



I-81 Widening MM 136.6 to MM 141.8

Financial Plan Annual Update

January 31, 2022

State Project Number: 0081-080-946, P101, R201,
C501, B677, B678, B681, B682, B683, B684, B685,
B686, B687, B688
UPC: 116203

TABLE OF CONTENTS

1. Executive Summary	3
2. Project Description	3
3. Schedule	4
4. Project Cost	5
5. Project Funds	6
6. Financing Issues.....	7
7. Cash Flow	7
8. P3 Assessment	8
9. Risk and Response Strategies.....	8
10. Annual Update Cycle	9
11. Summary of Cost Changes since Last Year’s Financial Plan.....	9
12. Cost and Funding Trends since Initial Financial Plan	9
13. Summary of Schedule Changes since Last Year’s Financial Plan	9
14. Schedule Trends since Initial Financial Plan	10

1. EXECUTIVE SUMMARY

This design-build project serves to reduce congestion and improve safety along Interstate 81 between mile markers 136.6 to 141.8 by adding a third lane to mainline I-81. Additional improvements include the construction of sound walls, sign structures, and storm water management facilities.

Notice to proceed was issued in May 2021 to Archer Western Construction LLC. The project design is in development; 60% plans are anticipated prior to the end of 2021. The project team is currently working to gain approval on proposed changes to limited access and right of way approval is anticipated in March 2022. Major field construction is anticipated to start in Spring 2022 and the project is currently on schedule to be completed by January 2026.

The current total project estimate is \$232,716,987. This current estimate is lower than the initial financial plan estimate, which was \$292,480,260. This reduction can primarily be attributed to the winning design-builder's contract fee being lower than the Department's RFP estimate. The scope validation period expired in September 2021.

2. PROJECT DESCRIPTION

The 2018 I-81 Corridor Improvement Plan (CIP) Project IDs 39A and 39B are located along I-81 between mile markers (MM) 136.6 and 141.8 and grouped under UPC 116203. The project is located within Roanoke County and the City of Salem, as the city corporate limits straddle I-81 through this portion of the corridor. The project begins about 3,000 feet south of the I-81/Rt. 112 (Wildwood Rd.) interchange (exit 137) near the I-81 over Rt. 641 (Texas Hollow Rd.) bridges and ends about 1,800' north of the I-81/Rt. 419 (North Electric Rd.) interchange. Figure 1 shows the general geographic area of the project.

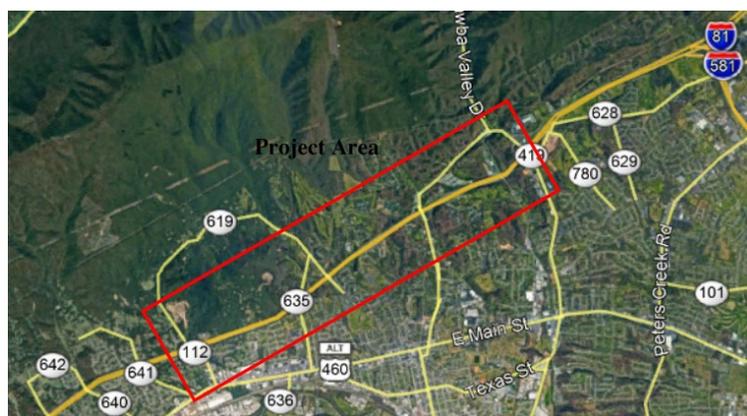


FIGURE 1: GEOGRAPHIC AREA

The purpose of the approximate 5.2 mile project is to provide additional capacity, reduce congestion, and improve safety. The proposed project improvements include, but are not limited to: an additional lane in both northbound and southbound directions; two bridges replaced over

Wildwood Road (Route 112 – exit 137); two bridges replaced over Goodwin Avenue (Route 635); two bridges replaced over Wildwood Road (Route 619, noting that I-81 crosses Wildwood Road two times); two bridges widened at Thompson Memorial Drive (Route 311- exit 140); asphalt milling and resurfacing of existing pavement; and installation of sign structures, storm drain pipes and storm water management facilities, and sound walls.

Interstate 81 between MM 136.6 and 141.8 is classified as Urban Interstate System (GS-INT) with a design speed of 65 MPH and a posted speed of 60 MPH. The proposed widening scheme generally follows constructing an additional lane to the outside in the southbound direction and to the median in the northbound direction. The typical section is mainly comprised of three 12' lanes and two 12' total shoulders per direction.

Originally, this project was identified as Project ID #39A (UPC 116203) and 39B (UPC 115937) in the 2018 "I-81 Corridor Improvement Plan" and was intended to be delivered as separate design bid build projects. Early in the project scoping phase, the delivery method was changed to design-build for both. After the change in delivery method, both projects were combined into a single design-build procurement, under UPC 116203, due to realized design and construction advantages. VDOT determined the project delivery via design-build contracting afforded the opportunity for competition during the project's procurement as well as it would expedite completion of the improvements. VDOT developed a conceptual design contained in a Request for Proposal (RFP) Information Package that reflected the basic Project configuration. The Design-Builder is responsible for final design in accordance with the Contract Documents.

Environmental Summary

The environmental study for the project includes both the southbound and northbound lanes of I-81 between mile markers 136.6 and 141.8. The Federal Highway Administration (FHWA) concurred with a Categorical Exception (CE) level National Environmental Policy Act (NEPA) document on August 26, 2020. After public input a document reevaluation of the CE was approved by the FHWA on September 10, 2020.

VDOT will update the Document Reevaluation for RW Authorization (EQ-201) prior to RW authorization, the Document Reevaluation for PS&E Authorization (EQ-200), and the Environmental Certification/Commitments Checklist (EQ-103) prior to the Design-Builder being authorized to begin construction.

Project Website

Additional information can be found on the Project website, which may be accessed on VDOT's external website. <http://www.improve81.org/>

3. SCHEDULE

Conceptual design and project development for the I-81 Widening between MM 136.6 and 141.8 project began in February 2020. The Request for Qualifications (RFQ) was advertised on May 29,

2020. The Request for Proposals (RFP) was released October 28, 2020 with due dates for the Technical Proposals and Price Proposals in March 2021.

Milestone dates for the design-build contract are as follows:

- Notice of Intent to Award: April 2, 2021
- CTB Approval/Notice to Award: April 21, 2021
- Notice to Proceed: May 24, 2021
- Unique Milestone #1: December 31, 2024
- Unique Milestone #2: December 31, 2024
- Early Project Final Acceptance: In affect 180 days prior to Final Completion (\$4.5 million max incentive, reduced \$25,000 per day for 180 days)
- Final Completion: January 14, 2026

CHART 3.1 PROJECT SCHEDULE OVERVIEW

Task			Calendar Year																											
			Start	Finish	2020				2021				2022				2023				2024				2025				2026	
					Q1	Q2	Q3	Q4	Q1	Q2																				
UPC 116203	Pre-Award Services	2/20	5/21																											
	DB Team Activities	Notice to Proceed	5/24/21																											
		PE - Design	05/21	10/22																										
		RW/Utilities	12/21	01/23																										
		Construction	1/22	01/26																										
Final Completion		1/14/26																						★						

4. PROJECT COST

The current total project cost estimate is \$232,716,987 in year-of-expenditure dollars. The project estimate has been reduced by \$59,763,273 as compared to the estimate in the initial financial plan; the estimate reduction is primarily attributed to the design-builder’s contract bid price being lower than the Department’s RFP estimate. The estimated total project cost includes right of way and construction scope elements in addition to District pre-award and post-award costs. The project delivery method is design-build. The estimates, as well as current expenditures for preliminary engineering (PE), right of way (RW) and construction (CN) costs are summarized by phase in the table below.

TABLE 4.1 PROJECT COST BY PHASE

UP C	Phase	A	B	C	B-C
		Initial Financial Plan Estimate	Current Estimate	Current Expenditures as of October 31, 2021	Balance to Complete
116203	PE	\$6,809,563	\$5,045,259	\$4,841,444	\$203,815
	RW	\$6,315,625	\$4,125,000	\$258	\$4,124,742
	CN	\$279,355,075	\$223,546,728	\$9,233,324	\$214,313,404
	TOTAL	\$292,480,260	\$232,716,987	\$14,075,026	\$218,641,961

Cost Estimating Methodology

The preliminary engineering estimate includes field investigation costs for survey, geotechnical data collection, traffic counts, environmental support, and professional engineering design services to develop conceptual design plans and contract documents.

The right of way estimate was developed using the impacts depicted on preliminary RFP plans. Land values were determined via market data. Costs were adjusted as needed for impacts to structures and administrative efforts.

The estimated construction cost contains sub-components that include the Design-Builder’s submitted bid price (contract value), Department contingency, early completion incentives, as well as associated post-award owner costs. The design-build contract is lump sum, with payments made on Project physical percent complete.

5. PROJECT FUNDS

Project funding is demonstrated in the Roanoke Valley Area Metropolitan Planning Organization’s Long Range Transportation Plan and Transportation Improvement Program (TIP), as well as the Commonwealth’s Statewide Transportation Program (STIP). The Roanoke Valley Area Metropolitan Planning Organization’s amended its TIP on 12/20/19 to include \$14,512,080 in I-81 Corridor funds for the preliminary engineering phase of this project. FFY20 STIP Amendment #5 was subsequently approved by FHWA on 12/30/19, adding the preliminary engineering phase and associated funding to the Commonwealth’s STIP.

Preliminary Engineering Phase for this project was authorized by the Federal Highway Administration (FHWA) on January 3, 2020 under federal project number NHPP-0812(323).

TABLE 5.1 SUMMARY OF PROJECT AUTHORIZATIONS

Project Authorization Summary as of October 31, 2021					
Federal Project	UPC(s)	Phase Classification	Cost	Federal Funds	Advance Construction
NHPP-0812(323)	116203	PE	\$5,045,259	\$	\$4,036,207
NHPP-0812(330)	116203	RW & CN	\$227,671,728	\$	\$181,651,037
Total			\$232,716,987	\$	\$185,687,244

Six Year Improvement Program (SYIP) Funding

Table 5.2 summarizes the funds allocated to the projects by fund source and year.

TABLE 5.2 SUMMARY OF PROJECT FUNDING BY SOURCE

Funding Source	Previous	FY23	FY24	FY25	FY 26	TOTAL
I-81 Corridor Funds - State	\$48,807,491					\$48,807,491
I-81 Corridor Funds – Fuel Tax Funds - State					\$668,562	\$668,562
I-81 Corridor Funds – I81 Bonds	\$101,931,732					\$101,931,732
I-81 Corridor Funds - TIFIA	\$81,309,202					\$81,309,202
TOTAL	\$232,048,425				\$668,562	\$232,716,987

6. FINANCING ISSUES

VDOT is planning to apply for a Regular TIFIA loan in the Spring of 2022, in the amount of \$81,309,202. This loan will fund a portion of project 116203 along with Senior lien bonds, regional fuels tax revenues and other state allocations attributed to the I-81 fund.

7. CASH FLOW

The project’s annual cash expenditures are based on the Design-Builder’s project schedule. Table 7.1 below is a cash flow analysis for the project. It shows the comparison of previously expended and projected expenditures by fiscal year by phase against the total annual allocations. The project’s cash flow analysis will be updated annually as expenditures are incurred.

TABLE 7.1 CASH FLOW ANALYSIS
(Amounts in \$000’s)

Expenditures		Thru FY22	FY23	FY24	FY25	Fy26	TOTAL
116203	PE	5,045					5,045
	Right of Way	1,851	2,274				4,125
	Construction	50,913	70,617	56,049	37,217	8,751	223,547
Cumulative Expenditures		57,809	130,700	186,789	223,966	232,717	232,717
Total Annual Allocations		232,048	0	0	0	669	232,717
Cumulative Allocations		232,048	232,048	232,048	232,048	232,717	232,717
Cash Flow per Year		174,239	101,348	45,259	8082	0	0

8. P3 ASSESSMENT

Due to the advance development of the Project as noted in the Project Description section, it was highly unlikely that the Project would generate sufficient market demand/interest as a P3, nor gain significant project efficiencies to effectively leverage private sector innovation and expertise as a P3 procurement.

9. RISK AND RESPONSE STRATEGIES

A Risk Management workshop was held on March 19, 2020 and the Final Risk Management Report was published. The report was an outcome of the discussions and the various risk components and the mitigation strategies associated with the project. Numerous items were discussed, and the list below summarizes the risk items identified at the workshop that have an overall severity rating of 6 or higher and the overall mitigation strategies for these risks. The full Risk Management Report can be found within the project files.

The active significant project risks are:

- COVID 19 impacts
Mitigation: Design-Builder incorporation of COVID 19 protocols within the Site Specific Safety Plan
- Market Conditions
Mitigation: Continue partnership with industry, community, local colleges and universities, and local governments
- Unforeseen Geotechnical Conditions - Karst Geology
Mitigation: Design-Builder collection of additional geotechnical borings and field data for use during final design
- Unforeseen Geotechnical Conditions - Trenchless Construction Techniques
Mitigation: Design-Builder minimizing number of trenchless pipes and using open cut installation where feasible.
- Incident Management During Construction
Mitigation: Contract requirement to provide shoulder during construction to facilitate incident management response and clearance
- Clean Water Act Section 401 Permit Decisions
Background: The USACE and USEPA have proposed a rule revising the definition of “Waters of the United States,” which affects the CWA Section 401 permitting process. The USACE will process new permit applications that require a CWA Section 401 certification under the 1971 CWA 401 Rule.

Mitigation: Continue to follow updates to the CWA Section 401 permit decisions to ensure permit compliance.

Significant Project Risks that have been resolved:

- NEPA Schedule Delay – NEPA document has been approved.
- Vertical Clearance – Vertical clearances requirements have been determined and included in contract.
- Borings – Field Work Delay – Field boring work associated with scope validation is complete and scope validation period has closed.
- Drainage – SWM Strategy – RFP design identified sufficient SWM facilities to meet needs and requirements added to contract.
- Existing Pipe Condition – Existing pipe conditions were evaluated and provided to the Design-Builder.

10. ANNUAL UPDATE CYCLE

The submission date of the Initial Financial Plan was January 31, 2021. The first annual update will be submitted by January 31, 2022 and will be based on a "data as of" date of October 31, 2021. Future annual updates will be submitted by January 31 of that year, with a "data as of" date of October 31 of that year.

11. SUMMARY OF COST CHANGES SINCE LAST YEAR'S FINANCIAL PLAN

The PE and RW phase cost estimates have been reduced slightly since the development of the previous financial plan. The PE phase cost estimate has been reduced from approximately \$6.8 Million to approximately \$5.1 Million and the RW phase cost estimate has been reduced from approximately \$6.3 Million to approximately \$4.1 Million.

The construction phase cost estimate has been reduced significantly from approximately \$279 Million to approximately \$223 Million. The reduction in the construction phase estimate is the result of the selected design-build team's contract bid price being lower than the Department's initial cost estimate. The cost estimate in the previous financial plan was developed prior to the awarding of the contract.

12. COST AND FUNDING TRENDS SINCE INITIAL FINANCIAL PLAN

Through October 31, 2021 construction expenditures are less than initial projections as field construction was anticipated to start in the Fall of 2021. However actual project expenditures are anticipated to increase significantly when field construction begins in the Spring of 2022 and the project is anticipated to be completed on time, expending all funds.

13. SUMMARY OF SCHEDULE CHANGES SINCE LAST YEAR'S FINANCIAL PLAN

The completion date for the project has not changed since the initial financial plan.

14. SCHEDULE TRENDS SINCE INITIAL FINANCIAL PLAN

Although field construction was originally anticipated to begin in Fall 2021, it is now planned to begin in Spring 2022. However, this change will not have an impact on the project's final completion date.