



495 Express Lanes Northern Extension Project Initial Financial Plan

April 30, 2022

State Project Number(s): 0495-029-419

UPCs:

- **113414 I-495 EXPRESS LANES NORTHERN EXTENSION**
- **115401 I-495 EXPRESS LANES NORTHERN EXTENSION - PHASE 1**
- **116754 I-495 EXPRESS LANES NORTHERN EXT PH 1- VDOT OVERSIGHT & TMP**
- **120823 I-495 NEXT Transit Investment**

Table of Contents

1. Project Description	3
2. Schedule	6
3. Project Cost	6
4. Project Funds	8
5. Financing Issues.....	9
6. Cash Flow	10
7. P3 Assessment	12
8. Risk and Response strategies	14
9. Annual Update Cycle	15

Attachments

- 1) Determination of *Operational Independence and Non-Concurrent Construction* for I-495 Express Lanes Northern Extension Project (495 NEXT); September 2020

1. PROJECT DESCRIPTION

1.1. SCOPE OF PROJECT

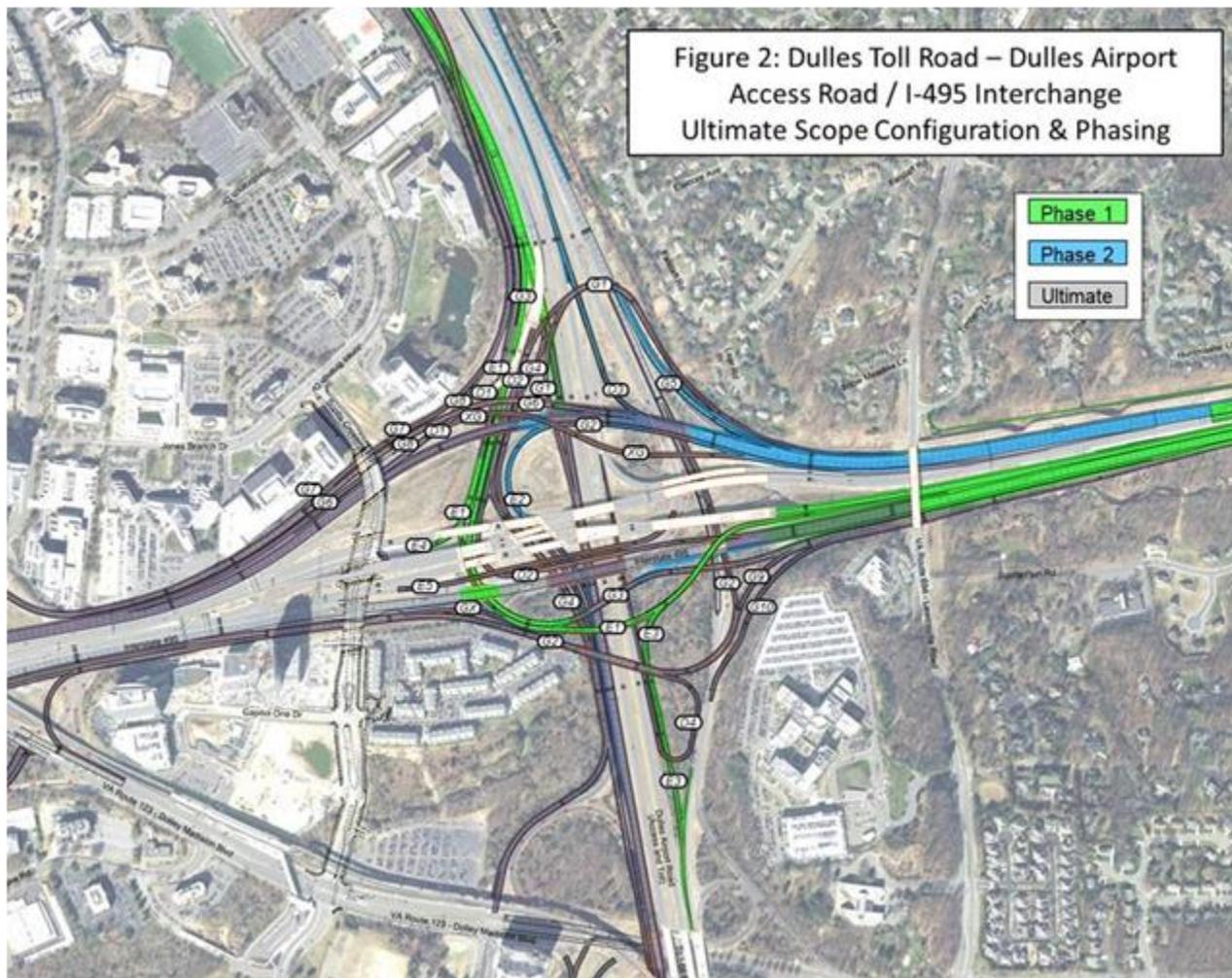
The 495 Express Lanes Northern Extension Project (the NEXT Project) is an approximately 2.0-mile extension of the 495 HOV/HOT Lanes (495 Express Lanes) in Fairfax County, Virginia. As shown in Figure 1.1 below, the Project will extend along Interstate 495 (I-495) from the current northern terminus of the 495 Express Lanes near Lewinsville Road, Route 694, to the vicinity of the George Washington Memorial Parkway (GWMP). I-495 currently operates with four general-purpose lanes in each direction along the Project corridor.



Figure 1.1 Project Map

The Preferred Alternative identified in the Environmental Assessment (EA) and Interchange Justification Report (IJR), and selected in Federal Highway Administration's (FHWA) Finding of No Significant Impact (FONSI), includes a program of improvements. It was determined that the project should be developed in different phases to provide the most value. Therefore, the Virginia Department of Transportation (the Department) requested an *Operationally Independent and Non-Concurrent Construction (OINCC)* Determination from FHWA, which was approved on September 24, 2020 (see Attachment 1).

A subset of the Preferred Alternative was developed and identified in the IJR as “Phase 1” to provide for a phased approach to delivering the Preferred Alternative, focused on continuous express lanes for the entirety of the Project’s approximately two-mile length, as well as ramps connecting both directions of the Dulles Toll Road (DTR) to the northbound 495 Express Lanes, and ramps connecting the GWMP with the 495 Express Lanes to the south. Phase 2 includes additional future access ramps at the DTR interchange, as well as the interchanges of I-495 / Route 123 and Dulles Connector Road / Route 123, as shown in Figure 2 below. This proposed phasing was coordinated with FHWA and is documented in an OINCC Determination executed by FHWA on September 24, 2020. As a result, the current Initial Financial Plan presents the Phase 1 related to cost and financial resources to be used to improve the approximately 2.0-mile extension of the 495 Express Lanes between Lewinsville Road to the vicinity of the GWMP.



1.2. PROJECT OBJECTIVE

The primary objective of the Project is to extend the 495 Express Lanes further north to provide additional capacity in the corridor, which will be available at no charge to HOV 3+ vehicles, and open to other authorized vehicles paying a toll. The Project will be subject to the same operating rules and regulations as the existing 495 Express Lanes, and when completed, will operate together with the 495 Express Lanes as a single, fully integrated express lanes facility between the Springfield Interchange and the GWMP.

Currently, the Project is being developed as a Concessionaire Project Enhancement in accordance with *Amended and Restated Comprehensive Agreement (ARCA) Relating to the Route 495 HOT Lanes in Virginia Project*. The Capital Beltway Express LLC (the Concessionaire) will be responsible for the design, construction, financing and ongoing operations and maintenance of the Project in accordance with the terms of a pending amendment to the existing ARCA with VDOT for the Project (the Agreement).

1.3. PROJECT DESIGN FEATURES

The scope of the NEXT Project Phase 1 includes the design and construction (or installation) of the following:

- 2.0 miles of new two-lane HOT lanes in each direction (with full shoulders) from the existing northern terminus near Lewinsville Road, Route 694, to the George Washington Memorial Parkway and associated signage, lighting, sound walls, and traffic and tolling management systems.
- Northbound 495 general purpose (GP) Auxiliary Lane between DTR and Georgetown Pike (Route 193)
- New HOT Lanes (Express Lanes) access points with adequate merge lengths as follows:
 - Dulles Toll Road EB to 495 Express Lanes NB
 - Dulles Toll Road EB to 495 Express Lanes SB
 - Dulles Toll Road WB to 495 Express Lanes NB
 - GW Parkway WB to 495 Express Lanes SB
 - 495 Express Lanes NB to GW Parkway EB
- Parallel shared-use path along I-495 and improved bike and pedestrian facilities on three new bridges:
 - Live Oak Drive over the Beltway
 - Georgetown Pike over the Beltway
 - Old Dominion Drive over the Beltway
- Demolition and replacement of four existing bridges:
 - Live Oak Drive over the Beltway
 - Georgetown Pike over the Beltway
 - Old Dominion Drive over the Beltway
 - 495 GP NB over DTR EB to 495 NB Express Lanes (EL) & GP Lanes
- Four new Express Lane Flyover Ramps bridge structures:
 - GW Parkway WB to 495 Express Lanes SB
 - 495 Express Lanes NB to GW Parkway EB
 - Dulles Toll Road (DTR) EB to 495 Express Lanes NB over Dulles Airport Road (DAR)
 - Dulles Toll Road EB to 495 Express Lanes NB over DTR/495 GP NB
- Modification of two existing bridges:
 - Lewinsville Road Bridge – reconfiguration of cross-section to provide enhanced pedestrian facilities
 - 495 over Scott’s Run Creek (widening)
 - George Washington Memorial Parkway over the Beltway (rehabilitation)

1.4. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DECISION DOCUMENTS

In collaboration with the FHWA and the National Park Service (NPS), the Department prepared an EA for the proposed 2.0-mile extension of the 495 Express Lanes, in order to comply with the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended, and its implementing regulations (40 Code of Federal Regulations [CFR] 1500-1508.9); the US Department of Transportation NEPA regulations (23 CFR Part 771); and the US Department of Interior NEPA regulations (43 CFR Part 46), NPS Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision making (2011) and its accompanying handbook (2015) . The Department began this EA in May 2018 and held public hearings in October 2020. A Finding of No Significant Impact (FONSI) for the NEXT Project was signed and received from FHWA on June 29, 2021. A FONSI was also signed and received from NPS on June 7, 2021.

1.5. PROJECT WEBSITE

Please visit following websites for the Project updates.

- VDOT Environmental Assessment website: <http://www.495northernextension.org/>
- VDOT P3 Office project website: <https://www.p3virginia.org/projects/495-next/>
- Concessionaire’s website: <https://expresslanes.com/NEXT-procurement>

2. SCHEDULE

The initial baseline schedule reflects a commitment to a NEXT Project Service Commencement Date based on the Design-Build Limited Notice to Proceed (LNTP), and the NEXT Project Final Completion Date no later than 180 days following the Service Commencement Date.

Figure 2.1 shows general schedule duration.

Task	Start	Finish	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026
Limited Notice to Proceed	09/21	09/21	◆					
Notice to Proceed	03/22	03/22		◆				
Design	07/21	07/25		■	■	■	■	
RW/Utilities	08/21	07/25		■	■	■	■	
Construction*	01/22	05/26		■	■	■	■	■
Service Commencement	December 2025						◆	
Final Completion*	June 2026							◆

Figure 2.1 Schedule Overview

* Construction and final completion beyond Service Service Commencement Date would entail “punch list” work and finishing details / close-out documentation

3. PROJECT COST

The current base cost of the Project is \$641,723,921 in year-of-expenditure dollars. This cost includes all costs necessary to perform the preliminary engineering (including the cost of NEPA and other environmental documentation), traffic analysis (Interstate Access Report – IAR – addendums), right-of-way, environmental mitigation, construction, project management, public outreach, traffic management

system improvements, congestion management plans, and costs of external third party work. The current Initial Financial Plan updates any changes to the project cost since the Cost Estimate Review performed with FHWA in May 2021, as detailed in Section 8.¹

Table 3.1 details the Concessionaire’s contribution of \$559,323,951, which does not include financing costs and payments to the Department.

Table 3.1 Concessionaire’s Capital Expenditures by Phase

UPC No.	Description	Phase	Estimate	Current Expenditures as of 02/28/2022	Balance to Complete
115401	I-495 Express Lanes Northern Extension – Phase 1	PE	\$0	\$0	\$0
		RW	\$0	\$0	\$0
		CN	\$559,323,951	\$0	\$559,323,951
Total			\$559,323,951	\$0	\$559,323,951

Table 3.2 details the Department’s development and oversight costs of \$82.4million associated with the Project.

Table 3.2 Department’s Capital Expenditures by Phase

UPC No.	Description	Phase	Estimate	Current Expenditures as of 02/28/2022	Balance to Complete
113414	I-495 Express Lanes Northern Extension	PE	\$19,799,970	\$18,394,036	\$1,405,934
116754	I-495 Express Lanes Northern Ext Ph 1 – VDOT Oversight & TMP	RW*	\$5,000,000*	\$0	\$5,000,000
		CN	\$52,400,000	\$0	\$52,400,000
120823	I-495 NEXT Transit Investment	CN	\$5,200,000	\$0	\$5,200,000
Total			\$82,399,970	\$18,394,036	\$64,005,934

* UPC 116754: RW cost is currently estimated as \$10,000,000 and will be funded by Transurban (TU). TU provided \$5,000,000 at the Financial Close, and additional funds will be provided at VDOT request at later time as outlined in Section 7.08(d) **NEXT Project ROW Cost** of the Second ARCA. Note that RW will remain open during construction.

¹ As documented in the NEXT Project Cost and Schedule Risk Assessment Report (CSRA) dated August 23, 2021, and updated in the Addendum dated February 3, 2022, the Monte-Carlo simulation resulting in 70% confidence level was \$590 million. The project’s base cost was \$531.4 million, inclusive of the amount of the firm cost proposal from the Concessionaire, who was in the process of reaching commercial close with VDOT (executed on September 30, 2021). The contingency amount identified by the Cost Estimate Review (CER) exercise – held with FHWA and VDOT on May 25-26, 2021 – was \$7.1 million, resulting in a total estimated cost to deliver of \$538.5 million. As reflected in the CER Addendum dated February 3, 2022 an additional amount of \$51.4M of project co-contingency was added to this amount for a total of approximately \$590 million. FHWA has reviewed the eligibility and reasonableness of these costs. Section 8 of this report provides more details on the Cost Estimate Review results. The current IFP updates any changes to the project cost since CER, due to changes in fee elements, such as financing fees and the concession fee.

4. PROJECT FUNDS

4.1 DEPARTMENT PROJECT FUNDING SOURCES

Project funding is demonstrated in the Metropolitan Washington Council of Governments’ (MWCOC) Constrained Long-Range Transportation Plan (CLRP) and Transportation Improvement Program (TIP), as well as the Commonwealth’s Statewide Transportation Program (STIP). The MWCOC amended its TIP on 4/3/2020 to include \$19,800,000 and associated funding for the preliminary engineering phase of this project. FFY20 STIP Amendment #11 was subsequently approved by FHWA on 4/30/2020, adding the preliminary engineering phase and associated funding to the Commonwealth’s STIP.

Because of the increase in the Total Estimated Cost at financial close, a TIP/STIP amendment will be required. The TIP is anticipated to be amended in mid-May 2022; the STIP is anticipated to be amended in late May 2022/early June 2022. Table 4.1 reflects the summary of funding by sources of the Project.

Table 4.1 Summary of Project Funding by Source

	Funding Source	Previous FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	TOTAL
113414 ⁽¹⁾	Federal						
	Interstate NHS	\$4,800,000					\$4,800,000
	Interstate NHS Soft Match	\$1,200,000					\$1,200,000
	Subtotal	\$6,000,000					\$6,000,000
	Other						
	TBD ⁽¹⁾	\$13,799,970					\$13,799,970
	Subtotal	\$13,799,970					\$13,799,970
	TOTAL	\$19,799,970					\$19,799,970
116754 ⁽²⁾	State						
	Other Interstate Corridor Funds	\$52,400,000					\$52,400,000
	Subtotal	\$52,400,000					\$52,400,000
	Other						
	Concession Funds	\$5,000,000					\$5,000,000
	Subtotal	\$5,000,000					\$5,000,000
	TOTAL	\$57,400,000					\$57,400,000
120823	State						
	Other Interstate Corridor Funds	\$5,200,000					\$5,200,000
	Subtotal	\$5,200,000					\$5,200,000
	TOTAL	\$5,200,000					\$5,200,000
GRAND TOTAL		\$82,399,970					\$82,399,970

(1) UPC 113414: To be reimbursed up to \$10,700,000 by the Concessionaire (the NEXT Project Department Development Recoupment Amount per the Second ARCA Section 10.03(d), as amended), and funded by other sources to be determined by CTB.

(2) UPC 116754: The estimated amount is \$52,400,000 and funding sources to be determined by CTB. RW will be funded by the Concessionaire.

Table 4.2 lists the associated Federal Projects that make up the Project contract.

Table 4.2 Summary of Project Federal Authorization (As of February 28, 2022)

Federal Project No.	UPC	Phase	Cost	Federal Funds	Advance Construction
4955(095)	113414	PE	\$19,799,970	\$6,000,000	\$0
Total			\$19,799,970	\$6,000,000	\$0

4.2. CONCESSIONAIRE PROJECT FUNDING SOURCES

Table 4.3 reflects the Concessionaire’s funding sources.

Table 4.3 Summary of Project Financing by Source during Construction (as of March 1, 2022)

Type of Financing	Nominal (\$ million)	% of Total	Benchmark Interest Rate if applicable
NEXT PABs	\$133.0	17.65%	Tax-exempt MMD
NEXT TIFIA Loan	\$212.0	28.14%	SLGS
NEXT VTIB Loan	\$49.0	6.50%	Taxable MMD
Equity (including Contingency)	\$316.7	42.04%	N/A
Capitalized Interest on TIFIA Loan	\$15.7	2.08%	N/A
Capitalized Interest on VTIB Loan	\$3.3	0.44%	N/A
Release from CBE PABs DSRA	\$23.6	3.14%	N/A
Total Sources	\$753.3	100.00%	

5. FINANCING ISSUES

Financing for the Concessionaire’s contribution to the total costs are the responsibility of the Concessionaire. Assumed financing sources are listed in Table 5.1.

Table 5.1 Financing Costs through Construction Period (as of March 1, 2022)

Type of Financing	Nominal (\$ million)
PABs Interest During Construction	
TIFIA Loan Interest Capitalized During Construction	
VTIB Loan Interest Capitalized During Construction	
PABs Upfront Fee	
PABs Ongoing Fees	
Costs of Issuance	
TIFIA Loan Servicing Fees	
VTIB Loan Servicing Fees	
LC Costs Payable at Financial Close	
Ongoing LC Costs (DB and TMS)	
Equity Guarantee Fee	
Refinancing Upfront Fee (CBE PABs)	
Total	

6. CASH FLOW

Table 6.1 shows the Department’s cash flow analysis.

Table 6.1 Department’s Anticipated Expenditures by Year (\$million)

Expenditures			Thru FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	TOTAL
UPC	Description	Phase								
113414 ⁽¹⁾	I-495 Express Lanes Northern Extension	PE	\$14.9	\$4.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$19.8
116754 ⁽²⁾	I-495 Express Lanes Northern Ext Ph 1 – VDOT Oversight & TMP	RW	\$0.0	\$1.0	\$9.0	\$0.0	\$0.0	\$0.0	\$0.0	\$10.0
		CN	\$0.0	\$4.4	\$13.0	\$13.0	\$12.0	\$8.0	\$2.0	\$52.4
120823	I-495 NEXT Transit Investment	CN	\$0.0	\$0.0	\$5.2	\$0.0	\$0.0	\$0.0	\$0.0	\$5.2
Cumulative Expenditures			\$14.9	\$25.2	\$52.4	\$65.4	\$77.4	\$85.4	\$87.4	\$87.4
Total Annual Allocations			\$0.0	\$8.8	\$12.9	\$13.3	\$5.2	\$6.3	\$5.9	\$52.4
Cumulative Allocations			\$0.0	\$8.8	\$21.7	\$35.0	\$40.1	\$46.5	\$52.4	\$104.8
Cash Flow per Year			\$14.9	\$10.3	\$27.2	\$13.0	\$12.0	\$8.0	\$2.0	\$87.4

(1) UPC 113414: To be closed after the Financial Close.

(2) UPC 116754: RW cost is currently estimated as \$10,000,000 and will be funded by Transurban (TU). TU provided \$5,000,000 at the Financial Close (as noted in UPC 116754 in Table 3.2), additional funds will be provided at VDOT request at later time.

Table 6.2 reflects a summary of the sources and uses of funds during construction for the Developer. This summary reflects the Developer’s own plan of finance.

Table 6.2 Concessionaire’s Sources and Uses during Construction (\$million; as of March 1, 2022)

STIP Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
Sources						
NEXT PABs	\$113.4	\$5.6	\$5.6	\$5.6	\$2.8	\$133.0
NEXT TIFIA Loan	\$59.4	\$152.6	-	-	-	\$212.0
VTIB Loan	-	\$49.0	-	-	-	\$49.0
Capitalized Interest on NEXT TIFIA Loan	\$0.4	\$3.0	\$4.8	\$4.9	\$2.5	\$15.7
Capitalized Interest on VTIB Loan	-	\$0.1	\$1.3	\$1.3	\$0.7	\$3.3
Equity	\$54.1	\$40.7	\$129.6	\$71.6	\$20.8	\$316.7
Release from CBE PABs DSRA	\$23.6	-	-	-	-	\$23.6
Total Sources of Funds	\$250.9	\$250.9	\$141.3	\$83.4	\$26.8	\$753.3
Uses						
Project NEXT Design Build Costs - excluding TMS	\$70.7	\$189.3	\$98.6	\$50.0	\$9.1	\$417.6
Project NEXT TMS Costs	\$1.3	\$14.2	\$6.1	\$5.3	\$0.3	\$27.2
TU Capex Costs - excluding ROW						
TU Capex Costs - ROW						
TU Non-DB Capex						
Concessionaire-Supplied SPV Contingency Amount						
NEXT Department Development Recoupment Amount						
Contingent Department Contribution to SPV Contingency Costs						
Capitalized Interest on NEXT TIFIA Loan	\$0.4	\$3.0	\$4.8	\$4.9	\$2.5	\$15.7
Capitalized Interest on VTIB Loan	-	\$0.1	\$1.3	\$1.3	\$0.7	\$3.3
Interest during Construction	\$1.9	\$5.6	\$5.6	\$5.6	\$2.8	\$21.5
Initial Transit and Corridor Investment	-	-	-	\$2.2	-	\$2.2
Costs of Issuance and Other Fees	\$19.1	\$4.6	\$2.8	\$1.1	\$0.3	\$27.9
Reserve Account Funding / (Releases)	\$56.3	-	-	-	\$5.6	\$61.9
Interest on Existing Debt	\$6.9	-	-	-	-	\$6.9
Swap Termination Payments	\$35.2	-	-	-	-	\$35.2
Total Uses of Funds	\$250.9	\$250.9	\$141.3	\$83.4	\$26.8	\$753.3

7. P3 ASSESSMENT

Existing P3 Legislative Authority

Virginia’s Public-Private Transportation Act of 1995 (the PPTA) allows private entities to seek authorization from the Department to develop and/or operate transportation facilities. As part of the process under the PPTA, the Department identifies projects appropriate for procurement under the PPTA and enters into a comprehensive agreement with a concessionaire. Such agreement may be modified to expand the obligations of the concessionaire, within the scope of the original agreement. The project at issue here is being developed as an enhancement to an existing PPTA project, and the comprehensive agreement has been modified to allow the enhancement.

Project P3 Background and Context

On April 28, 2005, the Department entered into a three-party agreement with Fluor Enterprises, Inc., a California corporation (Fluor Enterprises), and Transurban (USA), Inc., a Delaware corporation (Transurban) to Develop, Design, Finance, Construct, Maintain and Operate the Route 495 HOT Lanes in Virginia (the Original Comprehensive Agreement).

Pursuant to a Record of Decision dated June 29, 2006, a 4-2-2-4 HOT Lane alternative, as more fully described in such Record of Decision, was selected by the Department and approved by the FHWA in connection with the environmental review process for the Capital Beltway study, and the Department has determined that the NEXT Project is consistent with such selected NEPA alternative and has chosen to undertake improvements that include the NEXT Project. A re-evaluation of the Capital Beltway study was accepted by the Federal Highway Administration on May 9, 2007.

On December 19, 2007, the Department and the Concessionaire² (Capital Beltway Express, LLC) agreed to the *Amended and Restated Comprehensive Agreement Relating to the Route 495 HOT Lanes in Virginia Project* (the First ARCA) to deliver what was then called the Capital Beltway HOT Lanes (now called the 495 Express Lanes). The 495 Express Lanes project was completed and fully opened to traffic in November 2012, with the Concessionaire having a contractual right to operate the facility until December 19, 2087.

On January 29, 2019, the Department and the Concessionaire signed the *Development Framework Agreement* (the DFA), establishing a process for the Concessionaire to submit to the Department a proposal (the Binding Proposal) to develop the Project as a Concessionaire Project Enhancement under the First ARCA. On June 11, 2021, the Concessionaire submitted its Binding Proposal and the Department accepted the Binding Proposal on July 8, 2021. On September 30, 2021, the Department and the Concessionaire entered into the *Second Amended and Restated Comprehensive Agreement Relating to the Route 495 HOT Lanes in Virginia Project* (the Second ARCA).

² On December 19, 2007, (i) the Department consented to the assignment and novation by Fluor and Transurban to the Concessionaire (Capital Beltway Express, LLC) of Fluor’s and Transurban’s respective rights and obligations under the Original Comprehensive Agreement and to the release of guaranties relating thereto, pursuant to a Consent to Assignment and Novation dated December 19, 2007, and (ii) Fluor and Transurban assigned and novated their respective rights and obligations under the Original Comprehensive Agreement in favor of the Concessionaire, and the Concessionaire assumed such obligations, pursuant to an Assignment dated December 19, 2007.

Project Sponsor's Plan to Manage a P3

As noted above, the Project is not a stand-alone project. It is being developed as a Concessionaire Project Enhancement under the Second ARCA, and the Concessionaire is responsible for the design, construction, financing and ongoing operations and maintenance of the Project. The underlying procedural requirements of the PPTA were satisfied when the Department and Concessionaire entered into the Second ARCA, which provides a mechanism by which the Department and the Concessionaire may agree mutually to extend or otherwise enhance the 495 Express Lanes network. Thus, the process for delivering the Project will be different from the process for delivering larger stand-alone projects, like the 495 Express Lanes network. As such, no formal value-for-money (VFM) analysis was completed. The NEXT Project delivers an alternative travel choice that provides travel time reliability for drivers along I-495 along with the benefit of reduced traffic demands on parallel roads, which experience cut-through traffic due to congestion along I-495. The terms of the Second ARCA govern the Project.

Comparison of Benefits and Challenges of Procuring Project as a P3 versus Traditional Procurement

After considering the benefits and challenges of developing and procuring the Project under a traditional procurement method versus a P3 project, the Department concluded that the Project would be most effectively and efficiently delivered as a Concessionaire Project Enhancement. This conclusion was based on a qualitative assessment of the Concessionaire's ability to introduce innovation to the project, manage the schedule more effectively, provide access to capital, and their ability to increase the likelihood of successful project delivery. Because the Project is being undertaken as a Concessionaire Project Enhancement, the project delivery schedule is minimized as a reflection of the concessionaire's familiarity with the site conditions, cost and schedule impacts are minimized because the same entity is operating the existing HOT Lanes facility. Based on the previous P3 delivery of the original 495 Express Lanes project by the Concessionaire, and the current operations and maintenance of the facility by the Concessionaire, the Department is confident the workmanship, delivery, and operations of the Project will be of the same quality as the existing HOT lanes facility. Furthermore, efficiencies will be maximized by having only one concessionaire for the entire stretch of the combined existing and proposed HOT lanes facility.

Risk Allocation Analysis

Risk allocation analysis was conducted in parallel with project development and procurement activities, and the Department, in coordination with stakeholder groups, conducted risk workshops in multiple stages to identify and allocate risks to the party that can best manage them. The first risk workshop was conducted on November 19, 2019 to identify risks that could potentially impact the project costs and schedule, as well as whether the risks were associated with specific project components. Risks were also evaluated per the different delivery options in consideration. The second workshop was conducted on April 30, 2021, to update the draft risk register created during the first risk workshop given the project scope refinements over the past months. Mitigation strategies were reevaluated, discussed, and documented for each risk event. The third and final risk workshop was conducted on May 25-26, 2021 in conjunction with the Cost Estimate Review workshop. Section 8 discusses findings of the Cost Estimate review in details.

Table 7.1 below shows the P3 Key Milestones.

Table 7.1 P3 Key Milestones

Key Milestones	Date
Development Framework Agreement	January 29, 2019
DB Request for Qualifications (RFQ)	January 7, 2020
DB Request for Proposal (RFP)	October 8, 2020
Notice of Award Letter to successful DB Offeror	May 26, 2021
Concessionaire’s Binding Proposal Submission	June 11, 2021
Final Interchange Justification Report (IJR)	June 11, 2021
EA FONSI Approval	June 29, 2021
Concessionaire’s Binding Proposal Acceptance	July 8, 2021
Commercial Close	September 30, 2021
Limited Notice to Proceed	September 30, 2021
Financial Close	February 28, 2022
Construction NTP	March 1, 2022
Target Service Commencement	December 2025
Target Final Completion	June 2026

8. RISK AND RESPONSE STRATEGIES

A Cost Estimate Review (CER) was performed with FHWA on May 25-26, 2021 to review the cost and schedule estimates for the completion of the Project. The most significant cost threats for the project were identified and are reflected in Table 8.1.

Table 8.1 Department’s Risk Factors

Risk Description	Cost ¹	Description
Unknown Unknowns	\$3.6M	Unknown unknowns
COVID Impacts	\$1.5M	Potential overall schedule delay and cost increase due to the direct impact of the COVID restrictions during the construction. Supply Chain Impacts. Material Costs.
Cost Escalation of Bid	\$1.0M	Higher than planned duration to reach Financial Close (more than 180 days) will result in a higher pricing.
Additional Easement	\$0.6M	Additional fee, permanent or temporary easements required due to additional easement (utility, stormwater, or construction).
Right of Way Costs	\$0.4M	Cost impacts could be greater than expected.

During the CER, uncertainties in the project estimates, such as base variability, inflation, market conditions, and risk events were modeled by the review team to reflect the opinions of the subject matter experts interviewed. Then a Monte-Carlo simulation was used to incorporate the uncertainties into project cost forecast curves that represent a range of costs and completion dates for the project. The Monte-Carlo simulation resulting 70% confidence level was \$538.5 million, which was inclusive of the

¹ Cost associated with each risk represents the likeliest cost.

amount of the firm cost proposal from the Concessionaire, who was in the process of reaching commercial close with VDOT (executed on September 30, 2021). The project's base cost was \$531.4 million, and the contingency amount identified by the CER exercise was \$7.1 million. CER participants agreed that the CER amount of \$538.5 million represented a reasonable assessment of total cost to deliver the project, at that juncture in the project lifecycle.

In August 2021, VDOT completed and submitted to FHWA the I-495 Express Lanes Northern Extension Cost and Schedule Risk Assessment (CSRA) in compliance with FHWA's Major Projects Requirements.

At the time of this submittal, the Concessionaire's Contingency Costs were undefined and therefore not included in the cost estimate. Since that time, the Concessionaire's Contingency has been defined as \$51.54 million, as one component of the project's TIFIA application. Accordingly, the Department now considers this amount to be an eligible cost to include in the CSRA estimate.

The original CSRA Risk-Based Cost at 70th Percentile was \$538,481,567. Adding the Concessionaire's contingency results in a revised Risk-Based Cost of \$590,021,567. FHWA concurred with this change and approved the Addendum to the NEXT Project CSRA on February 3, 2022.

The CER participants considered and identified Response Strategies for each of the risks. With respect to the top five risks shown above, the Response Strategies are as follows:

- Unknown Unknowns – A management reserve amount is included in the Major Projects Cost Estimate to address unknown unknowns. Due to the nature of this risk, no other response strategies are possible.
- COVID Impacts - An incentive clause has been added to the Project Agreement to ameliorate delays, and COVID traffic impacts have been included as an element of sensitivity analysis to the Traffic & Revenue Study
- Cost Escalation of Bid - The Term Sheet identifies a Design/Build Price Risk Sharing Mechanism to address the risk of escalation beyond that included in the Design/Build bid.
- Additional Easement- None identified
- Right of Way Costs – An item of negotiation in the Project Agreement is the cap on the ROW cost risk for the concessionaire

9. ANNUAL UPDATE CYCLE

Because this project has a TIFIA loan, the Initial Financial Plan is to be submitted 60 days after the TIFIA loan closing date of February 28, 2022. The submission date of the Initial Financial Plan is April 30, 2022. The first annual update will be submitted by May 31, 2023, 3 months after a "data as of" date of February 28, 2023. Future annual updates will be submitted by May 31st of that year, with a "data as of" date of February 28th of that year.

Attachment 1

Determination of *Operational Independence and Non-Concurrent Construction* for I-495 Express Lanes Northern Extension (NEXT) Project September 2020