engineering firm designs the project prior to advertisement for construction bids.

In design-build, VDOT does enough design to develop the scope of the project. We then begin a procurement process to select a contractor/designer team to complete the design and start construction. For this project, we contracted with Archer Western who was able to begin the early phases of construction while they were finishing up the design. My VDOT counterpart, Craig Moore, has been involved throughout the design phase. I have taken on a more active role as design has wrapped up and construction has begun. We just recently completed roadway and bridge plans and are about to wrap up intelligent transportation systems, noise walls and landscaping.

Even though it is early in the process, we are making good progress on construction so far. We are hoping to complete construction before the contract deadline of January 2026.

People Behind the Projects (continued)

How does this project scale in comparison to other projects that you have worked on?

This is the largest project that I have been directly involved with at VDOT. I am thankful to have an incredible team of people working with me.

What is the most important part of managing a job like this?

Safety is one of the most critical aspects of managing this project – safety for both the traveling public and the construction team. There are really tight work spaces and drivers passing at high speeds. It is our job to make sure drivers have enough room in their lanes and our workers have enough room in their work space. This requires a constant focus on getting everyone through that area safely and getting the job done in a safe and timely manner.

What has been the biggest challenge of the I-81 CIP?

This section of I-81 typically sees a lot of traffic and with that often comes crashes which can cause long travel delays. This can also affect our project progress. To maintain our focus on safety and hopefully avoid crashes, I often drive through the area and look for things we can improve upon.

What have you enjoyed the most about working on this project?

I have enjoyed the interaction I have had with so many different people. I am working with the contractors and consultants, and people in other VDOT sections including Environmental, Structure and Bridge, Location and Design and the Materials Division as well as the Traffic Operations Center.

New Life for an Old Mine

Contractor Archer Western is currently working to add a lane on I-81 in both directions between exits 137 and 141. This is the first major widening project as part of the I-81 CIP.

Archer Western acquired an abandoned mining site near exit 137 in Salem and will use the nearly 75-acre area to reduce costs and increase efficiency during construction. Located off Wildwood Road, the site was once owned by Old Virginia Brick, which shut down operations in 2015. Throughout the estimated four-year construction process, it will be used as a surplus material disposal site and construction materials storage area, among other things.

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New Life for an Old Mine (continued)

“Using this location as a material disposal site will save on costs,” said Archer Western’s Deputy Project Manager Dave Johnson, who explained that it is common to pay to dispose of excavated dirt and rock.

“Some of these cost savings are passed along to the public by reducing the project bid price,” explained VDOT I-81 Program Delivery Director Dave Covington.

The close proximity of the land to construction will also enhance safety by dramatically reducing the distance that trucks have to travel to dispose of surplus material and move new materials to the project site.

“VDOT appreciates the innovation that the Archer Western team is offering to the public by creating a safer and more efficient construction environment,” said Covington.

Old Virginia Brick had a couple of open permit violations on the property regarding storm

water management and slope failures which had to be resolved by the new land owner. To address the slope failures, Archer Western is using the excavated dirt from the I-81 project to reinforce the slide areas. “We estimate that we will bring in almost 300,000 cubic yards of dirt and material from the job site. This will be enough to fix the slope failures,” said Johnson.

With plenty of available space on their new land, Archer Western purchased three large tanks so they could stock fuel for their equipment. The ability to purchase and store fuel and other materials in bulk will result in more cost savings.

Archer Western is also using their new property as a parking lot for construction workers and as a place to store and maintain their equipment when not in use. They installed a maintenance bay and have repair technicians on site to change oil or make repairs to the equipment when needed.

“Purchasing this land is a win-win for us and VDOT,” explained Johnson. “The cost savings and job efficiency will benefit all of us.”

“VDOT’s objectives for the I-81 Corridor Improvement Program are to enhance safety, reduce congestion and provide enhanced opportunity for economic development,” said Covington. “This investment by Archer Western helps contribute to the program’s objectives.”

After the project is complete, Archer Western will consider selling the land to a developer who has already shown interest – unless a partnership with VDOT continues. “We plan to bid on future I-81 projects and, if our partnership continues, we will keep this land for the same benefits,” said Johnson.



Dave Johnson with Archer Western

I-81 Program Turns Three – and Looks to the Future

Dozens of interchange ramp upgrades, curve improvements and operational enhancements highlight the initial three years of the Interstate 81 Corridor Improvement Program (CIP). Construction is currently underway on the CIP's first major projects including widening, truck climbing lanes and auxiliary lanes. Community stakeholders had their first look at plans for several other major projects during a series of public hearings in spring and summer 2022.

These advancements highlighted the I-81 Advisory Committee's July 7 meeting in Roanoke. Dave Covington, VDOT's I-81 Program delivery director, offered updates on capital improvement projects and operational improvements. The CIP was established in July 2019 and under current revenue forecasts, all projects funded in the \$2 billion program are scheduled for completion by the end of 2033.

The original I-81 corridor study in 2018 identified 106 projects along the 325-mile corridor, and 64 were later prioritized for funding. The CIP could be amended as projects are completed and revenue is able to support additional improvements. These could include widening projects in the Salem, Lexington and Strasburg areas, and straightening a curvy section of the interstate in Botetourt County.

Committee members received initial information about these potential improvements during a financial update at their July meeting. When the group meets in late 2022, they plan to review the proposed projects in greater detail and make recommendations to the Commonwealth Transportation Board.

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Dave Covington presenting to I-81 Advisory Committee

I-81 Program Turns Three – and Looks to the Future (continued)

Also during its July meeting, the I-81 Advisory Committee received multimodal updates from the Department of Rail and Public Transportation (DRPT). Highlights included an expansion of passenger rail service between Roanoke and Washington D.C., and a new Bristol-to-Washington route for the Virginia Breeze bus service.

The committee chose Del. Terry Austin (19th District) as its chair and Del. Tony Wilt (26th District) as vice-chair. The committee's 15 voting members are senators and delegates from the Virginia General Assembly, CTB members and representatives of planning district commissions along the I-81 corridor. The committee also has two non-voting members: VDOT Commissioner Stephen Brich and DRPT Director Jennifer DeBruhl.

The I-81 CIP's dedicated website, [Improve81.org](https://improve81.org), has a recording of the advisory committee meeting as well as presentations and supporting materials.

Construction Updates

Salem District

Work continues on the widening of I-81 northbound and southbound between exit 137 and exit 141 in Salem and Roanoke County. The roughly four-year construction project adds a third lane in each direction, replaces six bridges and widens two others. Archer Western Construction LLC was awarded a \$179 million design-build contract in late 2021.

Work began with shoulder widening and installation of concrete barriers along the median, where the additional northbound and southbound lanes will be constructed. Drivers on this portion of I-81 can expect 24/7 left shoulder closures, and occasional lane closures during nighttime and overnight hours.



Widening and interchange improvements at Exit 137 in Salem

Construction and Completion (continued)

Bristol District

Construction began in August 2022 on the first auxiliary lane in the I-81 CIP. It is located on southbound I-81 in Smyth County, between the on-ramp from exit 54 (Groseclose) and the off-ramp to the Smyth Safety Rest Area. Auxiliary lanes connect two interchanges and enhance safety and traffic flow by reducing the number of vehicles that need to merge with I-81 mainline traffic, and providing additional space for drivers to speed up or slow down. W-L Construction & Paving has a \$2.1 million contract to build this auxiliary lane, with a scheduled completion in November 2022.



Auxiliary Lane in Smyth County

Salem District

The Troutville Safety Rest Area along southbound I-81 in Botetourt County is scheduled to reopen by Thanksgiving 2022 with extended ramps and more parking spaces for commercial trucks.

The rest area near mile marker 158 closed in late May and was expected to reopen just before Labor Day.

Challenges with a slope have affected the project schedule.

Contractor Branch Civil Inc. is extending the deceleration lane (off-ramp) by 500 feet and the acceleration lane (on-ramp) by 2,100 feet. The \$4.9 million project also includes an expansion of truck parking by 12 spaces.



Troutville Rest Area construction



Keep in Touch

Have a question or comment regarding the I-81 CIP? Connect with VDOT's Improve81 communications team!

CONTACT THE VDOT CUSTOMER SERVICE CENTER (24/7/365)

 1-800-367-7623
 (1-800-FOR ROAD)

 vdotinfo@vdot.virginia.gov

 VDOT Customer Service app:
<https://my.vdot.virginia.gov/>

An agent will answer your questions and/or forward your questions and comments with contact information you provide to the appropriate I-81 CIP team member.



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