



I-64 Hampton Roads Bridge-Tunnel Expansion Project

Annual Financial Plan Update

September 30, 2022

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EXECUTIVE SUMMARY

The I-64 Hampton Roads Bridge-Tunnel (HRBT) Expansion Design-Build project addresses one of the region's most significant chokepoints by adding more capacity to the HRBT and adjacent segments of the I-64 corridor. The new tunnels and their approach bridges will accommodate four lanes of traffic for a total of eight lanes of capacity across the water. Across the water, the design includes new tunnels west of the existing crossing. The new facility will carry eastbound general-purpose and High Occupancy Toll (HOT) traffic. The existing eastbound tunnel will be converted to carry westbound HOT traffic. This project will also add new trestles and replace the existing trestles connecting the tunnels to the landside improvements. In addition to the harbor crossing, the project will widen the landside four-lane sections of I64 in Hampton between Settlers Landing and the Phoebus shoreline, as well as the four-lane sections of I-64 in Norfolk between the Willoughby shoreline and the I-564 interchange. These segments will be expanded to 6 full-time lanes (4 will be free general-purpose lanes and 2 will be variably priced HOT lanes) plus 2 variably priced HOT part-time shoulder lanes that can be used for periods of extremely heavy congestion.

VDOT released the Final Request for Proposals (RFP) on September 27, 2018, and the project was awarded for construction by the Commonwealth Transportation Board (CTB) April 3, 2019, to the Hampton Roads Connector Partners (HRCP). The HRCP team is comprised of Dragados USA, Flatiron, Dodin-Campenon-Bernard, Vinci Construction, and the Design Joint-Venture of HDR and Mott MacDonald.

The Design-Build phase of the project began in April 2019 with the execution of the Comprehensive Agreement and the Design-Builder Limited Notice to Proceed One (LNTP1). Full Notice to Proceed (NTP) was issued September 11, 2020. Designs have been advanced to obtain environmental permits required for NTP, allow Tunnel Boring Machine (TBM) procurement, and advance the launch pit construction, island expansion, roadway and approach trestle construction operations. The contractual completion date remains unchanged at November 1, 2025. The Design-Builder's schedule updates indicate a delayed completion projected at October 12, 2026. The Department and the Design-Builder continue to discuss the schedule issues and construction progress.

The current total project cost estimate is \$3,965,451,641, which remains unchanged from the previous Financial Plan Update.

The Roadway and Bridge Scope Validation process has been completed and all issues resolved. In addition to the Bridge Repair Work Option Work Order, there have been forty-three additional Work Orders executed for an additional \$2,147,574. The total value of all executed Work Orders is \$75,601,988. The project was originally funded with a combination of Hampton Roads Transportation Accountability Commission (HRTAC) funds, GARVEE Bond proceeds, SmartScale and other dedicated State funding which includes annual allocation of maintenance funds for the Bridge Repair Work Option costs. Since the previous Financial Plan Update the GARVEE Bonds have been replaced with federal funding, and all other funding sources remain unchanged. The project received federal authorization on December 11, 2019.

HRTAC closed on a TIFIA loan for this project on September 21, 2021. Moving forward, HRTAC will be preparing the required TIFIA Financial Plan Updates and VDOT's update will be provided as a supplement to the HRTAC TIFIA Financial Plan.

1. PROJECT DESCRIPTION

The I-64 Hampton Roads Bridge-Tunnel Expansion Project is located on Interstate 64 in the Cities of Hampton and Norfolk beginning approximately 0.177 miles west of Settlers Landing Road (Western Terminus) and ending approximately 0.289 miles east of Little Creek Road (Eastern Terminus) at the Interstate 64/Interstate 564 interchange (see **Figure 1**).

The project addresses one of the region's most significant chokepoints by adding capacity to the HRBT and adjacent segments of the I-64 corridor. The new tunnels and their approach bridges will accommodate four lanes of traffic for a total of eight lanes of capacity across the water. Across the water, the design includes new tunnels just west of the existing crossing. The new facility will carry eastbound general-purpose and High Occupancy Toll (HOT) traffic. The existing eastbound tunnel will be converted to carry westbound HOT traffic.

In addition to the new tunnels, this project will also add new trestles and replace the existing trestles connecting the tunnels to the landside improvements. The project will widen the landside four-lane sections of I-64 in Hampton between Settlers Landing and the Phoebus shoreline, as well as the four-lane sections of I-64 in Norfolk between the Willoughby shoreline and the I-564 interchange. These segments will be expanded to 6 full-time lanes (4 will be free general-purpose lanes and 2 will be variably priced High Occupancy Toll (HOT) lanes) plus 2 variably priced HOT part-time shoulder lanes that can be used for periods of extremely heavy congestion. To accommodate the roadway widening, the project will rehabilitate or rebuild 30 interstate bridge structures. Additional improvements along the project corridor include new sound barrier walls, lighting, and drainage. This project is being delivered as a design-build project under the Public-Private Partnership Act of 1995.

See following page for Figure 1, Location Map



Figure 1 – Location Map

HISTORY AND ENVIRONMENTAL PROCESS

The Intermodal Surface Transportation Act of 1991 allocated funds for highway projects demonstrating innovative techniques of highway construction and finance. The Interstate 64 (I-64) crossing of Hampton Roads was included as one of the innovative projects. A Major Investment Study (MIS) of the I-64 crossing of Hampton Roads was completed in 1997. The MIS documented an initial review of alternatives to reduce congestion at the I-64 crossing. Following the MIS, the Hampton Roads Crossing Study (HRCS) Draft Environmental Impact Statement (DEIS) and Final EIS (FEIS) were published in 1999 and 2001, respectively, documenting the preferred alternative. The FHWA issued a Record of Decision (ROD) in 2001, completing the NEPA process. Other studies were completed to further evaluate potential Hampton Roads crossing improvements. In 2003, FHWA and VDOT completed a re-evaluation of the FEIS that analyzed implementing a portion of the preferred alternative. That re-evaluation validated the previous

decisions. In 2011, FHWA and VDOT issued an Environmental Assessment (EA)/Re-evaluation of the HRCS FEIS covering the segments of the preferred alternative including what is now referred to as the I-664 Connector, the I-564 Connector, and the VA 164 Connector. The EA was not advanced due to fiscal constraints. In 2012, FHWA and VDOT published the Hampton Roads Bridge-Tunnel (HRBT) Draft EIS (DEIS). The DEIS evaluated options for improvements to I-64 between Hampton and Norfolk. The DEIS found that the Retained Alternatives would result in high impacts to historic and private properties. High impacts, along with lack of public and political support, led FHWA to rescind the Notice of Intent (NOI) for the project. In 2013, the 2011 EA was revised but the FHWA never made a NEPA decision on the document.

In 2014, the HRTAC included the HRCS in its list of priority projects, which led FHWA and VDOT to the development of a Supplemental Environmental Impact Statement (SEIS) to evaluate options for this crossing. This SEIS was prepared in part due to the time that had lapsed since the 2001 Record of Decision (ROD). Environmental regulations and conditions in the Hampton Roads region had changed substantially during the fifteen years that passed since the ROD was issued, resulting in the need for a thorough reevaluation. In December 2016, the CTB approved "Alternative A" as the preferred alternative for this study, laying the groundwork to complete the SEIS. FHWA issued a ROD on June 12, 2017, identifying Alternative A as the Selected Action. The ROD included environmental commitments that also were made by the CTB. The ROD allowed VDOT to advance with more detailed design activities, using more advanced engineering and other analyses. The advanced engineering and analyses sought to refine the Selected Action, for which the U.S. Army Corps of Engineers (USACE) found no reason to disagree since it appeared to be the preliminary Least Environmentally Damaging Practicable Alternative (preliminary LEDPA).

On January 10, 2018, the CTB approved the designation of HOT lanes on I-64. Since the time that approval was made, VDOT has worked to determine how HOT lanes would be accommodated and function within the I-64 corridor. VDOT and FHWA indicated in the Final SEIS and ROD that improvements considered with the HRCS could be implemented and operated as a managed lane, but the management option was not specifically designated as such at the time the ROD was issued. Traffic and associated air quality and noise analyses in the SEIS did account for the potential to include managed lanes.

In June 2018, FHWA issued a Re-evaluation for the HRCS Final SEIS. The Re-evaluation considered refinements proposed by VDOT to the Selected Action documented in FHWA's June 12, 2017, ROD and was informed by environmental analyses completed since the ROD was issued. In order to accommodate the HOT lanes and improvements to existing bridge-tunnel structures, the planning-level Limit of Disturbance (LOD) was widened along the mainline and surrounding the I-64/I-564 interchange. The detailed engineering and analyses that have occurred since the ROD have also identified additional property to be acquired as part of the project to accommodate future construction staging activities. The Re-evaluation also identified the potential for a new direct connection between the proposed HOT lanes and I-564. The Re-evaluation documented these changes and updated the project's estimated impacts that had been previously identified in the ROD. On October 23, 2018, following a public comment period on the EA, FHWA issued a

Finding of No Significant Impact (FONSI) for the Re-evaluation, incorporating the refinements to the Selected Action into the project.

The corridor study area for the 2018 Re-evaluation of the HRCS consists of the I-64 corridor, including interchanges, from just west of the Settlers Landing Road interchange in Hampton to the interchange with I-564 in Norfolk. The study area includes the approach/departure bridges and tunnel area of the Hampton Roads Bridge-Tunnel (see **Figure 2**).



Figure 2 – Corridor Study Area

DESIGN-BUILD PROCUREMENT

The VDOT Office of Public Private Partnerships, the Alternative Project Delivery Division, along with VDOT leadership were responsible for reviewing the project for consideration for DB delivery under the Virginia Public Procurement Act (vs. under the Public Private Procurement Transportation Act of 1995, as amended (PPTA)).

On the basis of a screening report and Public Sector Analysis and Competition (PSAC) conducted by the VDOT Office of Public Private Partnerships, and as indicated in the Commissioner's Finding of Public Interest dated January 2018, the Department concluded that procuring the Project under the PPTA afforded the Department the flexibility necessitated by the size and complexity of the Project.

DETAILED SCOPE OF THE PROJECT

The Department is delivering the I-64 HRBT improvements as defined in the I-64/Hampton Roads Crossing Study Final SEIS. The preferred alternative from the Environmental Impact Statement is the basis for the Project development. The HRBT improvements project consists of widening and reconfiguring the interstate to eight lanes—including provisions for High Occupancy Toll (HOT) lanes as described below.

The anticipated scope of work of the Design-Builder under their agreement for this project includes, but is not limited to: (a) survey; (b) developing and completing the design through the Department approval process; (c) acquiring the necessary environmental permits, including United States Coast Guard (USCG) permits and approval; (d) acquiring right-of-way, permanent and temporary easements; (e) coordinating and performing, or causing to be performed, required utility relocations, additions, and adjustments; (f) coordinating and cooperating with the Department existing tunnel operations; (g) roadway construction and widening; (h) tunnel and tunnel systems design and construction; (i) reconstruct portions of existing mainline travel lanes, shoulders, and ramp acceleration/deceleration lanes; (j) bridge demolition and bridge construction; (k) bridge repair and rehabilitation; (l) overall Project management and coordination with other active construction projects in the vicinity. The detailed scope is defined in the contract documents and other project agreements.

The Project includes widening and reconfiguration of the existing interstate to accommodate two (2) general-purpose (GP) lanes, one (1) HOT lane, and one (1) HOT part-time shoulder lane in the eastbound and westbound directions; two (2) new tunnels that can accommodate four (4) lanes of traffic. The proposed improvements include, but are not limited to: two (2) new HRBT tunnels; new trestle(s); removal and replacement of the existing tunnel approach trestles; expansion of the existing north and south islands of the HRBT; pavement widening to accommodate new lane configurations; full depth shoulder lanes for part time use; outside shoulders; retaining walls; sound barrier walls; full depth construction on mainline roadway pavement where indicated in the RFP Concept Plans, milling and asphalt overlay where indicated in the RFP Concept Plans; removal and replacement of the overpass bridge at South Mallory Street including any necessary improvements or realignment of Mallory Street; bridge widening, and repair; entrance/exit ramp modifications; installation of storm drain pipes and stormwater management (SWM) facilities; roadway signing, both ground mounted and overhead; pavement marking, pavement markers,

and delineators; roadway lighting; relocation of existing and installation of new ITS infrastructure and equipment; and traffic signals.

It is noted that the description and length are approximate and are based on the RFP Concept Plans shown in the RFP Information Package. The final project length may vary depending on the Design-Builder's final design; however, any change in the project limits requires approval by the Department.

The conceptual design contained in the RFP Information Package reflects a basic line, grade, typical sections, minimum pavement structures, major cross drainage structures, potential locations of SWM ponds, conceptual bridge and retaining wall locations, and general length and location of sound barrier walls. These elements are the basic project configuration and not all elements and requirements of the project are illustrated within. The Design-Builder is responsible for final design in accordance with their agreement and the technical requirements.

The general scope of the Project is shown graphically in **Figure 3**. A project website has been established and is available at the following link - www.hrbtexpansion.org.



Figure 3 – General Scope of Project

2. SCHEDULE

The design-build contract development and procurement phase of the project commenced in December 2017 with the PPTA Steering Committee and included the RFQ, RFP, technical proposal submissions, price proposal submissions, and selection of the best value proposal. The design-build phase of the project began in April 2019 with the execution of a comprehensive agreement and the Design-Builder Limited Notice to Proceed One (LNTP 1). These dates are unchanged from the Initial Financial Plan. The Design-Builder received the necessary environmental permits and fulfilled the contract requirements for full Notice to Proceed (NTP) in September 2020.

The contractual substantial and final completion dates remain unchanged. Through the Design-Builder's schedule updates, current final completion is predicted to be October 12, 2026. The Design-Builder and the Department are continuing to discuss the causes for the delay and potential methods to recover time.

A summary of schedule changes since the last Financial Plan Update to the design and construction activities includes:

Work Activity	Initial Financial Plan	Annual Update #1	Annual Update #2	Annual Update #3	Annual Update #4**	Change (months)
Preliminary Engineering/Design	Jul-21	Dec-21	Jan-22	Feb-22	Feb-23	+12
Environmental Permits/Approvals	May-20	Dec-20	Sep-20	Sep-20	Sep-20	0
Right of Way Acquisition	Oct-19	Jan-21	Feb-21	Mar-21	Mar-21	0
Utility Relocation	Nov-20	May-23	Dec-23	Sep-24	Feb-26	+17
Tunnel Boring	-	-	-	Jul-24	Apr-25	+9
Trestle Construction	Aug-25	Nov-24	Dec-24	Apr-25	Apr-26	+12
Roadway Construction	Jul-25	Jan-25	Mar-25	Mar-25	Dec-25	+9

*Dates in table are scheduled end dates. Since HRCF has provided additional details to track Tunnel Boring, this activity was added in the previous update.

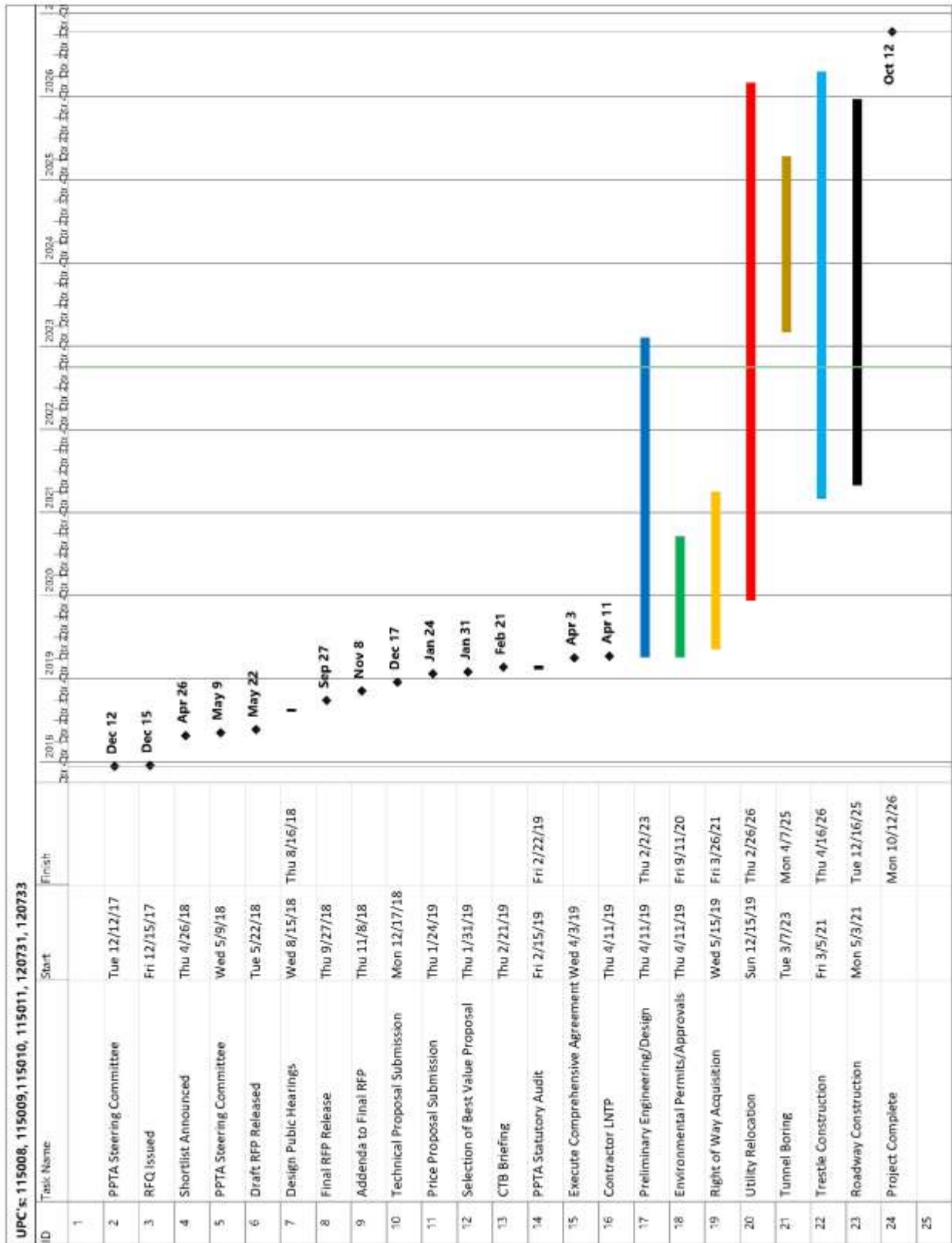
** Dates are from Schedule Update 35 submitted July 15, 2022.

The consistent, coordinated agency coordination by the Project Team, both the Design-Builder and the Owners Team, resulted in obtaining key environmental permits ahead of schedule. The achievement of NTP allowed full mobilization for construction activities. Post NTP, significant detail was added to the project schedule and continues to be refined and expanded. The changes above reflect the additional detail and work breakdown incorporated into the latest schedule updates. A number of project events or actions likely contribute to the schedule

changes predicted by the Design-Builder since the last update. Preliminary Engineering/Design has been extended to incorporate the latest state building codes, actual production on the launch pit did not match expectations, roadway and bridge work has not achieved the expected production rates, and utility relocations and commissioning durations have been realigned by the Design-Builder to reflect actual progress and anticipated production.

The Design-Builder's schedule update predicts Substantial Completion by August 13, 2026, however, the Contractual Substantial Completion Date remains September 1, 2025. A project schedule showing key activities and major milestones for the Project is presented in **Figure 4** on the next page. The schedule has been updated to reflect the Design-Builder's baseline schedule at the time of this update.

Figure 4 – Project Schedule



3. PROJECT COST

PRE-COST ESTIMATE REVIEW (CER) ENGINEER'S ESTIMATE

The pre-CER engineers cost estimate was a planning level cost estimate that has been superseded by the CER cost estimate and more recently the Design-Builder's contract amount. The information on the pre-CER cost estimate is no longer valid and has been removed as part of the Financial Plan update.

COST ESTIMATE REVIEW (CER) RESULTS AND INITIAL FINANCIAL PLAN ESTIMATE

A FHWA Cost Estimate Review workshop was conducted on November 5 and 6, 2018. The CER results were reviewed and updated December 12, 2018, to reflect additional review of risk impacts. The goal was to conduct an unbiased risk-based review to 1) verify the accuracy and reasonableness of the current total engineer's cost estimate and project schedule and 2) to develop a probability range using a Monte Carlo simulation for the cost estimate that represents the project's current stage of development.

The risk register for the project was updated prior to the workshop. During the workshop, 37 risk items (34 Threats, 3 Opportunities) were modeled in the software for the project. After further risk analysis and coordination with FHWA, 38 risk items (34 Threats, 4 Opportunities) were included in the final model of December 12, 2018.

FHWA requires development of the Year-of-Expenditure (YOE) results at the 70th percentile (P70) as well as a range of probable project costs from 10% to 100% confidence levels based on the various risks evaluated. For the model, finalized December 12, 2018, the following results were determined for FHWA CER purposes:

- Total Design-Build Contract Project Cost – YOE-P70 \$ 3,282,000,000
- Total VDOT Project Cost – YOE-P70 \$ 524,000,000
- Overall Project Cost – YOE- P70 \$ 3,784,000,000

The Overall Project Cost for comparative purposes in the Financial Plan update is \$3,784,000,000. The construction cost was derived by adding the Total Design-Build Contract Project Cost of \$3.282 billion to the \$335 million contingency from the FHWA CER for a total construction cost of \$3.617 billion. At the time of the FHWA CER specific financial incentives had not been determined for the project.

DESIGN-BUILDER CONTRACT AMOUNT AND CURRENT COSTS

As a result of the Design-Build procurement phase initiated in December 2017 a comprehensive agreement was executed with the Design-Builder in April 2019. The maximum compensation for the agreement for the design and construction scope of services was \$3,299,997,227. The Preliminary Engineering, Right of Way and construction contingency costs have not changed since the Initial Financial Plan. The construction cost is the Design-Builder's contracted maximum compensation (\$3,299,997,227) added to the construction contingency (\$335,000,000) added to the potential construction incentives (\$90,000,000) for a construction cost of \$3,724,997,227.

The Department exercised the contract option for Bridge Repair Work. This resulted in a Work Order and increase in the maximum compensation of \$73,454,414. These costs are funded through annual allocation of maintenance funds. In addition to the Bridge Repair Work Option, forty-three Work Orders have been executed for a cumulative increase to the maximum compensation of \$2,147,574. Twenty of the Work Orders were No Cost adjustments. The other Work Orders were for resolution of Scope Validation Issues, Value Engineering Proposals, utilization of new standards, directive changes, allocations for joint administrative costs, work associated with the US Coast Guard permit, environmental and third-party mitigation, builders risk insurance, and a major credit for reduced sound wall quantities. These Work Order costs are funded from the existing contingency. The total increase in the maximum compensation is \$75,601,988. The total increase in the maximum compensation of \$75,601,988 is a cost reduction, due to deductive Work Orders, from \$90,699,361 that was identified in the last financial plan update. The updated maximum compensation for the agreement with the Design-Builder is \$3,375,599,215. The Department and HRTAC have agreed upon the use of \$18,789,474 of project contingency to fund Segment 3 tolling infrastructure for the Hampton Roads Express Lane Network (HRELN).

COMPARISON OF INITIAL FINANCIAL PLAN COSTS AND CONTRACTED AMOUNT PROJECT COSTS

The Initial Financial Plan Total Project Costs was \$3.784 billion. Based on the contracted amount of the comprehensive agreement, the Total Project Costs are \$3,965,451,641. This reflects the Bridge Repair Work Option increase in costs of \$73,454,414. This represents less than a 5% increase from the Initial Financial Plan pre-bid estimate. Along with the Bridge Repair Work Option, the increase in the budgeted Total Project Costs is primarily due to early Substantial Completion schedule incentives (\$90 million) included in the Comprehensive Agreement with the Design-Builder that potentially increases the construction cost if the early completion milestones are achieved. A small portion of the increase was due to an increase in the Design-Build contract cost. The Design-Build construction contract cost increased from \$3,282,000,000 at the CER stage to \$3,299,997,227 as contracted. This represented only a 0.55% increase from the CER estimate. The contracted project costs are utilized for the purposes of financial planning for the HRBT project. **Table 3** on the next page provides a summary of the initial and current estimates, current expenditures and balance to complete by project phase.

Table 3: Project Costs by Project Phase

UPC	Phase	Initial Financial Plan Estimate	Current Estimate	Current Expenditures as of 12/31/18	Current Expenditures as of 12/31/19	Current Expenditures as of 12/31/20	Current Expenditures as of 9/30/21	Current Expenditures as of 6/30/22	Balance to Complete
110577	PE	\$30,000,000	\$30,000,000	\$23,508,696	\$28,800,287	\$28,800,287	\$28,800,287	\$28,800,287	\$1,199,713
115008/ 115009/ 115010/ 115011	PE	\$122,000,000	\$122,000,000	\$0	\$6,247,303	\$20,993,818	\$38,674,800	\$56,288,333	\$65,711,667
	RW	\$15,000,000	\$15,000,000	\$0	\$6,355,219	\$6,468,855	\$8,306,654	\$8,595,741	\$6,404,259
	CN	\$3,617,000,000	\$3,724,997,227	\$0	\$159,173,245	\$646,067,205	\$1,016,773,333	\$1,334,065,649	\$2,390,931,578
Bridge Repair Option (120731/120733)		-	\$73,454,414	-	-	\$0	\$0	\$842,674	\$72,611,740
TOTAL		\$3,784,000,000	\$3,965,451,641	\$23,508,696	\$200,576,054	\$702,330,165	\$1,092,555,074	\$1,428,592,684	\$2,536,858,957

4. PROJECT FUNDS

The I-64 HRBT Expansion Project was identified as one of the Hampton Roads Regional Priority Projects by HRTAC and the Hampton Roads Transportation Planning Organization (HRTPO) in March 2016. The project was included in HRTAC's Initial Financial Plan adopted March 17, 2016. On March 16, 2017, HRTAC executed an Interim Project Agreement for Funding and Administration with VDOT, which authorized an initial \$25,000,000 of funding in support refinement of the preferred alternative and procurement of this project. An additional \$5,000,000 was authorized for FY 2019. These planning and procurement costs have been excluded from evaluation for the Financial Plan update. An additional \$3,562,000,000 was identified in the HRTAC 2045 Long Range Plan of Finance for Priority Projects and was authorized prior to a Design-Build Offeror being selected and the final design and construction ready to commence. HRTAC will fund costs from the Hampton Roads Transportation Fund (HRTF) and other revenues.

On July 21, 2016, HRTPO approved the 2040 Long Range Transportation Plan. The plan identified the Hampton Roads Bridge-Tunnel Widening Project related to the Hampton Roads Crossing and Regional Connectors Study as a "Regional Priority Project." The project was shown as being funded by the HRTF and other HRTAC revenues.

On June 19, 2018, the Commonwealth Transportation Board (CTB) approved the FY2019-2024 Six-Year Improvement Plan (SYIP), which included the HRBT project. On June 19, 2019, the CTB approved the FY2020-2025 SYIP which approved \$200,000,000 of SmartScale allocations and updated the funding allocations to align with the actual contracted costs and the Design-Builder's Maximum Cumulative Compensation Amount schedule in the Comprehensive Agreement.

On April 2, 2019, the Project Agreement for Funding and Administration (PAFA) was executed between HRTAC and the VDOT. The PAFA identified \$3,753,469,581 of HRTAC funds (including

\$200,000,000 of SmartScale funds) and \$108,527,646 of federal/state funds for the project. For the Bridge Repair Work Option, VDOT has identified Special Structures and Maintenance and Operations funds to finance the \$73,454,414 costs. These funding amounts are unchanged from the previous update. The federal/state funds in 2025 have been re-distributed from the identified sources. A summary of current and planned funding is summarized in **Table 4** by funding source.

Table 4 – Summary of Funding by Source and Year

Funding Source		Fiscal Year					TOTAL
		Previous	2024	2025	2026	2027	
UPC 115011	CTB Formula: CTB Bridge HIP >200	\$5,505,286	\$0	\$0	\$0	\$0	\$5,505,286
	CTB Formula: CTB Bridge HIP>200 – Soft Match	\$1,376,321	\$0	\$0	\$0	\$0	\$1,376,321
	HB1887- SGR: SGR Bridge Federal NHPP	\$4,271,844	\$550,676	\$473,679	\$393,646	\$2,719,408	\$8,409,253
	HB1887- SGR: SGR Bridge Soft Match NHPP	\$1,067,961	\$137,669	\$118,420	\$98,412	\$679,852	\$2,102,314
	HB1887- SGR: SGR Nat. Freight Pgm - Bridge Federal	\$2,538,337	\$12,573,786	\$13,275,452	\$14,048,154	\$10,902,582	\$53,338,311
	HB1887- SGR: SGR Nat. Freight Pgm - Bridge- Soft Match	\$634,584	\$3,143,447	\$3,318,863	\$3,512,038	\$2,725,646	\$13,334,578
UPC 115010	HB1887- HPP: HPP-NHPP	\$30,272,797	\$33,478,339	\$51,908,710	\$28,944,693	\$0	\$144,604,539
	HB1887- HPP: HPP-NHPP - Soft Match	\$7,568,199	\$8,369,584	\$12,977,177	\$7,236,174	\$0	\$36,151,134
	HB1887- HPP: HPP- Nat. Freight Pgm	\$6,400,000	\$8,195,461	\$800,000	\$0	\$0	\$15,395,461
	HB1887- HPP: HPP- Nat. Freight Pgm - Soft Match	\$1,600,000	\$2,048,866	\$200,000	\$0	\$0	\$3,848,866
	Federal Subtotal	\$61,235,329	\$68,497,828	\$83,072,301	\$54,233,117	\$17,027,488	\$284,066,063

UPC 115011	CTB Formula: CTB Formula – Bridge State	\$23,773,688	\$0	\$0	\$0	\$0	\$23,773,688
	HB1887- SGR: SGR Bridge State	\$687,895	\$0	\$0	\$0	\$0	\$687,895
Bridge Repair Option UPC 120731/120733	Special Structures Fund	\$12,220,958	2,455,231	12,741,193	12,220,028	0	\$39,637,410
	Maintenance and Operations Program	9,865,872	10,000,000	10,000,000	3,951,132	0	\$33,817,004
	State Subtotal	\$46,548,413	\$12,455,231	\$22,741,193	\$16,171,160	\$0	\$97,915,997
UPC 110577	HRTAC AR Funds	\$30,000,000		\$0	\$0	\$0	\$30,000,000
UPC 115008	HRTAC AR Funds*	\$2,478,211,906	\$368,828,395	\$157,528,950	\$0	\$0	\$3,004,569,251
UPC 115009	HRTAC AR Funds*	\$351,113,381	\$52,817,383	\$133,501,765	\$11,467,801	\$0	\$548,900,330
	HRTAC Subtotal	\$2,859,325,287	\$421,645,778	\$291,030,715	\$11,467,801	\$0	\$3,583,469,581
	GRAND TOTAL	\$2,967,109,029	\$502,598,837	\$396,844,209	\$81,872,078	\$17,027,488	\$3,965,451,641

* NOTE: VDOT has been advised that HRTAC entered into a TIFIA Loan Agreement in September 2021 and will use the loan to help finance the HRBT Expansion Project. Information regarding the TIFIA Loan Agreement is provided to FHWA by HRTAC under separate cover.

FEDERAL FUND SOURCES AND SPECIAL FUNDING TECHNIQUES

The HRTPO has included the HRBT project in its Long-Range Transportation Plan. All project activities are included in the HRTPO's FY21-24 TIP and the Commonwealth's FY21-24 Live STIP under UPC's 115008, 115009, 115010, 115011, 120731 and 120733. Preliminary engineering, right of way, and construction associated with this project was authorized by FHWA on December 11, 2019, under federal project number NHPP-5A03(992).

VDOT federal fund sources increased by \$200,000,000 from the previous update and special funding sources are unchanged from the previous update. The \$200,000,000 of federal funding increase is due to federal funds replacing the GARVEE Bonds. Currently, the total amount of federal funding on the project is \$284,066,063. Information concerning federal fund sources and special funding associated with the project authorization is provided on the next page in **Table 5**.

Table 5 – Project Authorization Details as of June 30, 2022

Federal Project Number NHPP-064-3(507)				
UPC	Phase	Total Cost	Federal Funds Obligated	AC Funds
110577	PE	\$25,000,000	\$0	\$20,000,000
Total		\$25,000,000	\$0	\$20,000,000

Federal Project Number NHPP-5A03(992) UPC 115008, 115009, 115010, 115011, 120731, 120733 PE, RW, CN					
UPC	Phase	Total Cost	Federal Funds Obligated	AC Funds	HRTAC
115008	CN	\$3,004,569,252	\$0	\$1	\$3,004,569,251
115009	PE	\$118,472,055	\$0	\$1	\$118,472,054
	RW	\$15,000,001	\$0	\$1	\$15,000,000
	CN	\$415,428,278	\$0	\$1	\$415,428,276
115010	CN	\$268,285,004	\$0	\$268,285,004	\$0
115011	PE	\$3,527,946	\$11,441,494	\$0	\$0
	CN	\$104,999,695	\$0	\$97,086,147	\$0
120731	CN	\$39,637,408	\$0	\$39,637,408	\$0
120733	CN	\$33,817,004	\$0	\$33,817,004	\$0
Total		\$4,003,736,643	\$11,441,494	\$438,825,567	\$3,553,469,581

On January 18, 2018, HRTAC issued its Preliminary Official Statement (POS) and Road Show to market the HRTAC Senior Lien Revenue Bonds Series 2018 A backed by the Hampton Roads Transportation Fund.

5. FINANCING ISSUES

The overall project cost based on the contracted amount is \$3,965,451,641. The total funding for the HRBT project based on the executed PAFA identifies \$3,783,469,581 of HRTAC funding (including SmartScale) and has identified \$181,982,060 of federal/state funding. The contractual completion date for the project remains in 2025, however, the Design-Builders schedule updates have predicted that completion is not anticipated until late 2026. Identified HRTAC funding is based on collection of tax revenues and other revenues. These revenues can vary year-to-year. HRTAC monitors market and interest rates and if any issues arise with funding timing, HRTAC-

issued bond sale expectations may be changed year-to-year to provide additional flexibility in the funding schedule. The spending plan is summarized in **Table 6**.

Table 6 – Project Spending Plan (in thousands of dollars)

Expenditure Item	Previous	FY24	FY25	FY26	FY27
Preferred Alternative Refinement	\$30,000	\$0	\$0	\$0	\$0
VDOT Project Delivery	\$93,940	\$18,300	\$7,320	\$2,440	\$0
Right of Way	\$15,000	\$0	\$0	\$0	\$0
Design-Build Contract	\$2,560,212	\$492,256	\$247,529	\$0	\$0
Bridge Repair Work Option	\$38,515	\$33,728	\$1,212	\$0	\$0
Incentives	\$0	\$0	\$90,000	\$0	\$0
Contingency	\$253,115	\$36,394	\$36,393	\$9,098	\$0
TOTAL Spending	\$2,990,782	\$580,678	\$382,453	\$11,538	\$0
Cumulative Spending	\$2,990,782	\$3,571,460	\$3,953,913	\$3,965,451	\$3,965,451

6. CASH FLOW

The HRBT Project's annual cash expenditures are based on a data date of June 30, 2022. The cash flow analysis for the project is summarized in **Table 7**. It shows the comparison of the previous expenditures (actual expenditures and current remaining fiscal year projections) and the projected expenditures for future fiscal years against the total annual allocations by fiscal year. The table is updated annually to reflect actual expenditures incurred.

Table 7 – Cash Flow Analysis for HRBT Project (in thousands of dollars)

Allocation/Expenditure	Previous	FY24	FY25	FY26	FY27
Annual Expenditures	\$2,990,782	\$580,678	\$382,453	\$11,538	\$0
Annual Allocations	\$2,967,109	\$502,599	\$396,844	\$81,872	\$17,027
Cumulative Expenditures	\$2,990,782	\$3,571,460	\$3,953,913	\$3,965,451	\$3,965,451
Cumulative Allocations	\$2,967,109	\$3,469,708	\$3,866,552	\$3,948,424	\$3,965,451
Allocation Surplus or (Deficit)	(\$23,673)	(\$101,752)	(\$87,361)	(\$17,027)	\$0

7. P3 ASSESSMENT

The Public-Private Transportation Act of 1995, as amended (PPTA), is the Commonwealth of Virginia enabling legislation for the development and operations of transportation projects utilizing the private sector. The VDOT Office of Public Private Partnerships, the Alternative Project Delivery Division, along with VDOT leadership were responsible for reviewing the project for consideration for P3 delivery.

In 2017, the VDOT P3 Office of Public Private Partnerships undertook a screening process and assessed the viability of several delivery models including the Design-Build (DB), Design-Build-Finance-Operate-Maintain (DBFOM), and the Design-Build-Operate-Maintain (DBOM). As indicated in the High-Level Screening Report dated June 12, 2017, and the Project Screening Report dated November 7, 2017, the Department concluded that DB was the most viable project delivery model. The DB method would enable a higher quality product and a greater control of cost. A DBOM model was excluded based on preliminary analysis and industry feedback; whereas a DBFOM model was excluded because it was projected that toll revenue could not be significantly leveraged to cover capital costs. Further, the Department found that procuring the Project under the Public-Private Partnership Act of 1995, as amended (PPTA), instead of the Virginia Public Procurement Act, afforded the Department the optimal flexibility to customize contracting terms to fit the project's complexities and achieve best value. Specifically, the PPTA provides flexibility through an iterative contract development process that gives VDOT the ability to refine key procurement documents through feedback from potential proposers. Efficiencies would also be gained in pursuing the project using the DB method through optimal risk transfer to the private sector of design and construction risks (including permitting and innovation through alternative technical concepts (ATC)). The ATC approach allows contractors to draw upon their experience and expertise to develop innovative techniques for increasing efficiencies, reducing construction durations, reducing risks, and reducing costs. A Limited Notice-to-Proceed (LNTP) process was also used to limit the public's exposure to risk in the permitting process and to increase the likelihood of project delivery by not allowing the contractor to proceed past certain milestone points until the Virginia Department of Environmental Quality (DEQ), the Virginia Marine Resource Commission (VMRC), and the United States Army Corps of Engineers (USACE) issued the necessary Permits. The results of the screening process were further confirmed by a Public Sector Analysis and Competition (PSAC) conducted by the VDOT Public Private Partnership Office.

Consistent with VDOT practice, the VDOT P3 Office of Public Private Partnerships managed the project during the procurement phase, after which a dedicated project office is overseeing the design and construction phase.

As mentioned in Section 4 above, the project was identified as one of the Hampton Roads Regional Priority Projects by HRTAC and HRTPO. Since then, the HRTPO and the HRTAC have been committed to seek a plan to fund the project. Also mentioned in Section 4 is the approval of the HRTAC 2045 Long Range Plan of Finance for Priority Projects which included the HRBT project for identified funding through the HRTF. It was determined that although funding for the project was identified there were financial and schedule benefits to procure the project using the PPTA

regulations using a DB delivery without any private investment. The access to and cost of capital is not applicable because this project has no element of private financing.

On the basis of the results of the screening process, the Commissioner, in his Finding of Public Interest FOPI, determined that it was in the public's best interest to pursue the Project as a DB under the PPTA, and to solicit proposals under either or both an Immersed Tube Tunnel and Bored Tunnel construction methodology. The FOPI was submitted to and concurred by the Secretary of Transportation.

The Transportation Public-Private Partnerships Screening Committee ("Steering Committee") affirmed the Commissioner's FOPI and concurred with the PSAC on December 12, 2017, and May 9, 2018; thereby, allowing the Department to initiate procurement.

On December 15, 2017, the Department issued a Request for Qualifications (RFQ) culminating in the short-listing of Hampton Roads Capacity Constructors, Hampton Roads Connector Partners, and the Skanska-Kiewit Joint Venture as qualified Offerors. Subsequently, Skanska-Kiewit Joint Venture decided to discontinue its pursuit of the Project. On May 22, 2018, the Department issued a draft Request for Proposals (RFP). The draft RFP was further modified on June 29, 2018, and August 24, 2018, based on public comment, feedback from the remaining Offerors and other Project stakeholders. A final RFP was issued on September 27, 2018. Technical Proposals were due on January 15, 2019; while Financial Proposals were due on February 8, 2019. The Department entered a Comprehensive Agreement with the successful Offeror in April 2019, along with a re-affirmation by the Commissioner to the Governor and General Assembly that his FOPI was still valid, a briefing to the Commonwealth Transportation Board and undertaking a statutory audit required by the PPTA. The Department briefed the Steering Committee on June 5, 2019.

Market conditions were monitored throughout the procurement process through activities such as Proprietary/ ATC meetings, a risk workshop, and one-on-one meetings with private sector teams.

A qualitative risk register for the project was developed at a joint workshop with FHWA in October 2018. During the workshop, the qualitative risk register was used as a basis for evaluation of risks during the CER and population of the risk register module within the model for threats and opportunities. A post-CER qualitative risk register was developed based on the collaboration and results of the CER. The qualitative risk register will continue to be a working document throughout project development and delivery. It will be updated at key milestones and at a minimum quarterly.

VDOT will remain responsible for routine operations and maintenance (O&M) and major maintenance of the entire facility which, upon completion of the Project, will be comprised of the existing HRBT, the new bridge and tunnels, and additional highway lanes. Efficiencies will be gained by having the entire facility responsibilities under the control of one entity rather than multiple entities.

8. RISK AND RESPONSE STRATEGIES

An internal risk exercise was conducted in June 2022 with the Project Team to update and prioritize project risks. Project risks were categorized and ranked by the Project Team based on individual identification and voting the risks were categorized and consolidated to eliminate duplication and group like or overlapping risks. The ranking was used to update the project risks and mitigation in the Financial Plan Update. All the contractual mitigation strategies identified in the Initial Financial Plan were implemented in the Contract and Technical Requirements. The mitigation strategies were updated in June 2022 to reflect the current status and actions.

The Initial Financial Plan identified 68 project risks. The risks were grouped in 11 major categories. The current Financial Plan Update has 52 risks listed in the 11 major categories. A summary of the changes from the November 2021 Financial Plan Update in each category includes:

ROW – The final noise study has been completed and approved. The drainage design has been completed and additional right of way for stormwater is not needed. These two risks have been mitigated and will be deleted.

Design – There are no changes to the identified risks in this category.

Utilities – There are no changes to the identified risks in this category.

Third-Party Stakeholders – There are no changes to the identified risks in this category. There have been no incidents in maintaining channel access to date, and the risk for delayed approvals has been reduced from Medium to Low since obtaining necessary City and Navy approvals of design.

Environmental – There are no changes to the identified risks. Risks of discovering unknown archeological resources continue to be reduced as construction has progressed within the project limits. That risk has been reduced from High to Medium.

Geotechnical – There are no changes to the identified risks in this category.

Construction – There are no changes to the identified risks in this category.

Procurement/Contracting – There are no changes to the identified risks in this category.

Operations/Maintenance – There are no changes to the risks in this category. First responders continue to be included in the review process as well as site visits and meetings with the construction staff at the sites.

Permits – The wetland credits have been obtained and all environmental permits necessary for Notice To Proceed were received in a timely manner. This risk has been mitigated and will be deleted. Permit modifications and compliance during construction are still a risk. Multiple layers of monitoring have been instituted to mitigate permit violation risks.

Security – There are no changes to the risks in this category.

The current principal risks being mitigated are listed in **Table 8** starting on the next page.

Table 8 – Project Risks

Risk Description	Mitigation	Mitigation Update 6/30/22
ROW		
Impacts/Damage during Construction Phase to protected features at Hampton National Cemetery and Hampton University could cause cost for remediation and operation shutdown.	VDOT has Programmatic Agreements which prohibit HRCF from impacting these properties	No Change
Potential sound barrier wall at Willoughby Bay may impact view-shed value. (If Noise Wall is not installed there is a cost savings to the Project.	If Sound Barriers Walls on the Willoughby Bay bridge structures are needed, residents will vote whether they want the SBW or not. If they want, then they are accepting the resulting view shed impacts. Final noise study completed and approved.	Risk to be deleted
Additional ROW to allow for stormwater / drainage needs beyond those identified in the FEIS/ROD.	Monitoring of SWM needs and implementation of innovative methods in lieu of large facilities that require additional ROW. Partnering with localities to develop SWM facilities to address water quality requirements. Can buy credits for quality. Drainage design has been completed and additional ROW for stormwater is not needed.	Risk to be deleted
Design		
FDCs to address design issues may compound quality issues in the field	The responsibility for quality assurance for design drawings and associated packages remains with the contractor. The owner's team will critically assess each FDC and NDC and is establishing monitoring metrics to assist with tracking and identification of trends.	No Change
HRBT Toll System Integration	Close coordination with the Hampton Roads District and the Hampton Roads Express Lane Network (HRELN) project teams to assure proper coordination and features	No Change
Environmental		
Encountering pre-existing (unknown) unexploded ordinance, contaminated or hazardous materials for tunnel, roadway or utility construction	DHR has recently provided a new protocol for env to follow for munitions, including cannonballs, that are retrieved from existing South Island fill. Any munitions found outside of existing South Island fill and any other archaeological find will need to follow the TR process.	No Change
Section 4(f) / 106 - risk of unknown archeological resources identified that could lead to delay	VDOT will not tolerate long delays and will assist if this becomes a problem.	Probability reduced from High to Medium.
Schedule Risk due to Migratory Birds and Anadromous Fish	Detailed bird hazing operations being implemented. Mitigation for Anadromous Fish eliminated Time Of Year restrictions.	No Change
Utilities		
Risk of discovery of unknown utilities, including secret government facilities, could delay design or construction depending upon time of discovery. Includes abandoned utilities unclaimed by utility owners.	VDOT has performed preliminary utility identification to identify major unknown utilities. Scope Validation completed and minor unknown utilities discovered. Advance utility marking will be utilized to minimize accidental strikes, unknowns encountered during construction expected to be minor impacts. Coordination taking place with the Navy to avoid secret facilities.	No Change
Dominion Energy (Existing Substation & Transfer Relocation) - Risk of delays due to delayed installation/cutover/abandonment of utilities. Risk of delays to installation and connection for temporary TBM power.	Dominion to relocate; coordinate throughout design and construction. HRCF has agreement in place with Dominion for temporary power and evaluating estimates to start Dominion's design. Need to have service available at launch pit by TBM arrival.	No Change

Table 8 (cont.) – Project Risks

Risk Description	Mitigation	Mitigation Update 6/30/22
Utilities continued		
Third Party utility service/relocations - risk delays due to delayed installation/cutover/abandonment of utilities	Locations and plan relocation have been identified and coordination well underway with utility companies. Using utility approved designers and subcontractors	No Change
Delays to cutover and maintenance of power, water, communications on existing structures, delaying MOT phase shifts and schedule	Stage utility construction to ensure completion prior to demo of existing.	No Change
Tropical/Severe weather events (locally, regionally, or national) could pull away utilities crews working on the project causing delays to utility relocations and overall schedule.	Dominion has dedicated contractor for TBM power that will not get pulled away for storm repairs. Potential delays by utility contractors to address weather event repairs under the utility companies cooperative agreement.	No Change
Third Party Stakeholders		
Risk that Cities, Hampton University, and US Navy will delay approval process for items under their review, (specifically landscape architecture or noise barriers) or seek architectural enhancements (e.g. bridges)	Address consensus building in Public/Community Outreach Plan; Landscape Arch. Treatments shall be coordinated with Locality. No complete packages remain to be approved by Navy. All City package approvals have been received. Emancipation Oak at Hampton University is no longer in scope.	Probability reduced from Medium to Low
Complaints from adjacent properties due to noise from construction operations or light from night time construction operations	Outreach program for advance warning of operations. Adherence to applicable noise and light ordinances.	No Change
Navy, USCG, and USACE coordination - Risk of maintaining adequate channel access	Performance requirements defined in TR's 14.3.1 and 14.3.2	No Change. No incidents to date.
Geotechnical		
Encountering buried rock containment dikes, scour protection, and other obstructions interferes with installation of support of excavation walls, tunnel approach structures, ground improvement or bored tunnel.	TRs require HRCF to detect and remove these obstructions in advance of SOE wall installation and select means and methods of SOE wall installation that can accommodate some obstructions (i.e., not sheet piles).	No Change
Encountering obstructions (buried steel casings) that interfere with installation of support of excavation walls, tunnel approach structures, ground improvement or bored tunnel.	The Contract identified these items pre-award. The contractor has implemented a specific detection program	No Change
Geotechnical conditions for tunnel approach structure excavation and construction are more adverse than anticipated with respect to issues such as basal stability and/or excessive groundwater inflows.	Mandatory dewatering, ground improvement and/or water-tight support of excavation walls with sufficient toe-in to preclude basal instability and excessive groundwater inflows. Geotechnical evaluations have been completed and the results incorporated into the plans.	No Change
Geotechnical conditions at breakouts for TBM are more adverse than anticipated with respect to issues such as flowing soil conditions and groundwater inflows.	Mandatory ground improvement at TBM breakouts.	The contractor will also install dewatering in addition to ground improvements.
Geotechnical conditions are more adverse than anticipated, resulting in additional work for bored tunnel, including: soft ground that otherwise leads to problems with steering the TBM; abrasive ground causing increased wear on consumables. Risk of additional costs and schedule impacts.	1) Mandatory ground improvement of Quaternary deposits below spring line at south end of alignment. 2) Requirement for additional geotechnical investigations in advance of tunneling to define problem ahead of time.	No Change
Geotechnical conditions for island expansions are more adverse than anticipated, resulting in additional work to prevent slope stability issues, excessive settlement, schedule impact due to slower rate of consolidation than anticipated.	Allow tunnel grade at 5% to reduce the amount of expansion needed at the south island. Risk is low at the north island. Additional geotechnical investigations performed to provide design data.	No Change

Table 8 (cont.) – Project Risks

Risk Description	Mitigation	Mitigation Update 6/30/22
Geotechnical continued		
Gas encountered during excavation for tunnel approach structures or bored tunnel at levels that delay construction	TRs require Tunnel Boring Machine (TBM) features to include appropriate temporary ventilation systems for potential gas conditions and gas monitoring equipment in accordance with required Federal safety regulations	No Change
Soil conditions encountered by the TBM are "stickier" than indicated in the GBR causing clogging of the TBM.	GBR defines anticipated soil properties. The Design-Build contract is priced based on GBR. A change in soil stickiness could cause additional cost for changes in methods.	No Change
Unforeseen/changed conditions that the Department's geotechnical investigation may not have accounted for	Scope validation is complete. There are very limited risks associated with unforeseen geotechnical conditions. Risks in island and tunnel are governed by GBR.	No Change
Construction		
Material shortage - stainless steel	Waived the use of stainless steel in Tunnel Liner. Shortage could delay pier cap construction	No Change
Weather delays for bored tunnel option and construction other than tunneling (e.g., ground improvements, island expansion, etc.). Potential for flooding excavations, including tunnel due to storm surge.	Weather delays are not excusable nor compensable per the Agreement. Risk is to schedule but is DB's to mitigate. TRs require 100-yr elevation +2 ft. for SOE and 100-yr elevation +5 ft. for tunnel structure. DB is required to prevent flooding. Flood above baseline level is Force Majeure.	No Change
Ground improvement for bored tunnel causes environmental contamination adding cost for remediation and schedule delay.	Ensure compliance with regulatory requirements and additives.	No Change
Risk that TBM becomes "muck bound". Site or traffic conditions do not allow prompt removal of material which would cause tunnel excavation to slow or stop.	Provide sufficient storage on site.	No Change
Schedule delays due to tunnel liner segment production	Quality Control will be established. Tight QC Requirements in TRs to avoid rejecting segments on-site.	No Change
Schedule delays due to breakdown or damage of major TBM component or slurry treatment plant.	TRs require state-of-the-art features for TBM. Contract requires "spares" for critical pieces.	No Change
Potential impact to existing or new islands when slope protection is removed during island expansion	TRs state minimum design storm for temporary conditions	No Change
Restrictions on Pile Driving and other construction activities: noise (localities), and adjacent structures/buildings.	Specified in RFP. Leverage lessons learned from other area projects. Pile driving has been ongoing in most project areas with minimal complaints.	No Change
Labor or skilled trades shortage - Due to a lot of work in the Tidewater area, labor and skilled crafts may be non-existent or at a premium due to acquisition from outside of the area	Workforce and business outreach to attract more resources to the area. Continuing concerns over labor availability have been noted by the contractor.	No Change
Greater than anticipated Material cost due to cost escalation, pricing increases due to tariffs or other taxes/fees, availability of materials, or technical requirements.	VDOT price adjustment provisions share risk for steel, fuel, and asphalt; contractor likely to set up precast yard for this project.	No Change
Potential damage to existing VDOT facilities in ROW and adjacent properties. Could cause cost for HRCP for repairs and delays.	TRs require ground movements and building damage assessments with limitations on damage risk and settlement limits. Minor ground movements observed, but no damage to date.	No Change
Errant vessel or barge hits new or existing bridge, other vessel or shoreline structure causing damage and/or injury	TR requirements for vessel tracking. Implementation of robust Design-Builder safety procedures for marine operations	No Change

Table 8 (cont.) – Project Risks

Risk Description	Mitigation	Mitigation Update 6/30/22
Construction continued		
Coordination with other contractors within and adjacent to the project - Toll Systems Contract - Hampton Roads Express Lanes Network	VDOT to maintain program schedule integrating the toll concession schedule and HRBT schedule. Scope reduction in Hampton reduces risk. Coordination with HRELN is ongoing.	No Change
Design-Build quality oversight does not function properly to avoid design resubmissions or prevent non-conforming construction work being incorporated into the project.	Design-Builder improving their quality functions. VDOT continues to focus design-builder on improvements.	No Change
Procurement/Contracting		
High DBE / SWaM participation requirements affect labor availability and project quality and productivity.	Due to the complexity and size of the Project and other significant projects in the Hampton Roads region, this is a real risk to HRCP. VDOT and HRCP working with the local communities to initiate job fairs, establish relationships with local and regional contractors and initiate a campaign to promote job growth, training and growth opportunities for local and regional labor force. Actively encouraging DBE/SWaM participation through multiple outreach events.	No Change
Global availability of materials and cement, structural steel shortages may impact the project, causing delays.	The contractor is monitoring supply chain conditions and adjusting design where appropriate and acceptable to VDOT	No Change
Operations/Maintenance		
Construction, Integration, Testing, Commissioning may conflict with VDOT Tunnel Operations.	The current Contract Documents address TMP and specifically defines HRCP's role for lane closures, detours, congestion mitigation and other traffic operational issues.	No Change
Limitations for access of First Responders (insufficient width for firetrucks, closed shoulders, etc.) could slow response times and cause Public Involvement issues.	TMP can mitigate by anticipating incident response needs. Review with first responders.	No Change
Traffic Operations - Construction friction impacts current congestion. Increased congestion could impact production rates, delivery of resources, or alter work plans.	The current Contract Documents address TMP and specifically defines DB's role for lane closures, detours, congestion mitigation and other traffic operational issues.	No Change
Incident management requirements are clear in TRs, but level of effort needed to fulfill the requirements is dependent upon unknown number of incidents.	The current Contract Documents address TMP and specifically defines DB's role for incident management within the construction limits.	No Change
Permits		
Wetland Compensatory Mitigation - Availability of credits can impact schedule for permit / design approvals.	HRCP using early engagement of credit banks to secure as many credits as possible to avoid delays. All necessary credits have been obtained.	Risk to be deleted
Permit approval delays. If permit reviews greater than 24 months , Delay Event	All environmental permits have been obtained in a timely manner. Construction General Permits and permit modifications required are being reviewed and issued in a timely manner. HRSD Permit for waste water is in place. Increased engagement of VDOT and stakeholders along with advance regulatory coordination are being used to facilitate timely reviews.	No Change
Permit noncompliance during the construction phase causes increased monitoring costs and delays due to shutdowns.	Diligent compliance efforts from HRCP and VDOT.	No Change

Table 8 (cont.) – Project Risk

Risk Description	Mitigation	Mitigation Update 6/30/22
Security		
Risk of changes to security requirements; i.e. increase in Homeland Security Advisory Level requiring additional security measures	Not anticipated. Force Majeure may apply for events that directly impact the project.	No Change
Air strip / FAA Encroachment - Delay in receiving necessary permits/approvals. Obtaining and complying with permissions could impact cost and schedule.	In TR Section 2.5.6 VDOT engagement with US Navy to proactively partner. Contractor successfully obtaining necessary permits/approvals.	No Change
Navy Security Zone / Fence +20' - Risk of encroaching in security zone with design elements or physically during the work period (temp easements).	In TR Section 11 Security. HRCP likely to refine design to avoid security zone where possible. DB, VDOT and Navy actively coordinating during construction near or within the security zone. No delays to date.	No Change
CII, SSI clearance for HRCP workforce - Availability of cleared workers. Unknown how logistics will be handled with deliveries, and cost/production impacts.	While a process exists, security requirements will exacerbate current labor constraints. Create a physical separation of work zones where possible on islands. Design-Builder noted clearance of new labor as an issue.	No Change

9. ANNUAL UPDATE CYCLE

The first annual update of the Financial Plan was submitted by March 31, 2020, and was based on a data date of December 31, 2019. Future annual updates were submitted by March 31 of each year using a data date of December 31 of the prior year up until 2021.

HRTAC closed on a TIFIA loan for this project on September 21, 2021. Subsequently, HRTAC will be preparing the required TIFIA Financial Plan Updates and VDOT's update will be provided as a supplement to the HRTAC TIFIA Financial Plan.

For the previous update, due to the close date of the TIFIA loan, VDOT sent a request to FHWA to update the previous annual updates “data date” of December 31 to September 30. This was approved by FHWA on October 13, 2021. After coordination with FHWA, this update uses June 30, 2022, as the data date due to HRTAC’s Fiscal Year end with regard to the TIFIA loan. Future annual updates will use a data date of June 30 of each year and a submittal date of September 30 of each year.

10. SUMMARY OF COST CHANGES SINCE LAST YEAR’S FINANCIAL PLAN

Changes to the estimated project costs since the last update are summarized below:

- Preliminary Engineering:** No changes
- Right of Way:** No changes
- Construction:** No changes

Below is a summary of the steps VDOT utilizes to control and manage projects costs:

- VDOT and the Design-Builder established a cost baseline with an approved schedule of values.
- The Design-Builder provides further breakdown of project costs as the design is completed.

- VDOT and the Design-Builder monitor the project status to update the budget and manage changes to the cost baseline.
- VDOT reconciles progress and reviews payment applications monthly, evaluates spending versus budgeted amounts, and earned value versus planned earned value.

11. COST AND FUNDING TRENDS SINCE INITIAL FINANCIAL PLAN

Insurance costs have continued to trend upwards in the past year, however, this has not impacted the HRBT estimated project costs. Material cost indices for asphalt, fuel and steel have trended upward in the past year.

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

The contractual completion date, November 1, 2025, has not changed since the last financial plan update. The Design-Builder's schedule updates indicate a delay in project completion to October 12, 2026. Additional detail continues to be added to the Design-Builder's schedule as part of regular updates that reflect current production rates and progress. The change in projected completion date reflects the Design-Builder's documentation of past performance as well as predictions of future performance. The VDOT project management team continuously implements best project management practices to monitor and control the project schedule. Below is a summary of the steps VDOT utilizes to control and manage the schedule:

- The Design-Builder established a baseline schedule using an approved detailed work breakdown structure.
- VDOT monitors the schedule performance using a Design-Builder developed 4-week look ahead schedule derived from the baseline schedule and updated weekly.
- Weekly meetings between VDOT and the Design-Builder to analyze project performance and establish any needed recovery strategies and monitor their progress.
- Monthly progress meetings between VDOT and the Design-Builder to analyze progress of the past period and evaluate the forecasted schedule.
- The Design-Builder provides monthly schedule updates to review and to formalize any updates to the schedule of record. The monthly schedule update includes analysis of the Planned Value versus the Earned Value and any Schedule Variances encountered.

13. SCHEDULE TRENDS SINCE INITIAL FINANCIAL PLAN

The Design-Builder has experienced less than anticipated construction progress as well as an alignment of several key schedule activities to more closely reflect actual durations. These trends have been reflected in the current schedule update.