



# 2026 VDOT I-81 Corridor Improvement Plan

## Final Executive Summary



IMPROVE **81**





## I. Introduction and Program Scope

This report details the proposed projects and strategy for the 2026 I-81 Corridor Improvement Plan (CIP), with a goal of continued improvements of the corridor's safety, reducing congestion, and supporting future growth. The program's development included a data-driven approach supplemented by extensive public feedback.

## II. Project Funding and Implementation

In January 2025, the Commonwealth Transportation Board (CTB) directed that an update to the 2018 I-81 CIP be initiated. VDOT determined that up to \$2.25 billion in forecasted funding would be available for new projects beginning in 2035, representing a substantial additional investment in the corridor's continued enhancement. The program is structured into two main categories of improvements:

- **Operational and Incident Management Improvements:** A total of \$3 million were identified for operational improvements, which will be implemented following the plan's approval.
- **Capital Improvements:** Up to \$2.25 billion in capital improvements were identified. Construction of these projects will follow the implementation of operational improvements, proceeding as funding becomes available.

## III. Corridor Analysis, Performance Measures, and Project Identification Methodology

The process for selecting and evaluating projects was similar to the approach taken in the 2018 plan but used the most recent performance measure data available from 2019 through 2024. Data from 2020 was excluded to ensure accuracy due to unusual traffic patterns caused by the COVID-19 pandemic. The analysis also deliberately excluded areas where widenings were recently completed or are currently in development to allow time for the benefits of those investments to be determined.

The study team evaluated the existing congestion and safety conditions using a variety of data sources, including: travel time; number and types of crashes; number and duration of incidents; origins and destinations of passenger cars and trucks; and traffic volumes.

Four primary performance measures were selected for the analysis, consistent with the 2018 study, to evaluate the most significant issues throughout the corridor. This data analysis was supplemented by public feedback to validate that the performance measures accurately reflected the issues experienced by the driving public.

The plan identified the top 25 percent of areas along the corridor with significant issues related to the following data, which were used to identify locations for recommended improvements and supplemented by public comments.

1. Safety (highest rate and severity of crashes),
2. Congestion (most significant traffic delays), and
3. Lane closures lasting more than one hour.

Capital improvements were developed for these top 25 percent locations by considering contributing factors such as:

- Traffic volumes of automobiles and trucks
- Roadway geometry including horizontal curvature and vertical grades
- Ramp spacing
- Merge and diverge areas





A combination of performance measures and contributing factors led to the development of 41 potential capital projects with an estimated cost over \$7 billion. These potential solutions were ultimately prioritized using a SMART SCALE-like scoring system that measured their effectiveness in improving safety, reducing congestion, and increasing job accessibility.

## IV. Public Input and Engagement

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The plan incorporated extensive public feedback gathered over three rounds of public engagement throughout the year, ensuring community validation at each stage of the planning process.

- **Round 1 (April):** Focused on issue identification and validation of the four key performance measures via a virtual survey.
- **Round 2 (July):** Consisted of four public meetings at various locations along the corridor and a virtual survey. This round was used to identify potential improvements and target specific segments with the most critical safety and delay issues.
- **Round 3 (October):** Included both in-person meetings and a virtual survey, focusing on refined solutions that were prioritized using a process similar to SMART SCALE.

## V. Staff Recommended Funding Scenario

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Following completion of the SMART SCALE-like prioritization process, the study team reviewed the list of ranked projects to identify areas where the new projects, along with those recently completed or in development, may cause operational issues. Based on those findings, the study team made recommendations for adjustments to the projects advanced to the staff recommended funding scenario.

## VI. Consensus Funding Scenario

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After the prioritization process for the staff recommended funding scenario, the consensus funding scenario was finalized based on comments from the CTB. The following list documents the number and cost ranges for the 22 approved projects summarized by district, for a total of up to \$2.25 billion.

- **Bristol District:** 6 projects estimated at \$410-501 million
- **Salem District:** 3 projects estimated at \$300-462 million
- **Staunton District:** 14 projects estimated at \$1.1-1.6 billion

The final list of capital improvement projects are shown in Table 1 and Table 2. Projects in the consensus funding scenario are shown in Table 1.

## VII. Next Steps

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The three VDOT districts will review the scope, schedule, anticipated cost, and risks for each project to begin developing a schedule for program development. This process may consist of conceptual design, risk assessment, preliminary schedule development, and project delivery prioritization.



**Table 1: I-81 Corridor Improvement Plan Update  
Projects Included in the Consensus Funding Scenario**

| District | Improvement Description   | City/County                     | Mile Marker<br>From/To |    |       | Total<br>Length<br>(Miles) | Direction | SMART<br>SCALE-Like<br>Score Rank |
|----------|---|---------------------------------|------------------------|----|-------|----------------------------|-----------|-----------------------------------|
| Staunton | SB acceleration lane extension at Exit 251 (Harrisonburg)   | Rockingham County               | 251.1                  | to | 250.7 | 0.4                        | SB        | 1                                 |
| Bristol  | NB acceleration lane extension at Exit 24 (Meadowview)  | Washington County               | 25.1                   | to | 25.7  | 0.6                        | NB        | 2                                 |
| Bristol  | NB acceleration lane extension at Exit 29 (Damascus / Glade Spring)   | Washington County               | 29.5                   | to | 30.1  | 0.6                        | NB        | 3                                 |
| Staunton | NB acceleration lane extension at Exit 264 (New Market)   | Shenandoah County               | 265.2                  | to | 265.5 | 0.3                        | NB        | 4                                 |
| Staunton | SB deceleration lane extension at Exit 307 (Stephens City)  | Frederick County                | 307.5                  | to | 307.3 | 0.2                        | SB        | 5                                 |
| Salem    | SB acceleration lane extension at Exit 162 (Buchanan)   | Botetourt County                | 162.1                  | to | 161.0 | 1.1                        | SB        | 6                                 |
| Bristol  | Construct auxiliary lane between Exit 3 (Bristol) and Exit 5 (US Route 11)  | City of Bristol                 | 4.5                    | to | 5.0   | 0.5                        | NB        | 7                                 |
| Staunton | NB acceleration lane extension at Exit 227 (Verona)   | Augusta County                  | 227.8                  | to | 228.1 | 0.3                        | NB        | 8                                 |
| Staunton | SB acceleration lane extension at Exit 269 (Shenandoah Caverns)   | Shenandoah County               | 268.4                  | to | 269.1 | 0.7                        | SB        | 9                                 |
| Staunton | Construct auxiliary lane between Exit 220 (Staunton) and Exit 221 (I-64 to Richmond)                              | Augusta County                  | 220.8                  | to | 221.5 | 0.7                        | NB        | 10                                |
| Bristol  | NB acceleration lane extension at Exit 19 (Abingdon / Damascus)   | Washington County               | 19.9                   | to | 20.2  | 0.3                        | NB        | 11                                |
| Staunton | Widening to three lanes between Exit 221 (I-64 to Richmond) and Exit 217 (Mint Spring)                            | Augusta County                  | 221.7                  | to | 217.0 | 4.7                        | SB        | 12                                |
| Salem    | Construct truck climbing lane between New River Bridge and MM 103 (State Park Road)                               | Pulaski County                  | 104.9                  | to | 103.4 | 1.5                        | SB        | 15                                |
| Salem    | Construct truck climbing lane between Exit 105 (Radford) and MM 110 (North of Tyler Road)                         | Montgomery County               | 106.0                  | to | 110.5 | 4.5                        | NB        | 16                                |
| Staunton | Widening to three lanes between MM 238 (North of Weyers Cave) and MM 242 (Port Republic Road)                     | Augusta and Rockingham Counties | 237.2                  | to | 242.2 | 5.0                        | NB        | 19                                |
|          |   |                                 | 242.4                  | to | 237.5 | 4.9                        | SB        |                                   |
| Bristol  | SB acceleration lane extension at Exit 24 (Meadowview)  | Washington County               | 24.8                   | to | 24.4  | 0.4                        | SB        | 20                                |
| Staunton | Widening to three lanes between Exit 296 (Strasburg) and Exit 298 (Strasburg)                                     | Shenandoah County               | 296.8                  | to | 298.6 | 1.8                        | NB        | 21                                |
| Bristol  | Widening to three lanes between MM 9 (US Route 11) and Exit 14 (Route 611)  | Washington County               | 9.9                    | to | 14.9  | 5.0                        | NB        | 22                                |
|          |   |                                 | 14.9                   | to | 9.9   | 5.0                        | SB        |                                   |
| Staunton | Widening to three lanes between MM 202 (North of Fairfield) and Exit 205 (Raphine)                                | Rockbridge County               | 202.2                  | to | 204.8 | 2.6                        | NB        | 23                                |
| Staunton | Widening to three lanes between Exit 188A (Lexington / Buena Vista) and Exit 195 (Lexington/Timber Ridge)         | Rockbridge County               | 190.5                  | to | 195.7 | 5.2                        | NB        | 29                                |
| Staunton | Widening to three lanes between Exit 298 (Strasburg) and Exit 300 and I-81 northbound to I-66 eastbound ramp      | Shenandoah County               | 298.6                  | to | 300.3 | 1.7                        | NB        | 30                                |
| Staunton | Widening to three lanes between Exit 310 (Winchester Western Bypass) and Exit 313 (Winchester/Apple Blossom Mall) | Frederick County                | 310.6                  | to | 313.3 | 2.7                        | NB        | 34                                |



**Table 2: I-81 Corridor Improvement Plan Update  
Projects Not Included in the Consensus Funding Scenario**

| District | Improvement Description   | City/County       | Mile Marker From/To |    |       | Total Length (Miles) | Direction | SMART SCALE-Like Score Rank |
|----------|---|-------------------|---------------------|----|-------|----------------------|-----------|-----------------------------|
| Staunton | Widening to three lanes between Exit 205 (Raphine) and MM 209 (North of Raphine)                            | Augusta County    | 204.8               | to | 209.9 | 5.1                  | NB        | 13                          |
|          |   |                   | 209.9               | to | 204.8 | 5.1                  | SB        |                             |
| Staunton | Widening to three lanes between MM 209 (North of Raphine) and Exit 213 (Greenville)                         | Augusta County    | 209.9               | to | 212.9 | 3.0                  | NB        | 14                          |
|          |   |                   | 212.9               | to | 209.9 | 3.0                  | SB        |                             |
| Staunton | Widening to three lanes between MM 230 (South of Weyers Cave) and Exit 235 (Weyers Cave)                    | Augusta County    | 230.4               | to | 234.4 | 4.0                  | NB        | 17                          |
|          |   |                   | 234.5               | to | 230.2 | 4.3                  | SB        |                             |
| Staunton | Widening to three lanes between MM 229 (North of Verona) and MM 230 (South of Weyers Cave)                  | Augusta County    | 228.7               | to | 230.5 | 1.8                  | NB        | 18                          |
|          |   |                   | 230.4               | to | 228.7 | 1.7                  | SB        |                             |
| Salem    | Widening to three lanes between Exit 156 (Brughs Mill Road) and Exit 162 (Buchanan)                         | Botetourt County  | 157.0               | to | 163.1 | 6.1                  | NB        | 24                          |
|          |   |                   | 163.1               | to | 157.0 | 6.1                  | SB        |                             |
| Staunton | Widening to three lanes between Exit 200 (Fairfield) and Exit 195 (Lexington / Timber Ridge)                | Rockbridge County | 199.6               | to | 194.9 | 4.7                  | SB        | 25                          |
| Bristol  | Curve improvements between MM 33 and MM 35 (Chilhowie)  | Washington County | 33.9                | to | 34.8  | 0.9                  | NB        | 26                          |
| Staunton | Widening to three lanes between Exit 225 (Staunton) and MM 229 (North of Verona)                            | Augusta County    | 225.2               | to | 229   | 3.8                  | NB        | 27                          |
|          |   |                   | 229.0               | to | 225.4 | 3.6                  | SB        |                             |
| Bristol  | Curve improvements between Exit 67 (Wytheville) and MM 69 (N 4th Street)                                    | Wythe County      | 67.0                | to | 69.0  | 2.0                  | NB        | 28                          |
| Staunton | Widening to three lanes between Exit 195 (Lexington / Timber Ridge) and Exit 188B (Lexington / Buena Vista) | Rockbridge County | 196.6               | to | 189.9 | 6.7                  | SB        | 31                          |
| Staunton | Truck climbing lane between MM 190 (I-64 to WV) and Exit 188 (Lexington / Buena Vista)                      | Rockbridge County | 190.0               | to | 186.9 | 3.1                  | SB        | 32                          |
| Salem    | NB acceleration lane extension at Exit 156 (Brughs Mill Road)   | Botetourt County  | 156.6               | to | 156.9 | 0.3                  | NB        | 33                          |
| Salem    | Widening to three lanes between Exit 150 (Troutville) and Exit 156 (Brughs Mill Road)                       | Botetourt County  | 150.4               | to | 157.2 | 6.8                  | NB        | 35                          |
|          |   |                   | 157.2               | to | 150.4 | 6.8                  | SB        |                             |
| Salem    | NB acceleration lane extension at Exit 94 (Old Route 100 Road)  | Pulaski County    | 94.5                | to | 94.8  | 0.3                  | NB        | 36                          |
| Salem    | Widening to three lanes between Exit 162 (Buchanan) and Exit 167 (Buchanan)                                 | Botetourt County  | 163.0               | to | 166.9 | 3.9                  | NB        | 37                          |
|          |   |                   | 166.9               | to | 163.0 | 3.9                  | SB        |                             |
| Salem    | 'S-Curves' realignment*   | Botetourt County  | 166.9               | to | 169.0 | 2.1                  | NB        | 38                          |
|          |   |                   | 168.9               | to | 166.9 | 2.0                  | SB        |                             |
| Staunton | NB deceleration lane extension at Exit 188B (Lexington / Buena Vista)                                       | Rockbridge County | 188.6               | to | 188.8 | 0.2                  | NB        | 39                          |
| Bristol  | NB acceleration lane extension at Exit 35 (Chilhowie)   | Smyth County      | 35.8                | to | 36.2  | 0.4                  | NB        | 40                          |
| Staunton | SB acceleration lane extension at Exit 175 (Natural Bridge)   | Rockbridge County | 175.8               | to | 175.2 | 0.6                  | SB        | 41                          |

\* This project was identified by the Governor for priority transportation funds followed by an approved resolution by the CTB in November 2025.





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